

UNIVERSITY OF TAMPERE  
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EMPLOYEE PERSPECTIVE ON LEAN IMPLEMENTATION –  
A QUALITATIVE STUDY IN A FINNISH PENSION INSURANCE  
COMPANY

Business competence  
Master's thesis  
May 2016  
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## ABSTRACT

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Title:     Employee Perspective on Lean Implementation – a Qualitative Study in a Finnish Pension Insurance Company

Master's Thesis:                                 77 pages, 2 appendix pages

Date:     May 2016

Key words:                                         Lean management, Lean implementation, employee perspective, Finnish pension insurance

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The principles of Lean management and Lean implementation is being increasingly applied to various different organizations, due to the benefits of enhancing productivity, the avoidance of excess waste whilst still creating value for customers as well as for the employees. The core of Lean philosophy is based on the understanding of people, their motivations and aspirations. It was established that the most important factor in the success of Lean implementation is employee participation and employee competence. This has resulted in Lean philosophy having a stronger focus on employee motivation, which is crucial in enhancing employee competence and work performance.

The purpose of this research is to uncover and explore the employee perspective to the Lean implementation process. The research will uncover and explore the factors that employees deem important before and after Lean implementation. Furthermore, examining factors perceived by employees as the drivers and obstacles of the Lean implementation process. In order to be able to motivate employees towards change, it is crucial to understand and uncover their perspective to the process and what employees consider important. This will increase the organization's knowledge on employee perspective, thus increasing the success rate of Lean implementation.

The research data was gathered from two sets of questionnaires. The first questionnaire was issued to employees who participated in a Lean workshop. The second questionnaire was based on the themes that arose from the first questionnaire. It was issued to employees who handle the everyday work of various processes and services, who have not been part of Lean workshops. Recent studies and literature were considered in order to enhance the findings from the questionnaires.

The employee perspective on Lean implementation is positive. All the respondents considered Lean implementation to be necessary. The respondents highlighted the importance of open communication before and after Lean implementation. Furthermore, respondents highlighted the importance of training. Being able to adapt to the changes that arise from Lean implementation through suitable training. Additional themes that arose from the study is the relevance of employee involvement, and its main importance as a main driver of Lean implementation; i.e. the importance of choosing the right people with the right set of skills to be a part of the Lean implementation process.

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# 1 INTRODUCTION

## 1.1 Concept of Lean and employee involvement

The concept of Lean management has evolved immensely over the years, from a tool to reduce costs and enhance productivity to a philosophy, whose core beliefs apply to organization beyond any particular field. The concept of Lean began in the Japanese automotive industry and its core essence has then been used in various companies with the idea, to create more value with less resources. Lean management at its best will enhance the overall productivity of the company, help to avoid excess waste and work as well as highlight important factors that will ultimately create more value and enhance the companies' competitive edge. The principles of Lean management have decisively changed ever since the 1950s, in order to adapt to different demands in various organizational cultures. Particular attention is paid to the importance of employee competence and learning. The main goal has become to enhance efficiency, enhance customer value, eliminate waste and improve employees' competences (Staats & Upton, 2011).

The importance of employee involvement and employee participation when implementing Lean has been studied to be immensely important. Not only is it important on the whole implementation process but to the outcome and the success of the implementation itself. According to Drew, McCullum and Roggenhofer (2004), the success of Lean implementation is highly dependant on the employees and their mindsets. The main factor why Toyota became successful with Lean concept was their highlighted importance on understanding their employees, and most of all understanding what motivates them. As various organisations began implementing Lean, it was established that employees are more than just an extended part of the production line, but an irreplaceable part of the company management. This is why managers should have a strong focus on employee learning as well as insert motives that would affect the mindsets of employees for the desired direction. This admission has heightened the need to further examine the actual views and thoughts of employees regarding Lean implementation.

## **1.2 Purpose of the research and research questions**

The importance of employee involvement, from the perspective of the managers, has been extensively studied. Bicheno and Holweg (2009) have highlighted this in their book *The Lean toolbox*. However, further research is still required to examine the employee perspective regarding Lean implementation, with particular focus on factors that affect the employee motivation. In order to be able to motivate employees towards the changes that derive from Lean implementation, it is important to know what motivates the employees and how they feel about Lean implementation. Furthermore, to ensure continuing employee capability and learning, it is important to establish efficient methods according to the employees' preferences in order to adapt to changes that arise from Lean implementation.

This research is based on qualitative data that was primarily gathered from one certain department in a large Finnish Pension Insurance company. Implementing Lean in Finnish Pension Insurance companies has become vastly popular in recent years. Lean management has been extensively studied in an industrial setting for various years. There are only few studies that explore Lean management and Lean implementation in the setting of a large Finnish Pension Insurance company. This study will provide new insight into a work environment which is fairly unexplored in the world of Lean management.

The purpose of the study is to explore and uncover the employee perspective on the Lean implementation process, thus the research question of the study is; What is the employee perspective on the Lean implementation process?

In order to be able to fully explore and uncover the purpose of the study, this study further examines the following two sub-questions:

What do employees deem important before and after Lean implementation?

What do employees perceive as obstacles and drivers of the Lean implementation process?

This research will explore the employee perspective on Lean implementation. Employees are an important aspect on the success of Lean implementation. If the change that occurs from Lean implementation is not finalised in a correct, efficient and most importantly in a

continuous manner, the achieved change might vanish. The aim of the research is to gain further knowledge on how employees could be further supported in adaption to change. In order to increase employee motivation towards change, it is important to understand and uncover their perspective and what they deem important. This research will increase organisations knowledge on employee perspective, furthermore assisting to build tools to enhance employee mindsets, and additionally increasing the success rate of Lean implementation.

The data of the research was gathered through two sets of questionnaires thus using qualitative research method. The focus of the research is to research the employee perspective thus the questionnaire respondents were strictly employees. The questionnaires will provide first hand data in an environment that has been scarcely studied. Both questionnaires were issued in one specific department within the pension insurance company, and the questionnaire respondents were employees working in that specific department. This will be further presented and discussed in chapter three.

### **1.3 Structure of the research**

The structure of the thesis is divided into five main chapters. After the Introduction chapter, the second chapter is Literature review. Literature review chapter will present already existing knowledge on Lean implementation, employee involvement, employee training and management in the Finnish insurance sector. Before analysing data received from the questionnaires, it is vital to understand the concepts and history behind Lean management. The following chapter, Methodology, will uncover various research philosophies. Furthermore clarifying the data collection method and reasoning behind it. The fourth main chapter will focus on uncovering the findings from the questionnaire, and revealing the main themes that arose. Additionally, this chapter will provide a synthesis between the questionnaire results and the research questions. In the fifth and final chapter the findings of the research will be summarized and solution to the research questions provided.

## **2 LITERATURE REVIEW**

The purpose of this research is to unravel the employee perspective on Lean implementation. To be able to enforce the gathered empirical data, it is vital to understand the concept of Lean. The definition of Lean, the history of Lean and the core philosophies of Lean. Furthermore, understanding how Lean is implemented, the tools used for implementation, will be of the essence when analyzing the empirical data. Employee perspective is of importance in this research. This chapter will uncover three employee types known in Lean management. Additionally, uncovering the importance of employee training and development. Furthermore, this chapter will explain various factors affecting the success of Lean implementation, as well as further elaborating the benefits and challenges of Lean implementation. Additionally, this chapter will shed insight on the world of Finnish pension insurance in Lean management.

### **2.1 Definition of Lean**

Lean management is a philosophy whose main goal is to eliminate waste and increase customer value. The meaning of Lean is to add more value whilst using fewer resources. An organization using Lean management focuses on customer value and its continuous increase. In addition, Lean management is a set of tools and techniques that companies use to enhance production efficiency while also eliminating waste (Drew, McCallum & Roggenhoffer, 2004). According to Hobbs (2011), Lean methods are tasks and techniques that cause the processes to run with no added activities, such as waiting time, queue time, administrative time and other activities that might cause a delay. An important part of Lean management is being able to recognize and eliminate all non-value adding activities.

Lean philosophy was first implemented in the automotive industry as an increased asset in their manufacturing and supply chain management. Two principles were born from the Lean philosophy in the automotive industry; Henry Ford's model which was created in the beginning of the 20th century and the Toyota Production System created in the 1950's. The Toyota Production System is greatly based on the Henry Ford model (Hobbs, 2004). The Toyota Production System is one of the most important inventions in the world of operations systems and production line activities. Even though the Toyota Production System and the



Henry Ford Model were created in order to enhance production and manufacturing in assembly lines, their core ideas and techniques enable these principles to be added and used in an organizational work environment in which the main goal remains the same; to enhance efficiency, customer value, to eliminate waste and to improve employees competences (Staats & Upton, 2011). Lean implementation is considered a success when the process itself starts to require less and less human effort, less space, less capital and of course less time, all the while enhancing the efficiency and customer value ('What is Lean?').

The term Lean was first introduced by John F. Krafcik in 1988 through the article Triumph of the Lean Production System. This will be further discussed in the next chapter. Lean is an American term, originating from research project conducted in Massachusetts Institute of Technology. At this time, the term Lean was exclusively used in car manufacturing industries, since its whole philosophy was created to enhance manufacturing productivity in car factory's (Krafcik, 1988). The term Lean was further introduced to a wider public through the book *The Machine that Changed the World* by James Womack and Daniel Jones. In their book, Lean was explained as a mean of achieving more with less (Womack and Jones, 1990).

## **2.2 History on Lean**

John F. Karafjick first introduced the concept of Lean to the world in 1988 through the article Triumph of the Lean Production System. Lean stems from the relentless pursuit, by the Japanese automotive manufacturing companies, to improve productivity without losing its quality. Lean was discovered when realising that there is a clear link between high productivity, quality and product complexity, and realising the importance of suitable production management policy over high technology when enhancing manufacturing performance (Karafjick, 1988). Lean production was seen as "Lean" because of its reduction of everything in comparison to mass production. In Lean production they use less worker, less factory space, less investment and less engineering hours (Womack, Jones & Roos, 1990).

Henry Ford, the founder of Ford Motor Company, created one of the most well known Lean concepts called "Fordism". It was in the 20<sup>th</sup> century when Ford created ideas, tools and

techniques to manufacture large amount of automobile parts and get to the assembly line as fast and as safe as possible. Shifting the manufacturing production from individual production and mass production. This resulted on Ford Motors decreasing their work time and resources used on assembling cars. With time Henry Ford's main interest became to decrease the capital used to create the automobile parts, focusing on what would be less expensive to build. This affected the quality of the work and the defect rates within the assembly line became very high (Hobbs, 2004).

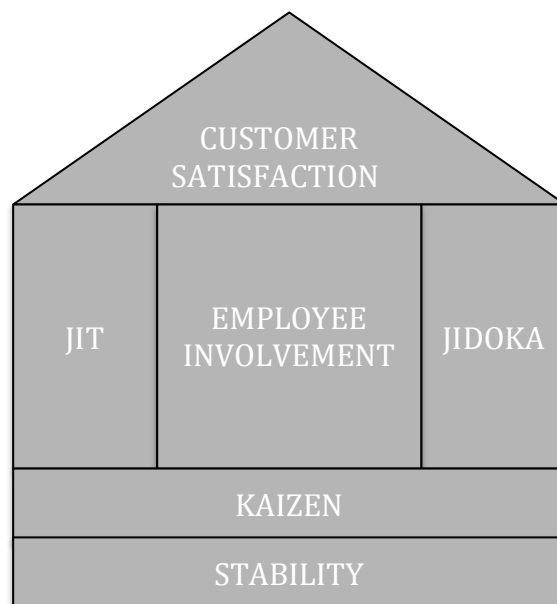
The Toyota motors was founded and created by Kiichiro Toyoda. It was created at a time where American automobile companies were dominating the automobile industry. After the World War II, Toyota's production was stalled and the sales dwindled due to the economic hardship (Bicheno & Holweg, 2009). As a consequence, their interest on Ford's management techniques rose. In the 1950's, Toyota visited one of Ford's assembly plants in Detroit to observe how it is managed. This was part of a pre-planned offering to mend relationships between Japan and the US after World War II. After visiting the plant the Toyota representatives were impressed how the assembly lines were moving in an effortless and smooth pace, but they also noticed that everything was produced in larger batches, even if there was no need to create as much. Because of this, Toyota's representative decided not to apply Ford's technique into their assembly line, at least not in its purest form. They realised this would create unnecessary waste, and due to their economic and financial situation at the time, they could not afford to create automobiles that they would not be able to sell (Hobbs, 2004).

Toyota modified the Ford assembly techniques and created procedures that enabled them to produce parts in smaller amounts, and in amounts that were actually needed. This was called Just-in-Time (JIT). Toyota's emphasis became producing products in small volume and investment, all the while minimising the cost. Furthermore, assuring that the assembly line was flexible and modifiable. This became the birth of the Toyota Production System (TPS) (Liker, 2004).

In 1980's Toyota became the leading automobile company in the world, surpassing the American companies such as Ford. Toyota became world known for its ability to produce products for much cheaper whilst maintaining the quality of the product (Bicheno & Holweg, 2009). Toyota kept developing the Toyota Production System for the next thirty years and

TPS was seen as the beginning of the Lean practices in organizations and not just in manufacturing and assembly line companies. Due to Lean practices being implemented onto other industries, the importance of customer in Lean practices rose. The importance of accommodating and preserving customer demands and the importance of employee's continuous learning (Slack, Chambers & Johnston, 2007).

The most known Lean practices are the Henry Ford Model also known as "Fordism" and the Toyota Production System. As was established in the History of Lean, the Toyota Production system derives from "Fordism", but there are significant differences between these practices. Henry Ford invented "Fordism", the concept of the moving assembly line. The concept of moving assembly line revolutionized the world of automotive manufacturing through the reduction of worker control and rationalizing production control, thus leading to an increase on efficiency (Karafjick, 1988). Toyota Production System (TPS) is often seen as "Fordism" with a Japanese flavour, it was able to evolve and achieve efficiency that Fordism was unable to achieve. Due to TPS's growth in worker span of control, Toyota Motor Corporation was able to become more efficient and exceed the productivity and adeptness of General Motors, Ford and Chrysler (Karafjick, 1988). What also differentiates TPS from other approaches is the senior managements substantial involvement to the daily operations and process actions (Liker, 2004).



**Figure 1. Toyota production system house (TPS house). (Balle & Regnier, 2007, 27)**

According to Balle and Regnier (2007), the TPS house serves as a representation of Lean. As is evident from Figure 1., the base of the house is standardization and stability. Making continuous changes and fusing them into organizations own philosophy. The pillars are the Just-in-time and Jidoka tools, whose purpose is to eliminate waste. The centre of the house is the importance of employee involvement, where as the customer satisfaction is seen as the goal of TPS, hence it being the roof.

The reasoning behind the success of the Toyota Production system was due to their ability to produce continuous productivity and efficiency, a in a continuous manner, for several years. TPS is the reason for Toyota's colossal rise from a small automotive manufacturer to a massive industry well known for its operational excellence. According to Liker (2004), Toyota's operational excellence is based on the Lean tools and quality improvement methods, such as just-in-time, kaizen, one-piece flow, jidoka and heijunka. All these techniques were part of the reason that helped create the Lean manufacturing revolution. These techniques were not the only components in Toyota's success. Other automotive companies had the opportunity to take advantage of similar techniques and tools, without succeeding (Liker, 2004).

The important component in Toyota's success, and in the core of Lean thinking, is the philosophy of understanding people, in this case employees, and what motivates them. This leads to a shift to the importance of teamwork, employer-employee relations and all around motivation and what drives employees to better work performances (Liker, 2004). The component of teamwork was what differentiated TPS from "Fordism". As is evident from Table 1., the TPS Workers are not seen as an extended part of the production line, but they are seen as an irreplaceable part of the company's management. Not only were the employees trained to be able to perform every task required on the production line, they were also expected to improve their knowledge and work performance regularly. In order to further enhance the production lines performance, workers were divided into teams. Furthermore, these teams were given autonomous responsibility over the production and manufacturing line. This enabled a continuous work pace, enabling high efficiency and productivity (Karafjick, 1988). Multiskilled employees are a significant part of Lean management. Employees being able to achieve high flexibility through being multiskilled. Main factor of Lean is using less of everything, including workers. When employees are multiskilled, it eliminates the need for further recruitment (Womack, Jones & Roos, 1990).

Unlike “Fordism”, where employees were considered as interchangeable and in no need of skills of their own, TPS invests in assuring multiskilled employees.. In “Fordism” employees were unable to further their own careers, they were skilled in a specific segment, which they were expected to excel at. This leads to employees transferring to other organizations for better work opportunities (Womack, Jones & Roos, 1990). The structure of implementing Lean management heavily revolves around the philosophy of understanding people and their motivations. Its success relies on creating and building strong relationships and teams within the organisations by encouraging strong leadership (Liker, 2004).

<b>HENRY FORD</b>	<b>TOYOTA PRODUCTION SYSTEM</b>
• Narrowly skilled professionals	• Teams of multi-skilled workers
• Expensive, single-purpose machines	• Manual and automated systems
• Make high volumes of standardized products	• Make products which the customer has ordered
• Hierarchical – management take responsibility	• Value streams using appropriate levels of empowerment
• Aim for good enough	• Aim for perfection

**Table 1. Production systems compared. (Melton, 2005, 663)**

## **2.3 Lean principles**

The principles of Lean are the basis of Lean thinking. Lean principles contain various guidelines and steps through which organizations can achieve a Lean culture. The purpose of the study is to discover the employee perspective on Lean implementation. In order to fully explore the research question it is vital to comprehend the essence of Lean philosophy, which are the Lean principles. This chapter will introduce two main principles familiar to Lean management; The five principles of Lean management and The Toyota Production System’s four principles.

### **2.3.1 The five principles of Lean management**

According to Bicheno (2004), there are Five Lean Principles, to which every organisation should focus on in order to achieve continuous improvement. These principles are to guide

and improve the operations of the organisation. The five principles are Value, Value Stream, Flow, Pull and Perfection.

Value is measured in the context of a product, where the customers expectations are met through price, money and emotional impact. In Lean management, Value is created by the producer. Producer means the service provider. Due to Lean thinking deriving from the manufacturing world, the value of a product was often based on the manufacturers point of view rather than the customers. Being based on offering customers a product best suited by the manufacturers own convenience. Now that Lean has expanded to other sectors such as service sector, understanding customers point of view and understanding their requirements has become increasingly important. It is critical that Lean thinking begins with the attempt to define value by defining the specific product, the specific price and the specific customer (Womack & Jones, 2003).

The value stream is defined as actions that are needed to bring a product through three management tasks. These management tasks are, the problem solving task, information management task and physical transformation task. Problem solving task includes creating a detailed concept and preparing and planning the launch of production and everything that goes into a product launch. Information management task involves the planning of the delivery. The physical information task is making sure the raw material turns into a finished product upon reaching the customer (Womack & Jones, 2003). According to Bicheno (2004), the finished product should always be based on the viewpoint of the customer. There has been a shift from viewing this perspective from the viewpoint of the company and organisation, to viewing it from the point of view of the customer. According to Womack and Jones (2003), transparency is integral in order for the value stream to be successful, and for a product to get fully mapped by the organisation.

The third principle is Flow. This principle occurs when the value has been exactly defined and specified and the product has been fully mapped through value stream. Flow is shifting the focus from organizational categories to a value creating process. This is achieved through creating and redefining the responsibilities and work of the departments, and specifying their functions. This enables a vast reaction to the needs of the employees on any point on the stream (Womack & Jones, 2003). The third principles main task is the reduction of delays on

the value added activities. Flow creates value that revolves around people, culture and processes (Bicheno, 2004).

The fourth principle is Pull. This is to ensure the customer is understood, by enabling the customer to communicate their needs directly. This principle is used to forecast customer behaviour. Customer pulls the product from the company, rather than the company insisting the products onto a customer. The Pulls significance is that the customer obtains the exact desired product at the exact desired time. The principles point is to eliminate excess production and manufacture. Furthermore, to focus on the customer wants and needs (Womack & Jones, 2003).

The fifth principle is perfection. It occurs when the organisation has specified the value, identified the value stream, ensured a constant value creation flow, and enabled customers to pull value from the company. These four principles interact with one another incessantly. In this principle the employees are able to witness the effect of their work, getting immediate feedback from their management and from the customers. The employees are able witness the gained customer satisfaction. This enhances the motivation of the employees as well as the transparency within the organisation. Transparency is one of the most important parts and factors of the perfection principle. Everyone is able to see and contribute on the value creation and the employee satisfaction. Furthermore, ensuring the organisation motivation to continue to improve (Womack & Jones, 2003). After the four principles, seeking perfection is usual. Perfection is sought through an increase in quality, and maintaining customer demands. Meeting the needs of the customers by producing what they want. Furthermore, selling products at a price where the customer is willing to pay for. In order to maintain perfection the improvement cycle should be constant and endless (Bicheno, 2004).

### **2.3.2 The toyota production system's four principles**

The Toyota management system (TPS), The Toyota Way and the whole management behind Lean thinking is based on TPS's four principles; Philosophy, Process, People/Partners and Problem solving. The TPS was built for manufacturing processes. Gradually, due to its immense success, it was applied to various organisations to improve their processes, improve sales, marketing, management and even logistics.

The first principle, which also serves as a base for the 4 P model, is philosophy. Philosophy includes the long-term philosophy of the organisation, which the organisation uses as a base for their decision-making (Liker, 2003).

The second principle is process. This principle includes the Five principles which were defined in previous pages: Value, Value stream, Flow, Pull and Perfection. This principles importance is to reduce and eliminate waste by creating processes such as Flow to discover the underlying issues and problems. In addition, using Pull to avoid overproduction. Transparency is an important part of eliminating waste. Enabling the transparency of the through visual control and through advanced technology. Continuous improvement is important when trying to reduce and eliminate waste, being able to evolve through problem solving and creation of standardized tasks (Liker, 2003).

The third principle is people and partners. The main part of this principle is the shared respect, which is achieved through shared development and challenges. The shared respect is between the employees and the teams, as well as the suppliers and the customers (Liker, 2003).

The fourth principle is problem solving. This includes continuous learning, which enables continuous improvement. In this principle organisations learn through “Kaizen”, which means improvement in Japanese. The kaizen technique has a profound impact on the determination of the problem and creating a solution for it. Kaizen is to realize the main issue, create ways to improve it or eliminate it. In addition, these are then monitored for a specific time to see the received results (Liker, 2003).

In both Lean practices, in “Fordism” and in Toyota Production System, the term “waste” is held in high regard, and is highly significant. Both practices recognise that eliminating waste contributes to the efficiency and the productivity of the service or the product. In the Toyota house, waste reduction is an important part of the structural component. According to the Toyota Production System there are three types of waste; Muda, Mura and Muri. Muda refers to the waste that comes from production and quality that is created in the shop floor level. Mura refers to the waste of overworked and overburdened employees. Muri refers to the uneven waste (Bicheno & Holweg, 2009).



There are seven types of Muda waste. The first type of waste is over production; producing products in larger batches. Over production is seen as causing overstaffing and other additional transportation and inventory costs. It also leads to the deterioration in the quality of the product (Bicheno, 2004). The second type of waste is waiting. This refers to the equipment not being ready in the required time (George, 2003). The third type of waste is Transporting. Moving the materials through out the processes. The movement should be reduced in order to eliminate the activities that do not add any value. This includes avoiding long distance transportation between storages. The fourth type of waste is over processing. This includes the non-value added steps and actions within the process, which will not contribute or create any added value for the customer. In addition, including the added charge or price that is used to create more value for the customer. The fifth type of waste is inventories. This includes any material or product that does not meet the specification or requirements of Just-in-Time. This type of waste is due to overproduction; using more inventories that is actually required. Furthermore, including excessive raw materials or damaged goods (George, 2003). The sixth type of waste is moving. This includes the unnecessary movement of produce and people that do not add any value. This waste is difficult to measure. The seventh type of waste is making defective parts and products. This includes any errors or rework and repair needed. Usually defect happens during mass production, where the product is not tailored, or the service is not performed with specifications (George, 2003).

Since the establishment of the seven Muda waste types, an eight waste type has been added. This waste type is untapped competence or unused employee creativity. This waste refers to managers not using their employees competences in a correct manner. Furthermore, not creating learning opportunities for the employees (Petersson et al., 2010).

The overburdening of the employees, *muri*, is seen as a vast waste. The significance and importance of employee improvement and employee wellbeing has increased in the recent years. Employees are considered as part of the company's decision-making processes. Employees should be able to further their knowledge and further their own work competences. Additionally, they should be able to work in a safe environment, which has an emphasis on work ergonomics. Furthermore, employees should not be over worked; this might result to future health issues (Bicheno & Holweg, 2009).

Achieving mura is seen as impossible. This would require vast continuous flow of production, which is problematic due to variation on requirements. Additionally, the possibility of accidents or defects cannot be erased completely. There are techniques and tools to avoid unevenness. These tools should assist the supplier and the customer to make a mutual agreement on ordering and producing times. Resulting in a decrease on unevenness (Bicheno & Holweg, 2009). According to Bicheno and Holweg (2009), mura has an affect on muda and muri that might lead to a vicious cycle of creating more waste. Unevenness is a cause of overburden, thus causing waste. Identification of mura and muri is vital when it comes to eliminating waste within the company.

## **2.4 Lean implementation**

Lean implementation is a significant aspect of this research. The purpose of the research is to reveal the employee perspective on Lean implementation. Due to this, it is important to unravel the philosophies and tools of Lean implementation. This chapter will further explain the meaning of Lean implementation, additionally introducing five Lean implementation tools.

Lean implementation has become vastly popular within organisations, especially the rise of companies that do not operate in the manufacturing field has been on steady rise. Companies are always looking to enhance their production, to alleviate employees work burden and to create ways to keep the company competitive and successful. Various companies have turned to Lean management and Lean tools in order to organize the factors that need to be eliminated, the factors that create advantages and the factors that should be added and created. Due to Lean tools being modified throughout the years, it has abled the tools to be implemented onto other type of industries than the manufacturing industry. Lean implementation is especially in demand in companies within the service sector. The service sector is highly competitive, their main goal being customer satisfaction and creating and enhancing customer value (Petersson et al., 2010).

Transparency and openness is of importance when implementing Lean. The company's management should take part of the Lean implementation process, and the whole organisation should be notified of the implementation and of the objectives. Many companies do not

realise that the results, gained from Lean implementation, takes time to unravel within the process or within the service. Lean implementation should be a part of the organisations processes and objectives, and it should be maintained and continued in order to receive and maintain results (Pettersson et al., 2010). According to Swank (2003), in order for Lean implementation to be successful, and in order for the new knowledge to be successfully transferred across the organisation, from management to employees, the employees need to be informed the “why” and the “how” of Lean implementation. In order to ensure employee involvement and motivation, understanding reasoning behind the implementation is of utmost importance. Furthermore, understanding the necessity of continuous improvement and adjustment is highly significant.

According to Drew, McCullum and Roggenhofer (2004), Lean implementation and its success is highly dependant on the employees and their management. Sustaining changes often relies on the employees. Employee mindset towards changes is important. Thus it is highly recommended for the management to try and instigate positive attitude towards the changes before the actual implementation.

#### **2.4.1 Lean implementation tools**

Lean implementation tools are of significant importance when implementing Lean into a process or service. The research purpose is to gain knowledge on employee perspective on the Lean implementation process, thus it is vital to recognize methods how Lean can be implemented. Lean implementation tools and techniques have evolved into something concrete, something that companies can apply into their own organisations. It has evolved from, aiming and benefitting the manufacturing sector or manufacturing companies, to something universal. The tools give a guideline on how to implement Lean in an organisation. Organisations vary so the Tools must be used in accordance to the organisations own sector and capabilities. The Lean tools are seen as the backbone of Lean implementation, and without them Lean implementation is virtually impossible. There are various Lean implementation tools. The most known tools are the Five S, Kaizen, Six Sigma and Value Stream Mapping (Bicheno & Holweg, 2009).

## **The Five S**

The Five S is the most used and the most common Lean implementation tool. The Five S stands for sort, set in order, shine, standardize and sustain. The Five S tool is seen as easy to implement, compared to other Lean implementation tools. Furthermore, it is considered to be a significant tool when creating a Lean culture within the organisation (Bicheno & Holweg, 2009). The Five S was first used in the Japanese manufacturing industries in the 1950's, and it was an author called Takashi Osada who first developed the framework for Five S. This framework is still being actively used in organisations (Gapp, Fisher & Kobayashi, 2008). Five S tool became prominent in a short amount of time in the Japanese manufacturing world. Five S was even referred to as the DNA of the TPS (Pil & Fujimoto, 2007)

The Five S tool is known for its positive influence on productivity and quality. The objective of Five S is to eliminate waste, to enhance variation and to improve productivity. Its objective is to create a better workplace for employees. Achieving this through creation of a healthy work atmosphere and the reduction of unnecessary workload (Bicheno & Holweg, 2009). According to Osada (1991), it is important to understand the ways it can create productivity and eliminate waste, in order to comprehend the greatest way to integrate the Five S model into the organisation.

Before implementing Lean, by using the Five S, it is of importance to have the support and involvement of the organisations senior management. The senior managements commitment to Lean implementation is of significant importance (Carreira, 2004). According to Gapp, Fisher and Kobayashi (2008), it is important to take a holistic approach to the implementation of the Five S, and not just consider it as another tool, but incorporate it into the process or services everyday activity. According to Carreira (2004), the greatest way to implement Lean is to target one specific process or service and implement the tools there. It is important to implement Lean in a smaller scale, one process at the time. This ensures long-term results. If Lean is implemented in a larger scale, the success of the implementation is scarce, due to the possibilities of different deficiencies.

The first Five S is sort. According to Monden (1998), it important to set fundamental requirements before implementing TPS, and this can be achieved through sorting. The purpose of sorting is to eliminate unnecessary functions and items from the organisation. The

functions and items that are deemed as disposable and unnecessary are eliminated from the organisation (Peterson & Smith, 2001). Sorting should begin by creating a visual board where the sorting of the items will take place. All the items are sorted based on their importance, based on their need and based on what can be eliminated (Bicheno & Holweg, 2009). According to Dudek-Burlikowska (2006), it is important to sort the items, through using a red tag, on what is important and vital for the process or service, and what can be eliminated and is deemed as waste.

The unneeded items are immediately eliminated and removed from the process or service. In case of uncertainty on the importance of the item, unneeded items will not be removed but it will be tagged with a date. This ensures time on deciding on the importance of the item. The needed items will be further divided according to their frequent use (Bicheno & Holweg, 2009). According to Lankucki (2001), the first stage of Five S is exceedingly important and sets the tone for the whole process. It is important to document the beginning, in order to be able to measure the results through out the process. The sorting should also be a continuous process, organisation should sort their items in a regular basis (Bicheno & Holweg, 2009).

Second stage is set in order. The items are labelled and placed somewhere visible. Every item should have a standardized location (Bicheno & Holweg, 2009). The focus is on arranging, segregating and storing (Harrington 2000). According to Lancucki (2001), items should be identified and arranged based on their similarities. Arranging similar items together enhances noticeability, making them easier to use. Set in order should be performed whenever there is a change in an item. Ensuring that this stage has to be conducted in a regular and a continuous manner (Bicheno & Holweg, 2009).

The third stage is shine. This stage is keeping the workplace clean and tidy. Cleaning regularly and continuously. The working area should be well maintained and if something is out of place it should be corrected (Bicheno & Holweg, 2009). According to Peterson and Smith (2001), organising the cleanliness of the working area in an everyday manner will ensure the safety of the working area. Dudek-Burlikowska (2006) state that a clean workplace will help boost the employee motivation, which thus leads to higher-quality work. According to Lancucki (2001), cleanliness should become a custom and an on going routine that is being effectively conducted.

The fourth stage is standardize. Creating tangible and relatable processes and procedures, and maintaining the standards that were set up by the first three S's. This stage is crucial in the Five S's due to its focus on maintaining the standards that was previously created (Bicheno & Holweg, 2009). According to Dudek-Burlikowska (2006), employee role in standardization is enormous, and it is the employee's responsibility to ensure that the work practices are up to standards.

The fifth stage is sustain. This stage is to continue and maintain what has been achieved during the previous four S's. Employees and management are expected to maintain the established habits, and add corrections if needed (Bicheno & Holweg, 2009). According to Peterson and Smith (2001), this stage is considered to be the most challenging one to execute, due to being challenging to maintain certain activities for a longer period of time. Harrington (2000) states that in order to maintain a change for a longer period of time, it is important to maintain the standards in a successful method. According to Lancucki (2001), what assists sustaining the changes is employee participation. Furthermore, rewarding employees is vital on the enhancement of employee motivation. Additionally resulting to a more confident and energetic approach on maintaining changes. The reward does not necessarily need to be a financial reward.

## **Kaizen**

Kaizen is an important Lean implementation tool. Its main focus is on continuous improvement, improvement in order to achieve the objectives of Lean management. The Japanese word kaizen stands for continuous improvement (Bicheno & Holweg, 2009). Imai (1986) was the first to outline the principles and the core values of Kaizen. This outline served as the introductory of kaizen to the western world. According to Elbo (2000), kaizen gained world wide recognition when it viewed as a concept for Total Quality Management. To use kaizen means to regularly identify new processes and services and to enhance the organizational goal (Brunet & New, 2003). According to Imai (1986), kaizen entails three main principles. These principles are process orientation; finding how processes can be developed, developing and preserving standards; performance levels are kept regular and even and people orientation; everyone in the organisation should be included and involved.

Kaizen is implemented by organising three events. The first event is to organise the kaizen event itself. The second event is to perform the kaizen event. The third event is to go through the results gained from the second event. Going through the suggested improvements and realizing how they can be improved. Most kaizen events are organised internally within the organisation (Bicheno & Holweg, 2009).

In the first stage of kaizen, which is the preparation stage, the organization should decide, with the help of a road map, a specific area that needs improvement. All the suggested improvements are added to a road map. The road map helps to focus on areas that actually need improvement and not waste time on other areas. In this first stage, the budget and possible cost of the improvement should be known, as well as what are the financial benefits gained from the improvement. At this stage possible problems or setbacks that might occur during the improvement should be recognised (Bicheno & Holweg, 2009).

It is a requirement to have a designated leader in kaizen events. The designated leader will lead the process, in addition is responsible for the event. Furthermore, the leader should always derive internally from the organisation, and be able to lead participants and guide the process along. The Kaizen events should be documented, and preferably with a road map. During the event, the areas that need improvement are analysed and improvement measures discussed. The Kaizen leader takes responsibility and ensures that the changes and improvement measures are implemented and sustained. Follow up meetings should be arranged, where the success of the implementation is followed, and necessary actions taken if in case of setbacks (Bicheno & Holweg, 2009).

### **Six sigma**

Six sigma is a management program designed to eliminate waste and enhance productivity. It is a quality management tool, which is often combined with Lean management. Six sigma was founded by telephone corporation Motorola Corporations. Telephone manufacturing corporations have various similarities with automotive manufacturing industries. Both industries specialize creating high quality products in a bigger scale. Both industries have a pressure to excel and evolve at a continuous pace (Arnheiter & Maleyeff, 2005). According to (McAdam & Lafferty, 2004), six sigma as a strategic tool is immensely underused. It is often used only as a way to reduce statistical decision making. A performance level can be

identified as six sigma level when the number of products that are considered as damaged and faulty are at 3.4 (Linderman, Schroeder, Zaheer & Choo, 2003).

Lean management and six sigma have similar roots and derive from Lean thinking. Both of the management programs have evolved into management systems, focused on having new approaches to production, providing high degree service to customers, enhancing employee education and employee management relations. Various organisations, using only six sigma, began to use Lean management, in order to seek other ways to enhance the organisations competitive advantage. The main difference between six sigma and Lean management is Lean management's need to increase the production flow, whereas six sigma's need is to ensure the final product quality is adequate (Arnheiter & Maleyeff, 2005). According to Chakravorty (2009), six sigma has a strong focus on customer satisfaction and catering to customer requirements.

Six sigma is based on a statistical metric that derives from Motorola Corporation. It began as a narrow management program to measure quality, but evolved into a wide-ranging decision making strategy (Arnheiter & Maleyeff, 2005). Schroeder, Linderman, Liedtke and Choo (2008) state that six sigma can be utilized only for process or service improvement due to the nature of the tool. In six sigma everyone within the organisation is responsible for the quality and service produced, this way the quality measurement is equally spread. The six sigma metric system is to measure if a specific proportion of the manufactured components would be expected to achieve the expected tolerances. Six Sigma's main responsibility is to measure how a process is performing (Arnheiter & Maleyeff, 2005).

Six sigma's objective is to implement a strategy that is management-based and has a focus on process improvement. This can be achieved through six sigma's methodologies, which are DMAIC and DMADV. DMAIC stands for define, measure, analyse, improve and control. DMAIC is an improvement system for processes, which are not meeting the required expectations and are in need for dire improvement (Arnheiter & Maleyeff, 2005). Kumar, Antony, Madu, Montgomery and Park (2008) state that each step in the DMAIC provides various techniques to uncover the reasons that are blocking the process improvement. DMADV stands for define, measure, analyse, design and verify. DMADV is a improvement system for new processes (Arnheiter & Maleyeff, 2005).



With six sigma, the value of the organisation's output and the quality of the service or the product should always exceed the customer's expectations. The quality is highly based on availability, delivery performance, after-market service and reliability. Employee training is important factor in six sigma. It is important to maintain the employee effectiveness through training, which includes various problem-solving skills (Arnheiter & Maleyeff, 2005).

### **Value stream mapping**

Value stream mapping is a tool to assist analysing the flow of the process thus identifying and reducing non-value added activities. Value stream mapping also aids to control and supervise the process flow within the whole organisation. Properly used it can help identify the waste that occurs within the process. Furthermore, the people who are directly involved with the process and the activities should be part of the value stream mapping, this will support on achieving the best results from the mapping (Bicheno & Holweg, 2009). Sugimoro, Kusinoko, Cho and Uchikawa (1977) state that value stream mapping revolves around the concepts of waste and value stream.

Value stream mapping is a visual tool that lists the organisation's current state, future state, ideal state and an action plan. The Map should include a linkage between the value adding and non-value adding activities. This way there is a visual evidence of the current state, and aids to divide the value added and non-value added activities. The value adding tasks are added to the future state map whilst the non-value added are removed from the map (Hobbs, 2011).

The mapping begins by writing and adding the activities to the map by using Post-it notes. This way all the processes have been identified and added to the map. In value stream mapping the visualisation of the entire action and the process is significant, and it serves as a great tool for observation as the process progresses. Changes and other progression details should be added on the map. Additionally, in order for the mapping to be successful, the organisation needs to have a clear vision on the direction of the process, what is their goal, what would they like to achieve with it (Hobbs, 2011).

## **Kanban**

Kanban is a device to control the movement of materials within an operation. Through kanban, the organisation can control when materials should be purchased from suppliers. This assists to eliminate waste through using just-in-time technique; having products in demand that actually required (Bicheno & Holweg, 2009). According to Melton (2005), kanban will aid the organisation to tend to customer needs more efficiently by providing products specifically requested by the customers. The delivery of the product and the service given is observed closely and improved if needed. With kanban products are easily reachable, they can be found in a short amount of time (Bicheno & Holweg, 2009).

### **2.4.2 Change model**

Change model is a framework for managing change before and after Lean implementation. One of the research questions of this study is what employees perceive as important factors before and after Lean implementation. It is essential to understand how change in Lean management is handled. This chapter will introduce the Lewin's change model, further revealing significant details on managing change.

#### **Lewin's change model**

The change model was developed in 1952 by Kurt Lewin. It includes three stages; unfreezing, change and freezing (Murthy, 2007).

In the unfreezing stage the managers prepare the employees for the upcoming changes (Murthy, 2007). According to Burnes (2004), it is about informing the employees of the upcoming changes and assisting them to adjust. Informing of the changes beforehand is necessary in order for the employees to reject their old habits. Fossum (1989) states that it is important to inform the employees the reasoning behind the change. Furthermore, why the change is necessary and important. This assists employees to feel dissatisfied with the current state and are willing embrace the change. Kotter (1996) agrees with the previous statement adding that a feeling of crisis will give the employees a boost in their motivation and willingness to adapt to change. Crisis meaning that employees are made to dislike the current system. This can be achieved by informing employees that the current system will not

enhance the organisations competitive edge. In addition, informing that the current system is unable to serve the customers as well as the employees. Furthermore, employees should be notified that the current system is financially unfeasible.

In the change stage the organisation should form a clear objective and strategy how to achieve the change. The strategies should go hand in hand with the organisations own capability and time. The objectives should be attainable and not turn employee mindsets against change. New challenges always arise from change, but with correct training employees are able to accustom to the change. Challenges will also motivate employees, through proper support and a proper reward system (Pugh, 2007).

The third stage is the refreezing stage, where the new habits are maintained and kept. According to Robbins and DeCenzo (2005), without this stage the change that was gained can become short lived and employees may return to their old habits. According to Burnes (2004), the change is considered a success when it becomes a permanent part of the organizational culture. When the achieved change will be imprinted on the attitudes and beliefs of the employees. Furthermore, it is significant that the change will become part of the whole groups attitudes and beliefs. This is due to the fact that group norms are not easily changeable thus learned changes are not easily discarded. Whereas it is more challenging for an individual to carry out changes without group norms and group support. In this stage it is significant to analyse and evaluate the change, the positive and the negative. Based on the analysis correct measures should be taken to correct the situation and maintain the change gained. Encouragement and support of employees is highly important. Employees should be rewarded for their behaviour and action towards change (French, Rayner, Rees & Rumbles, 2006).

The management should take responsibility on informing the employees on every aspect of the change, and ensuring that their mentality towards it is not hostile, but rather positive and open. In the change stage the management and the employees should create new guidelines, a unified guideline that is provided to the entire organisation. If there are any occurred problems, at this stage, the problems should be identified and corrected in a swift manner. The third stage is the Refreezing stage. In the refreezing stage, the benefits gained from the change is celebrated, employees are rewarded for their positive attitudes and embracing the change (Murthy, 2007).

## **2.5 Employee types**

The employee perspective is the main focus of this research. The purpose of this research lays in the perception and perspective employees have on Lean implementation. It is significant to distinguish the employee types revealed in the world of Lean management, in order to fully comprehend the difference between employee mindsets. This chapter will further introduce these employee types.

There are three employee types based on their mindset and attitude towards change. The employee types are good soldiers, skeptics and resisters. Categorizing employees into specific types can assist the organisation and managers, due to emotional motivation on employees being vital when it comes to ensuring the success of a Lean implementation. It is significant that managers recognize, before Lean implementation, which employee will most likely be optimistic about the change, which employee will be sceptical about it and which employee will resist it (Hobbs, 2011).

### **2.5.1 The good soldiers**

The good soldiers are the employees who conduct their work without any resistance or scepticism. They have respect for authority, thus they do not challenge any task that is given. They are open to new changes and are willing to adapt, and be flexible if needed. Furthermore, the good soldiers see their job as a mean to financial gain and nothing more. They are often happy and satisfied with their work, and are seen as the backbone of the organisation and are appreciated by the managers (Hobbs, 2011).

### **2.5.2 Skeptics**

Skeptics are employees who have a long working history within the company. They are often seen as cynical, and they are sceptical of any change. They require convincing on the necessity and purpose of the change before they are able to accept it, they require a strong reasoning. The skeptics are seen as great employees. If skeptics deem the change as beneficial for the organisation, they will become its biggest supporters and even encourage other

employees. This is why it is significant that managers recognize the skeptics needs and give them a strong and convincing reason as to why they should embrace changes (Hobbs, 2011).

### **2.5.3 Resisters**

The resisters are seen as difficult employees to deal with, from a managerial perspective. They oppose any change and often refuse to adapt to changes. The resisters do not often speak candidly and openly about their negative opinions towards change, they often engage with other resisters privately in order to influence their mindsets. The reason is to delay or terminate any ideas of implementing change to the organisation. Additionally, they often further themselves from any responsibility of the failure or success of the implementation (Hobbs, 2001).

### **2.5.4 Mindset**

The mindset of the employee within the organisation is often downplayed. The attitudes and mindsets of employees involved in the process and the change, as well as the employees that work those specific tasks created by the change, is immensely important. Murthy (2007) even refers to the mindset of the employees as an organizational culture. Organizational culture is described as shared values, beliefs and habits. Encouraging positive attitudes on the employees is an important part of sustaining the change, and maintaining the benefits of the change. The purpose of Lean implementation is to create a long lasting standardized process that can maintain for several years. It is significant that the employees are provided with tools to how they can adapt to the changes. This might occur through various familiarization or coaching techniques. The management is expected to reward and acknowledge employee participation. Additionally, it is significant that the employees are provided with precise guidelines on what is expected of them (Murthy, 2007).

## **2.6. Employee training and development**

The importance of employee development and enhancement of competence has been highlighted since the introduction of the toyota production system. Enhancing employee

knowledge and competence is seen as one of the drivers of the success of Lean implementation. This chapter will further reveal the important aspects of employee training in the field of Lean management.

Applying Lean management to organisations has led to an increase in teamwork and a significant decrease in traditional hierarchies, which hence has led to a permanent improvement in processes and services within the organisation (Scholz 1994, Kabst, Larsen & Bramming, 1996). According to Hohmann (1992), the changes of Lean implementation, within the organisation, have created a need for training and development of employees (Kabst, Larsen & Bramming, 1996). The importance of employee training has become important due to more employees being included in the Lean implementation process. According to Weber (1985), the success of Lean implementation is highly dependant on the employees and their competences, due to employees performing the tasks and applying the changes created by Lean implementation (Kabst, Larsen & Bramming, 1996). Weber (1985) acknowledges that the type of training needed is highly dependant on the organization type, and the nature of the process or service where Lean was implemented (Kabst, Larsen & Bramming, 1996). According to Sussmann and Kraus (1994), letting go employees who are not capable of adapting to the changes created by Lean implementation is not a solution that should be used. The important factor is recognising different employee types and their needs, and identifying solutions based on that (Kabst, Larsen & Bramming, 1996).

Organizational training in a group setting has been proven to be effective. Employees need colleagues to intensify the learning and training process (Helfrich, 1994; Kabst, Larsen & Bramming, 1996). According to Wildermann (1993), the training and learning should be intra-company and not take place outside the organisation. In order for the learning to become permanent it is important that the training and learning takes place close to where the actual work is conducted (Kabst, Larsen & Bramming, 1996).

## **2.7 Lean in the insurance sector**

Implementing Lean management into various different industries has become increasingly popular. Companies turn to Lean management in order to enhance their organisations productivity and keep up its competence. Companies in the Insurance sector use Lean tools

and processes in order to increase the quality of the customer service and meet the customers' demands. In insurance companies, customer service is one of the most, if not the most, important part of the companies everyday business and responsibility. When companies revolve around keeping and gaining customers, the pressure to compete with other companies is immense (Freese, Hoying, Regelman, Yin & Bossung, 2016).

The customer's demands in the insurance sector are increasing when it comes to the quality of service required. Customers are demanding better service, faster service and service that is varied. Insurance companies have begun to take customer recommendations and feedback very seriously, and often conduct customer satisfaction surveys in a regular basis. Insurance companies have realised that Lean tools can help with customer retention and enhancement of the service quality (Freese, Hoying, Regelman, Yin & Bossung, 2016).

The responsibilities and expertise areas within the insurance company are very diverse thus implementing Lean into different part of the organisation might not be easy. The insurance company involves sales, actuary work, pension section etc. It is a multifaceted industry. Using media and creating different media outlets plays an important part in insurance companies. Insurance companies in Finland in general are successful, due to the demand of their services and their services also being integrated on the Finnish law (Freese, Hoying, Regelman, Yin & Bossung, 2016).

There are various processes involved in the insurance company. Lean is implemented into these processes in order to decrease the processing time, to decrease the process steps and to make the process easier for the employees and beneficial for the customers. (Freese, Hoying, Regelman, Yin & Bossung, 2016).

Implementing Lean tools into a process in the insurance industry does not differ much from Lean implementation into a company with a different sector of expertise. Lean tools are used in the insurance sector to change processes fundamentally and sustain the changes achieved. In order for the Lean implementation to be successful, it should not only enhance the processes, but it should improve the productivity, the speed, quality of the customer service, customer loyalty, employee engagement. Insurance companies, in their core, are a service company and can be categorized in that sector. There are five important steps that needs to

happen for Lean implementation to be successful in an insurance company (Jenkins, Karjian & Niederkorn, 2011).

The first is that the customer is the core. Meaning that every change done should revolve around on how to improve customer relations, enhance customer value and deliver what the customers want. The second is to strengthen performance systems. To make the performances and targets transparent, to encourage problem solving and to support management changes. The third is to enhance the organisation and its skills. It is to shun drastic changes within the leadership, and to encourage different skills and capabilities within the organisation. The fourth is to influence mindsets and behaviours. It is to strengthen the commitment of the employees towards change. The change itself cannot be successful if there is not commitment from the employees to follow through. Teamwork and employee commitment is extremely important in a customer service based sector. The fifth is to make processes more efficient. Mobilizing the whole processes systems and focusing on customer value and enhancement of the customer experience. This also entails eliminating waste through reduction of time, resources and energy (Jenkins, Karjian & Niederkorn, 2011).

## **2.8 The success factors of Lean implementation**

The success of Lean implementation is impossible to universally classify, since every process is different and every organisation entails its different qualifications on when Lean implementation can be classified as a success. According to Abdullah, Uli and Tari (2008), the factors that contribute to the success of Lean implementation are Management commitment, Employee involvement and Training and education.

Management commitment and support is seen as one of the important, if not the important, part of Lean implementation. Before the actual implementation, the management should encourage the employees towards the change, and brief them on every detail of the change. There should also be an open communication throughout the organisation during the Lean implementation, given information on the implementation every step of the way (Crute, Ward, Brown & Graves, 2003). Effective communication serves as a success factor in Lean implementation; creating an open atmosphere where employees can give feedback. The



combination of management support and communication plays a big role on the success of Lean implementation. Open communication policy should not only extend to management and employee level, but also to the employee and customer level. Being open to new changes that might affect the customer service policies and their products and services (Cotte, Farber, Merchant, Paranikas & Sirkin, 2008).

Creating Lean organization is seen as more effective rather than just implementing Lean into a specific process. According to Chakrabarty and Tan (2007), the managers should start introducing Lean implementation to the organisation and the employees through financial measurements. Financial measurements meaning they should exhibit the financial gains that could be achieved from Lean implementation. This is seen as an important motivational factor for the employees; having concrete evidence on how important the implementation is for the organisation.

The organisation should have a clear strategy on what is expected of Lean implementation. This is to maintain the implementation from deriving from its goal. Organisation should have the customer's interests and requirements in mind when implementing changes. Various companies want to introduce several Lean implementations simultaneously. It has been studied that implementing Lean into a few processes, trying to eliminate waste rather than changing it entirely, has a considerable affect on the success factor of the Lean implementation. The processes where Lean is implemented should be explained to the employees thoroughly, every single aspect that will occur during the implementation. This will motivate the employees through by involving them in the process. Furthermore, this motivates the employees to become involved and committed on the implementation. Employees, able to take part in a process from the beginning, have higher motivation and commitment to the processes and its change, than employees that are briefed after the changes have already occurred (Cotte, Farber, Merchant, Paranikas & Sirkin, 2008).

## **2.9 Lean criticism**

Implementing Lean has been seen as positive, and its positive affects on the organisation have been proven. According to Garrahan and Stewart (1992), Lean management does not

emphasize enough on people. There should be more emphasis on employee motivation and encouraging employees to take an active part on the implementation process. The pressure of continuously training employees stems from the continuous improvement that comes along with Lean implementation. This pressure is seen as negative due to the fact that organisations and their employees are installed that continuous reduction of waste should occur in order for the implementation of Lean to be successful. Some organisation face pressure to let go workers in order to keep the production in a cycle of continuous improvement (Womack et al., 1990).

Focusing on short term benefits gained financially might cloud the company's long-term goals. The advantages gained in long term, when Lean is seen as a organisational culture, is far more valuable. Lean requires an immense amount of investment from the company, especially financial investment. Not having the finances to train the employees, or hire new ones, can affect the success of the implementation (Chen, Lindeke & Wyrick, 2010).

Lean installs immense pressure on employees. Employees are expected to adapt to new changes, scout for possible problems that ascend from the change and to sustain it long term. This might manifest as high level of stress and might lead to a decrease on employee motivation. Additional disadvantage is altering process due to customer requirements and demands. This is seen as pitfall due to customer requirements shifting throughout years. This would result on the process being changed on a regular basis. This causes budgetary loss and also burdens employees with continuous changes. Furthermore, it leads to decrease on the positive mindset and the trust on management and the organisation (Chen, Lindeke & Wyrick, 2010).

According to Staats and Upton (2011), applying Lean tools might be difficult due to Lean principles not being unambiguously defined. The principles support the manufacturing and car assembly line type of work and mentality.

The evolvement of Lean philosophy has been criticised. According to Hines, Holweg and Rich (2004), the concept of Lean has evolved immensely over the years having an impact on Lean implementation. Lean evolving from a tool to enhance production used in automotive manufacturing settings, to an organizational philosophy applied to various fields, has resulted

to various interpretations and definition of Lean dependant on the organization (Pettersen, 2009).

## **2.10 Lean benefits**

Implementing Lean has various benefits for the company; reduction of handling time, less usage of inventory, more responsibilities for employees and cost saving. Companies have achieved competitive advantage through Lean implementation. It has an immense affect on service improvement and increase in the quality of the service. Lean implementation has had a positive affect on the supply chain by decreasing cycle time up to 50%, improving customer satisfaction and up to 25% and reduction on inventory spaces from manufacturers to 30%. The major improvement and benefit achieved is the employee empowerment, giving more power and decision making responsibilities to employees. This leads to multiskilled and motivated employees (Melton, 2005).

Lean aids the organisations problem solving techniques and standardization into a way that is sustainable and easy. According to Atkison (2004), the financial and insurance sector has benefitted from Lean implementation. They were able to reduce processes, by cutting the process steps. Reducing process steps increases added value for the customers and improves the all around quality of the service. Lean tools such as mapping techniques help to identify which steps and activities do not add any value and are regarded as waste. Eliminating waste is one of the most important benefits gained from Lean. Lean management has an all around affect on the companies whole organisation, if the company chooses to implement Lean onto and organisation, it will have an effect on its business techniques, on its sales performance, on its budgetary and its management methods (Massey & William, 2006).

According to Melton (2005), Lean will assist organizations to enhance their customer service in an increasingly competitive environment. Most organizational environments are lead by the need to sustain competitive advantage, Lean will assist on this. Through Lean the quality of a service or process is improved by receiving faster results with minimal amount of errors. Lean will assist the organization to gain further knowledge on the whole process, thus enabling employees to become multi-skilled. The financial gains are a vast motive to implement Lean. Through decreased operating costs, financial savings can be achieved.

### **3 METHODOLOGY**

As a qualitative research study, data collection is of utmost importance. It is significant to choose the right research method in order to gain suitable data. This chapter will further explain this research's data collection method, the reasoning behind it and how it was actually conducted. The chapter is divided into two chapters. The first chapter, research philosophy, will focus on revealing various philosophical concepts of research methodology. The following chapter will focus on the practical research of the study.

#### **3.1 Research philosophy**

It is important to identify the basic philosophical concepts, positions and traditions of methodology in order to understand the research questions. Research methodology has a strong connection to research philosophy due to understanding, assessing and analyzing knowledge through research. Understanding philosophical issues will help to understand how different methods can be used when analyzing data (Eriksson & Kovalainen, 2008).

The key concepts in philosophy of social sciences are ontology, epistemology, methodology, methods and paradigms. All the concepts relate to each other and can be unified through framework (Eriksson & Kovalainen, 2008).

Ontology entails the ideas of relationships between people, society and the world. In ontological concept reality is seen as subjective, meaning that each person experiences and perceptions differ from one another and can change over time. In ontology the researcher is also expected to make assumptions when it comes to the world. Ontology can be divided into two aspects. The first aspect is objectivism and the second one is constructionism. In objectivism the assumption is that there is an existence outside the thinker, the researcher. The world exists as a separate reality. However, constructionism describes the reality's social nature, and its assumption is that people and their actions are the only existence in the social world (Eriksson & Kovalainen, 2008).

### **3.2 Research approach & research strategy**

In the social science research field the research approach is divided into two categories; deduction and induction. In deduction, theory is seen as the basis of all knowledge. The research derives from the theory, the analysis is conducted based on the theory and the hypothesis stems from theory. In Induction, theory originates from conducted research, and that research leads to theoretical results (Eriksson & Kovalainen, 2008). In this research both deduction and induction approaches are used. The theory collected from previous studies will be evaluated against the gained data. The data will be gathered through questionnaires that will lead to results.

In deduction, theory is seen as the basis for all knowledge and that theory is the strongest way to gather a large knowledge base. The theory is a basis for the researcher's hypothesis and from that hypothesis the researcher's is able to come up with an empirical research. Resulting the process of deduction becoming linear. The theory is validated through hypothesis testing. Even though the deduction model is strictly theory based, this type of research model is not seen as the most fitting research model for qualitative business research (Eriksson & Kovalainen, 2008).

In this theory model the research stems from the empirical material rather than from the theory itself. Various researchers prefer the inductive model to the deductive one due to most researchers seeing theory as the creation of empirical research. Researchers often see theoretical data as a way to correct and emphasize findings that arise from the research (Eriksson & Kovalainen, 2008).

Induction and deduction are not perceived as being separate from one another. Researchers often use induction and deduction together when conducting research, resulting in the models not being perceived as detached. However, abduction is perceived as a way for researchers to use both induction and deduction together. In abduction, the process begins by collecting descriptions and significances in order to use them as a resource for analysis. Abduction is perceived as the logic in the conduction of research. Whereas induction is perceived as a tool for evaluating the hypotheses and as a tool to use empirical data for reasoning (Eriksson & Kovalainen, 2008).

Selecting the right research strategy is important. Research strategy is deciding on the right theoretical background, knowing the two research methods; qualitative research and quantitative research, and selecting the right research method for the study (Saunders, Lewis & Thornhill, 2009). In qualitative research, analysis is based on findings that are gathered through observation and occurrences. It is based on the study of human behaviour, the study of research theory and analysis (Bryman & Bell, 2007). In quantitative research, the analysis is based on numerical data. Emphasis on finding accurate answers to specific questions by using numerical data. It avoids using any type of human behaviour based hypothesis (Bryman & Bell, 2007). This research is a qualitative research where the findings gathered through empirical data are the basis of the analysis. The empirical data is gathered through questionnaires, which will be further explored in the Practical methodology chapter.

### **3.3 Data generation**

This research's main data was collected through two sets of open-ended questionnaires, issued in one specific department in a Finnish Pension Insurance company. Both questionnaires were issued anonymously to employee level workers. This chapter will firstly bring insight to the Finnish pension insurance company where the data was gathered. Following chapter will on unravelling the reasoning behind the data collection method. Furthermore, the chapter will explain how the questionnaires were conducted and how they were issued.

#### **3.3.1 Background on the Finnish pension insurance company**

The data was collected in a specific department in a large Finnish pension insurance company. This pension insurance company has been implementing Lean to its departments since September 2014. Introducing Lean began with conducting various Kaizen events. After that, managerial level workers were given coaching and training, in order to learn more about Lean and how to apply its concepts in everyday management. The employees were informed of Lean through various blogs, notifications and video's. In the beginning, ten people were chosen to become Lean masters. Lean masters will lead the organised kaizen events. Lean masters will have the knowledge and tools to guide the kaizen events to certain direction, and

are able to receive information from participant. Lean implementation has been considered a success, and is seen as a permanent and prominent part of enhancing processes and gaining a competitive edge.

### **3.3.2 Questionnaire**

Questionnaire is a form of data collection. The data is collected through a number amount of questions that are answered by a specific group of individuals. The basic assumption in questionnaires is that questions are all similar to the participants, and that knowledge received from the questionnaires are used for evaluation. In the beginning of the questionnaire, the researcher should provide background information on why the questionnaire is conducted, what is its aim and what is expected from it. The background information should not influence or manipulate the questions given; so preconceived notion on what is expected of the participants should not be included (Denscombe, 2010).

A questionnaire may be conducted of two types of questions; open or closed questions. In open questions the participants answer the questions in their own words. Closed questions and their answering possibilities are limited and predetermined by the researcher. In closed questions there are limited amount of answering possibilities for the participants, so the researcher specifies the answers the participant are able choose (Denscombe, 2010).

The advantage of open-ended questions is the possibility of lengthy answers that will benefit when gathering a database for analysis. The answers will provide a vast variable of opinions, enriching the data and providing various perspectives and viewpoints that will become incomparable and rare. The respondents are provided with an opportunity to express themselves and their point of view. The disadvantages in an open-ended questionnaire, is relying on the effort of the respondents, the respondents have an obligation to think about their answers and are expected to make an effort. The obligation to write an answer might be appealing to some respondents. Open-ended questionnaires also require an extensive analysis before creating a consensus (Denscombe, 2010).

In this research two sets of open-ended questionnaires were conducted in order to gain data for analysis.

1st Questionnaire	<u>Issued</u> 10.9.2015 <u>Closed</u> 25.9.2015	5 Questions	7 Respondents
2nd Questionnaire	<u>Issued</u> 14.12.2015 <u>Closed</u> 30.12.2015	4 Questions	7 Respondents

The research data was gathered in a specific department within the pension insurance company, and all the questionnaire respondents were employees working in that specific department. Both questionnaires were issued anonymously in order to protect the respondents' identities. Furthermore, the respondents were not chosen based on age, academia or years of occupation. These factors would not add more substance to the research. The purpose of the research is to gain knowledge on the employee perspective on the Lean implementation process, thus it was sufficient that respondents were chosen on the merit of being employees. Open-ended questionnaires were chosen as the method of collecting data due to the possibility of receiving vast variety of answers, vast variety of perspective and views that might not have been able to be gathered from other form of data collection. Additionally, the chosen research approach also fits the overall research design; receiving multifaceted views and perspectives.

The first set of questionnaire was conducted in September 2015. The questionnaire was issued after a Lean workshop, and to the participants of the Lean workshop. There were all in all seven respondents and all the respondents were employee level workers. The questionnaire was sent to the respondents on the 10<sup>th</sup> of September 2015 and the questionnaire was closed on 25<sup>th</sup> of September 2015. The Lean workshop was based on a specific service process, its main goal being to enhance a service process through Lean implementation. The content of this specific process is out of the scope of this research, thus will not be further elaborated.



The importance of the questionnaire was to gain knowledge from the employees participating in the Lean workshop.

The second questionnaire is based on the themes that arose from the first questionnaire results. The important themes that ascended from the first questionnaire is the importance of employee participation on the Lean implementation process. The purpose of this questionnaire was to further divulge on these themes. The second questionnaire was sent to seven respondents. The questionnaire was sent to employees who have never participated in a Lean workshop, and have not previously been part of a Lean implementation process. The respondents were not selected in specified manner hence eliminating the possibility of being bias in the selection of the respondents. However, the respondents take part and handle the outcomes that might arise from the Lean implementation. It was important for the researcher to gather first hand data and knowledge from employees who participate on the practical work. The questionnaire was issued. 14<sup>th</sup> of December 2015 and the questionnaire was closed on the 30<sup>th</sup> of December 2015.

### **Evaluating questionnaires**

There are criteria's when it comes to questionnaire evaluation. The first criterion is that the questionnaire will provide enough information for the study. The second criterion is that the questionnaire will provide accurate information and the answers will not be contaminated. Contamination means receiving false and misinterpreted answers in order to skew the results. The third criterion is having a decent response rate. The amount of responses will be enough to form an analysable data. The fourth criterion is that the respondents personal information is protected and is in a manner of professional standard. It is ethical and the researchers responsibility to protect the respondents given information (Denscombe, 2010).

The basis of the questionnaire questions was to provide answers for the research questions. The questions were conducted to provide enough information to answer the research question, and to fulfil the purpose of the research. Through anonymity, the possible contamination of results was reduced. Anonymity gives the respondents a sense of comfort where there is no need to give false information. The respondents personal details are unknown, in order to protect the respondents as well as guarantee the reliability of the responses. There were 14

respondents who answered the questionnaires; seven respondents answered the first questionnaire and seven respondents answered the second questionnaire. The response rate of this research is adequate to be able to fulfil the purpose of the study.

### **Advantages and disadvantages of questionnaires**

Questionnaires will provide a substantial amount of data. Questionnaires are viewed as non-contaminable due to answers being in writing, thus not leaving a chance for misconstrued answers. Conducting questionnaires is not difficult, and the reception of answers requires no excess time, thus enabling researcher to analyse the data in a quicker manner (Denscombe, 2010).

The disadvantages of questionnaires are that the effort that is expected from the respondents might affect the response rate, which will result to some respondents not willing to write answers. Some of the questions might be biased to the researchers own thinking hence might skew the results of the respondents. The truthfulness given by the respondents cannot be verified and the researcher is expected to trust and believe that the answers given by the respondents (Denscombe, 2010).

### **3.3.3 Data analysis**

According to Saunders, Lewis and Thornhill (2009), there are two ways to analyse data. The first is via formal approach, where the analysis follows a certain outline. The second is analysis depending on the researchers own interpretation and understanding.

According to Saunders, Lewis and Thornhill (2009), once the data has been collected it needs to be sorted in order to be analysed. The sorting process begins with categorizing the data. The data will be organized into different categories. The second is utilising the data; where the data is structured and arranged in order it to become manageable. The third is recognising different associations and connection between the data and further rearrange the data accordance to that. In the fourth stage of the process the data is tested in order to be able to draw a conclusion.

In this research, the first issued questionnaire was analysed on September 2015, after the questionnaire was closed and the wanted responses were at hand. The responses were analysed and categorized into various themes. The main themes that arose, and were significant in answering the research question, were further researched in the second issued questionnaire. The second set of questionnaire was based on the findings of the first questionnaire, and the discoveries were further divulged in the second questionnaire, in order to have more in depth data. The results were then analysed by using the existing literature review. The results were used as the basis on answering the research question as well as fulfilling the purpose of this research.

#### **3.3.4 Validity, Reliability and Ethical considerations**

The questionnaires purpose was to reveal the respondents thoughts on Lean implementation. The questions were done in a neutral manner, thus eliminating the possibility of red herrings in the questionnaire questions. These questionnaires did not provide any optional questions, the answers where solely based on the thoughts and perceptions of the respondents.

There was a consistency in both of the questionnaires. The questionnaires derived from one another slightly due to the fact that the second questionnaire was based on the themes that arose from the first questionnaire. The questionnaires are slightly different but consistent. There is a same theme in both questionnaires, which is the employee perception to Lean implementation.

The respondents' details were kept anonymous and they were notified of the anonymity of the questionnaire beforehand. Anonymity enhances the reliability of the questionnaire responses. Due to all of the questionnaire respondents being co-workers, as well as answering questions from the perspective of their own working environment, it was important to protect the respondents' identity thus encouraging more open responses. Furthermore, some employees might have been hesitant towards the questionnaires knowing that their personal details would be included. The research purpose was to reveal the employee perspective. There is no need to specify age and years of occupation in order to explore the research question. The respondents were informed the closing dates of the questionnaires as well as the purpose of the research

## **4 EMPLOYEE PERSPECTIVE ON THE LEAN IMPLEMENTATION PROCESS**

This chapter will uncover the findings of the research data, which was gathered through two sets of questionnaires. Firstly, the questionnaire results will be presented and analysed. Already existing studies that were presented on the Literature review chapter will be used to enhance the findings. Secondly, discussion will be generated in order to answer the research questions, and fulfil the research purpose.

### **4.1 Drivers of Lean implementation**

This chapter, as well as chapter 4.2 will uncover the findings of the first issued questionnaire. The purpose of the first questionnaire was to discover the employee views on the obstacles and drivers of Lean implementation. Furthermore, to discuss main themes that arose from the findings. It is important to discover if employees deem Lean implementation to be necessary, whether they believe in the success of Lean implementation in order to discover the employee perspective on Lean management. Furthermore, it is important to know what employees believe to be the obstacles and drivers that might rise from Lean implementation. These factors have been discovered in previous studies from the perspective of management but not from the perspective of the employees.

In the first questionnaire question the respondents were asked if they believed Lean implementation to be necessary. All seven respondents considered Lean implementation to be necessary. According to Murthy (2007), the attitudes and mindsets of the employees involved in the changing process is immensely important.

*“ I consider Lean to be necessary. It is important to renew, develop and enhance efficiency, make practicalities more linear and maximize time utilisation. ”*

*“ It is important, because too much work is conducted through old patterns. Necessary because it accelerates activity and, at its best, improves customer service. “*

*“ Yes, because you go through practices that could be clarified and simplified.”*

*“Yes, I think it is necessary. Through Lean you can ‘straighten the curves’ of processes and services. Not waste time on matters that do not provide any benefit, and do not add any more value.”*

The respondents considered Lean management to be beneficial due to its potential in renewing old ways of conducting processes. They deemed it important to try Lean implementation and enhance the processes in order to improve customer service. In addition, the respondents considered Lean to be helpful when simplifying processes and thus maximising working times. According to Atkison (2004), through Lean organizations are able to reduce processes, by cutting the process steps. Reducing process steps increases added value for the customers and improves the all around quality of the service. According to Melton (2005), implementing Lean has an affect on service improvement, and an increase in the quality of the service, through reduction of additional service and process steps, customer service has improved up to 50%. Companies have achieved competitive advantage when enhancing their service and production through waste elimination, resulting on and increase in the quality of the service.

*“ Yes. It is a way to make processes more linear and straight, and remove excess work. In an ideal situation, Lean will help both the customer as well as the employee, for example creating a more pleasant process which would result in reducing customer waiting times. The danger is that Lean is conducted due to it being in fashion right now, and it wouldn’t actually create benefit. ”*

A respondent suggested that Lean should not only focus on enhancing customer service and customer satisfaction, but it should first and foremost increase the working environment and working processes for the employees. As a consequence, this would result in better motivation and working techniques, and eventually in an increase in customer satisfaction. According to Bicheno and Holweg (2009), the objective of Lean implementation is to also create a better workplace for employees, with the creation of a healthy work atmosphere and the reduction of unnecessary workload. Lean is considered useful if it indeed will improve processes and improve the work efficiency. A respondent was concerned that Lean will be used due to its popularity and not necessarily for its ability to create change.

*“ Yes it necessary. The suggestions and observations that derive from the employees are often practical, and derivative from first hand experience. “*

*“ Yes, because methods can be altered and it is a good way to bring forward my own observations on the change. It is easy to write an information on a post-it, add it on a board and know it will go forward. “*

Respondents also considered that Lean implementation ideas and suggestion should derive from the employees due to the employees having the utmost knowledge on what process needs to be improved and enhanced. Furthermore, they also considered important for them to be able to make decision when it comes to which process will Lean be implemented on. They considered important for them to be heard and their ideas to be considered. According to Chen, Lindeke and Wyrick (2010), it is a disadvantage to change a process due to customer requirements and demands. This is seen as pitfall due to customer requirements changing throughout years. According to Abdullah, Uli and Tari (2008), one of the important factors that contribute to the success of Lean implementation is employee involvement.

It is important that employees are given tools to be able to contribute to Lean suggestions and ideas. According to Murthy (2007), the purpose of Lean implementation is to create a long lasting standardized process that can maintain for several years. It is important that the employees are given tools to how they can adapt to the changes. Bicheno and Holweg (2009) see Lean tools as the backbone of Lean implementation, and almost impossible to implement without using them. According to Chakrabarty and Tan (2007), the managers should start introducing Lean implementation to the organisation and the employees through financial measurements. Financial measurements meaning they should exhibit the financial gains that could be achieved from Lean implementation. This is seen as an important motivational factor for the employees; having concrete evidence on how important the implementation is for the organisation.

In the second question of the questionnaire the respondents were asked what were the benefits gained from Lean implementation. Implementing Lean has various benefits for the company; reduction of handling time, less usage of inventory, more responsibilities for employees and cost saving (Melton 2005).

*“ Doing correct things. Reduction on what is relevant. Makes you think about the problem. “*

*“ More time to conduct other work.”*

*“ Considering other ways to conduct work. Faster improvements could be achieved through Lean. Simplifying and smoothing work. The end result will be visible to the customers as effortless activity. “*

*“ Work becomes more linear. “*

*“ Resources used for an unnecessary process will be eliminated which open up more resources for other various important tasks. The economic benefit will outweigh the expense.”*

*“ The benefit is also saving time which would contribute to personal well-being at work. Because not many of us like to do unnecessary tasks.”*

*“ One more tasks is off from the daily work.”*

Respondents mentioned the main benefit that could be gained from Lean implementation is the elimination of excess work, thus gaining more time to pursue other work tasks. According to Hobbs (2011), Lean methods are tasks and techniques that cause the processes to run with no added activities. These added activities are the waiting time, the queue time, the administrative time and other activities that might cause delay. Important part of Lean management is being able to recognise and eliminate all non-value adding activities.

Respondents mentioned that learning how to do tasks in a different way as one of the main benefits of Lean management. Ensuring positive changes and overall enhancement of process techniques. Furthermore, respondents considered learning how to use Lean techniques and tools as one of the benefits. Learning how to apply the tools in the future as well, which would then accelerate future Lean implementation processes. According to Arnheiter and Maleyeff (2005), it is important to maintain employee effectiveness through training, which includes various problem-solving skills. Respondents also saw Lean implementation as a way to reflect if there is a dire need of change within the process techniques. Sometimes employees become blind to needed improvements, due to conducting the same work for various years.

Respondents also perceived that there is a link between work-satisfaction and reduction of unnecessary time used in an unnecessary way. The respondents also considered that reducing time spent on tasks as a benefit that might be gained from Lean implementation. According to Melton (2005), Lean implementation will have various benefits for the company, one of them being reduction of handling times. Lean entails eliminating waste through reduction of time, resources and energy (Jenkins, Karjian & Niederkorn, 2011). According to Bicheno and Holweg (2009), overburdening of the employees is seen as a waste. The importance of employee improvement and employee wellbeing has taken a bigger role in Lean management in the recent years. Overworking employees might result to future health issues.

In the fourth questionnaire question the respondents were asked what are the success factors of Lean implementation. According to Abdullah, Uli and Tari (2008), the factors that contribute to the success of Lean implementation are management commitment, employee involvement and training and education. According to respondents, as well as Figure 2., management commitment was seen as the most important success factor. The success of Lean implementation is not possible to universally classify, since every process is different and every organisation has its different qualifications on when Lean implementation can be classified as a success.

*“The right people leading the implementation.”*

*“The right people in charge of certain steps, and taking responsibility for their part.”*

Respondents considered that having the right people leading the Lean implementation process is one of the success factors of Lean implementation. Having the right people responsible for certain steps within the Lean implementation process. According to Bicheno and Holweg (2009), there should always be a designated leader in the Kaizen event. The leader should always be someone from the organisation, and be able to lead participants and guide the process along.

Respondents also expressed the importance of having management involvement. Having the right management leading the Lean workshops, and the role of management during the actual Lean implementation. In addition, expressing that it is good to have Lean masters outside the company, who are willing to criticize and question the way things are done.



*“The management role is very important on the final stages of the Lean implementation, when the changes are introduced.”*

*“Qualified Lean masters who are able to lead the workshops. Having outside Lean masters, who are capable of questioning, not just believing everything.”*

*“Lean masters who are able to ask the right questions to the participants.”*

According to Bicheno and Holweg (2009), it is the kaizen leader’s responsibility to ensure that the discussed changes and improvement measures are implemented and sustained. There should be follow up meetings where the success of the implementation is followed, and necessary actions taken if a setback happens to occur. Respondents also found important, in order to ensure the success of the Lean implementation, that the implementation and its process is based on statistics, and not just on feeling. Pure facts are used when implementing Lean, and the benefits are proven with statistics.

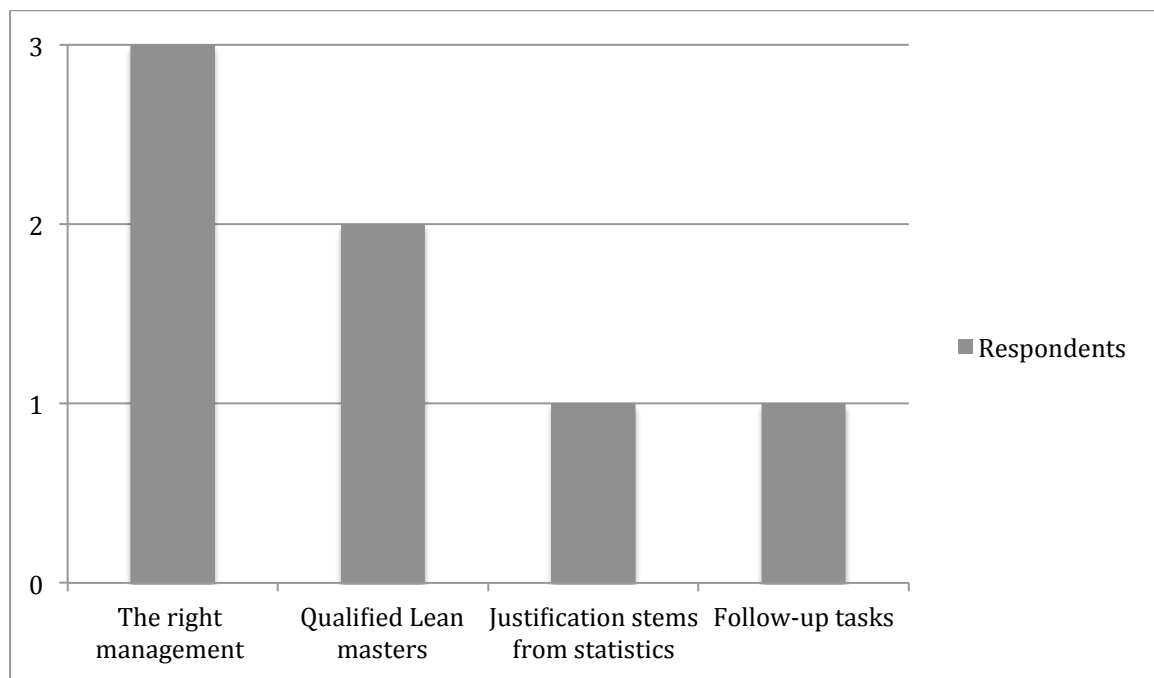
*“Pure facts are used in Lean implementation. Justification stems from statistics and not from a gut feeling. There is a calculation of the benefit as well”*

According to Bicheno and Holweg (2009), in the first stage of kaizen, the budget and possible cost of the improvement should be known, as well as the financial benefits gained from the improvement. According to Chakrabarty and Tan (2007), the managers should start introducing Lean implementation to the organisation and the employees through financial measurements. Financial measurements meaning they should exhibit the financial gains that could be achieved from Lean implementation. This is seen as an important motivational factor for the employees; having concrete evidence on the importance of the implementation.

A respondent also felt that in order ensure the success of Lean implementation, the process should not end after the implementation. There should be on-going monitoring and follow-up on the implementation. In addition, there also should be a clear target, the implementation is precisely planned to have an objective and a timeline that is followed.

*“The follow-up tasks and measures should be agreed upon, and they should be measured. A clear objective and process, clear responsibilities and a clear timeline. These should be the pillars when planning Lean implementation.”*

According to Petersson et. al. (2010), Lean implementation should be a part of the organisations processes and objectives, and it should be maintained and continued in order to receive and maintain the gained results. Bicheno and Holweg (2009) also state that after the Lean implementation employees and the management are expected to follow the established habits, and add corrections if needed. They are expected to continue and maintain what has been achieved. Murthy (2007) highlighted that the purpose of Lean implementation is to create a long lasting standardized process that can maintain for several years. Highlighting the importance that employees are given tools to how can they deal with the changes and how they can adapt to the changes. According to Swank (2003), employees need to be informed that Lean implementation requires continuous improvement and adjustment.



**Figure 2. Success factors of Lean implementation**

In the fifth and final question of the first issued questionnaire the respondents were asked if they believe Lean implementation to be successful. All of the respondents answered that they believe implementing Lean will succeed. Employee attitude towards change and their mindset is of key when it comes to the success of Lean Implementation. Believing and having a

positive attitude impacts how change is received. Furthermore, affecting how change is further managed and maintained.

*“I do. Lean implementation is not difficult or new. Important to have the right people during the implementation process.”*

*“I do. Because there is a strong management support behind it.”*

*“I do. Lean has proven to be a concrete way to improve matters.”*

*“I do. We will also notice a significant release on time to conduct other work.”*

*“Very likely, because the benefits are clear.”*

*“I do, if the implementations aim is to enhance customer satisfaction and gaining surplus.”*

*“I do. It will have a positive affect on the budget.”*

According to Drew, McCullum and Roggenhofer (2004), Lean implementation and its success is highly dependant on the employees and their mindsets. Employee mindset towards change is seen as highly important. Murthy (2007) highlights that positive attitudes from the employees is an important part of sustaining the change that derives from Lean implementation. Cotte, Farber, Merchant, Paranikas and Sirkin (2008) also highlight the importance of management support on the success of Lean implementation. The processes where Lean is implemented should be explained to the employees thoroughly, every single aspect that will occur during the implementation. This is considered as motivating the employees by including them in the process. Furthermore, this also motivates the employees to be involved on the implementation and commit. Employees who are able to take part in a process from the begging have higher motivation and commitment to the processes and its changes, than employees that are briefed after the changes have already occurred.

## 4.2 Obstacles of Lean implementation

In the third question of the first questionnaire the respondents were asked what were the possible challenges of the Lean implementation process. Lean implementation is not without risk or possible setbacks. Lean itself has been proven by previous studies to have a positive and production enhancing outcome, but the possibility of occurrence of challenges does exist..

*“Technology might become a challenge. Some of the programs and systems being old and not serving current needs.”*

*“ The biggest and the most threatening obstacles is the technology. “*

*“ Some people are stuck on their old ways, and not willing to change. Majority of the employees will gladly embrace the changes. I am sure there will be some resistance, there always is. Knowing this, it is important to invest in the 90% of the employees who are glad of the change, and let the rest express their feelings how they wish. ”*

*“Some resistance from the employees is expected, due to being used to conducting tasks or handling different processes the same way for various years. ”*

*“There is fear that the quality might suffer due to the change. There needs to be trust and reassurance that everything is going to work as it should.”*

As is evident from Figure 3., most of the respondents answered that the main challenge that might rise from the Lean implementation is the employee resistance and technology. Being against something new and different, out of fear due to lack of knowledge or training. According to Hobbs (2011), it is the management’s responsibility to recognize, before Lean implementation, which employee will most likely be optimistic about the change, which employee will be sceptical about it and which employee will resist it. Recognising the employee attitude towards change, before Lean implementation, will give the management a chance to enhance the emotional motivation of the employee, which is vital when it comes to ensuring the success of a Lean implementation.

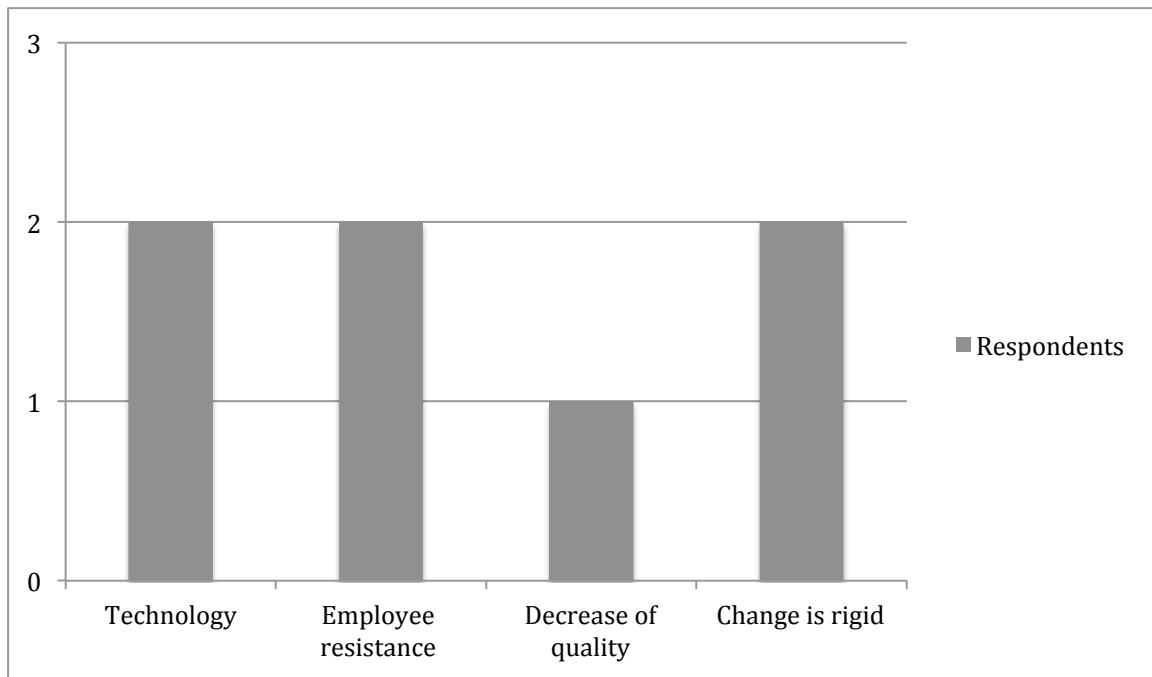
According to Atkison (2004), by properly exercising Lean implementation tools such as mapping techniques, change can be achieved without losing the quality of the service or process. Lean helps the organisations problem solving techniques and standardization into a way that is sustainable and easy. Furthermore, identifying waste early on will increase the chance of a successful implementation without the loss of quality. Respondents answered that the change should be modifiable in case the change received from the implementation is not the desired outcome.

*“ The new change is rigid, that implementing possible new improvements becomes impossible. “*

*“ Not being able to make corrections if the change is not the desired outcome. Not being able to give constructive feedback after the implementation. “*

Respondent pointed out that one challenge that might occur is that during implementation some difficulties might arise that might skew the wanted result into a different direction. A respondent saw that it is important to gain feedback from the employees after the Lean implementation and forward the feedback to management. According to Cotte, Farber, Merchant, Pararikas and Sirkin (2008), effective communication serves as a success factor in Lean implementation; creating an open atmosphere where employees can give feedback.

According to the five principles of Lean management, perfection stage in the Lean implementation process can't be achieved without transparency. Indeed, transparency serves as one of the most important parts and factors of the perfection principle. In this stage everyone is able to see and contribute on the created change and the created value. Furthermore affecting the mindset and motivation of employees, giving organisations motivation to continue improvement (Womack & Jones, 2003).



**Figure 3. Obstacles of Lean implementation**

The first questionnaire revealed that most of the respondents do find Lean implementation to be necessary and they do believe it will succeed. The respondents saw Lean as a way to renew old ways of conducting work, and gaining a new way improving the process. Furthermore, seeing Lean as a way to enhance customer service thus improve the organisations competitive advantage. Respondents considered that Lean will help make processes more linear, simplifying processes thus maximising working times. They also considered that Lean should have a strong focus on enhancing the working environment and the processes for the employees as well. The themes that arose from the first questionnaire were the importance of management involvement as well as employee involvement. In addition, the respondents perceived as one of the main success factors of Lean implementation is having a strong management behind the process. The employees highlighted the need to have the right people in every step of the process. Having knowledgeable Lean masters was also found important. Additionally, the importance of having follow-up measures after the changes have been introduced was highlighted by the respondents. Respondents recognized that after changes has been implemented, there is a need for enhancement in employee competence. Furthermore, highlighting the need for training and competence development. These themes were further examined in the second questionnaire.

### 4.3 Important factors before Lean implementation

This chapter, and chapter 4.4, will uncover the findings of the second issued questionnaire. The questionnaire is based on the main findings and themes that ascended from the first questionnaire. The basis of this questionnaire was to discover the important factors before and after Lean implementation, according to employees. The main themes that arose from the first questionnaire were the importance of employee involvement in Lean implementation, the importance of follow-up tasks after Lean implementation, and the importance of management involvement. This chapter will uncover the findings and employee perspectives on these themes.

In the first question of the second questionnaire the respondents were asked what are the factors that need to be taken into consideration when implementing Lean. According to Crute, Ward, Brown and Graves (2003), employees should take part in the whole Lean implementation process, from beginning till end.

*“It is important to know the actual process before Lean implementation. If the whole process is not known, and Lean is based on what the process looks like on paper, there might be a chance it will not succeed.”*

*“To examine and analyse the process thoroughly.”*

*“Choosing the right targets for the Lean implementation.”*

The respondents answered that the factors that need to be taken into consideration when implementing Lean is knowing the actual process or service inside out. Having knowledge on every detail of the process and its every step will help to ensure the success of the Lean implementation. Respondents also enforced the need for the Lean implementation process being carefully planned, and that the right processes and services are chosen for the Lean implementation.

As is evident from Figure 4., the respondents consider important to choose the right target when implementing Lean. According to Massey and William (2006), if the company chooses

to implement Lean onto an organisation, it will have an effect on its business techniques, on its sales performance, on its budgetary and its management methods. According to Carreira (2004), the best way to implement Lean is to target one specific process or service and implement the tools there. It is important to implement Lean in a smaller scale, one process at the time. This ensures long-term results. If Lean is implemented in a larger scale, the success of the implementation is scarce, due to the possibilities of different deficiencies. Respondents answered that it was important that the chosen processes or services of the Lean implementation could actually be improved, making processes simpler without losing its value. Time shouldn't be wasted on processes or services that cannot be improved. Lean should also decrease the amount of work, increase the time that could be spent on something else.

*“To find out how Lean will help the employees, how much money has to be spent on the change, what are the benefits gained in comparison to the money spent and what kind of benefit does Lean implementation create.”*

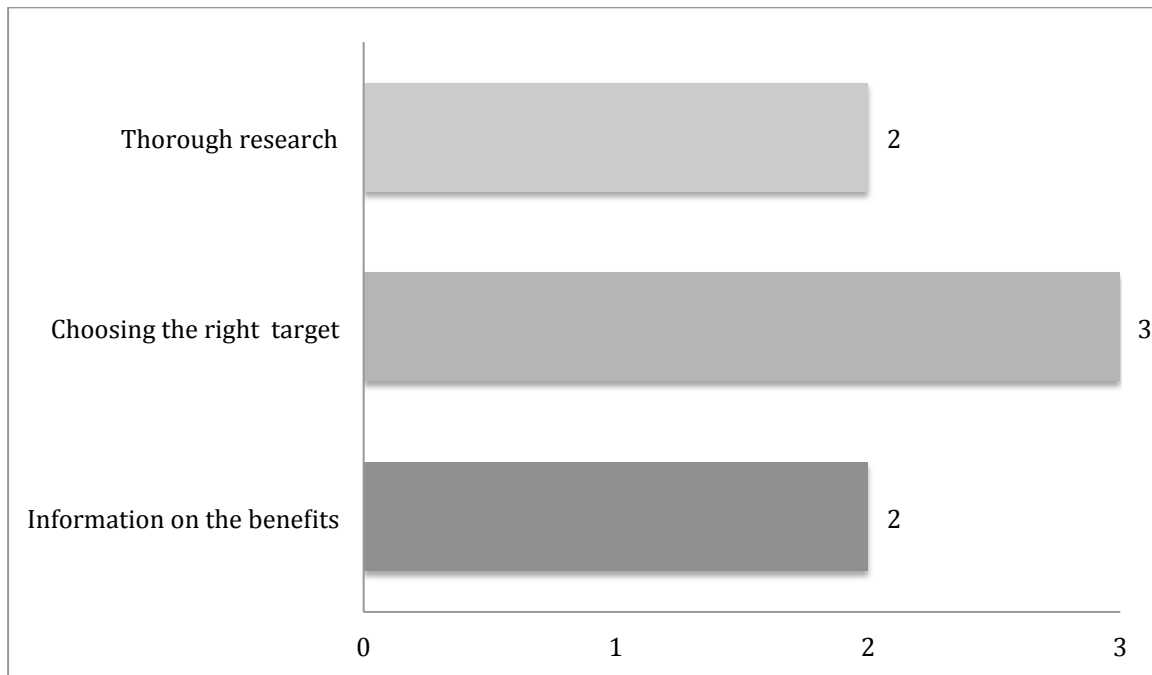
*“How can processes be simplified.”*

*“Choosing the right targets for Lean implementation. Important to simplify the process and service without losing its value. Not wasting time on processes OR services that can't be improved, for technical or other reasons. It is also important that implementing Lean does not create more work, but lessens the workload.”*

*“Focusing on targets that have an impact on the quality of the customer service and the quality of the work itself.”*

According to Bicheno and Holweg (2009), choosing the Lean implementation target should begin by creating a visual board where the sorting of the items will take place. All the items are sorted and categorized into what is important and needed, and what can be eliminated and is subsequently not needed. The items that are needed are immediately eliminated and removed from the process or service. This will help to see which items should be closer for use and closer to the employees.





**Figure 4. Important factors before Lean implementation**

In the first stage of kaizen, which is the preparation stage, the organization should decide, with the help of a road map, a specific area that needs improvement. In the road map they can list all the areas that need improvement. Additionally, the road map also helps to focus on areas that actually need improvement and not waste time on other areas. In this first stage the budget and possible cost of the improvement should be known, as well as what are the financial benefits gained from the improvement. Furthermore, at this stage possible problems or setbacks that might occur during the improvement should be recognised (Bicheno & Holweg, 2009).

According to Monden (1998), it is important to set fundamental requirements before implementing Lean, and this can be achieved through sorting. The purpose of sorting is to eliminate unnecessary functions and items from the organisation. The functions and items that are deemed as disposable and unnecessary are eliminated from the organisation (Peterson & Smith, 2001). Sorting should begin by creating a visual board where the sorting of the items will take place. Additionally Dudek-Burlikowska (2006), highlighted the importance of sorting items through using a red tag, on what is important and vital for the process or service, and what can be eliminated and is deemed as waste.

In the second question of the second questionnaire the respondents were asked what are the important factors to consider before Lean implementation. Previous studies have highlighted the importance of conducting a thorough research before Lean implementation. Thorough research on the service and the process Analysing possible risks and challenges beforehand will assist on later damage control.

Respondents answered that it is important to weigh in the importance of the Lean implementation, what are the gained benefits if Lean is implemented before the implementation. It is important to estimate the success of the implementation, not take chances if there is a risk it might not succeed. Drafting a good strategy, not changing direction at any point and making sure that the changes actually benefit the employees as well as the customers. Respondents also considered that the target of the implementation should be chosen based on what is actually needed.

*“The urgency of the matter. The timetable of the implementation.”*

*“Benefit and the expense. Not worth implementing something that is expensive.”*

*“The planning is thoroughly done. Not changing procedures for the sake of changing. The changes should benefit the customer as well as the employee. Keeping the right direction, so the implementation won’t go the wrong, or unwanted, way.”*

According to Cotte, Farber, Merchant, Paranikas and Sirkin (2008), the organisation should have a clear strategy on what they want to achieve from Lean implementation. This is to keep the implementation from deriving from its goal. Organisation should have the customer’s interests and requirements in mind when implementing changes.

The respondents answered that it was important that everyone understood the reasoning behind the implementation. Communication is important, notifying everyone of the Lean implementation and the advancement of the implementation. Furthermore, respondents considered that monitoring the implementation process and comprehending all the aspects it has an affect on, is highly significant.

*“Informing all the employees. Being open about where Lean is implemented. Keeping everyone posted and notifying how Lean is progressing. Notifying dates when the implementation is completed.”*

*“ It is important that all the people who are involved in the process understand the new policies the same way.”*

*“The benefits of the implementation, and all the aspects it is going to have an affect on. Informing about the implementation and informing about the new policies. Everyone receives the new policies and complies to them.”*

*“Doing SWOT, the strengths, weaknesses, opportunities and threats.”*

According to Crute, Ward, Brown and Graves (2003), before the actual implementation, the management should encourage the employees towards the change, and brief them on every detail of the change. There should also be an open communication throughout the organisation during the Lean implementation. Cotte, Farber, Merchant, Paranikas and Sirkin (2008) additionally highlight the importance on communication. Lean implementation process should be explained to the employees thoroughly, every single aspect that is going to happen during the implementation. This is seen as motivating the employees by including them in the process. Additionally, motivating employees to be involved on the implementation and commit to it from beginning to end. Employees who are able to take part in a process from the start have higher motivation and commitment to the processes and its changes, than employees that are briefed after the changes have already occurred.

#### **4.4 Important factors after Lean implementation**

In the third question of the second questionnaire the respondents were asked what are the important factors to considered after Lean implementation. According to Petersson et. al. (2010), Lean implementation should be part of the organisations processes and objectives, and it should be maintained and continued in order to receive and keep the gained results.

*“That everyone gets the needed training. Making sure that everyone knows how to use the process and are able to carry on the work, in order for the quality of the work not to decrease.”*

*“The new policy must be informed. It would be good to follow and monitor if the changes are not what was expected, being able to do counteraction.”*

*“Transparency on the Lean implementation, informing the timeline of the lLan implementation. Asking feedback from the users.”*

*“Informing the changes to everyone it has an impact on. Making sure the process or service works, taking into consideration the effects of the changes, and preparing for possible setbacks and problems.”*

*“Everyone is aware of the changes and the new policy.”*

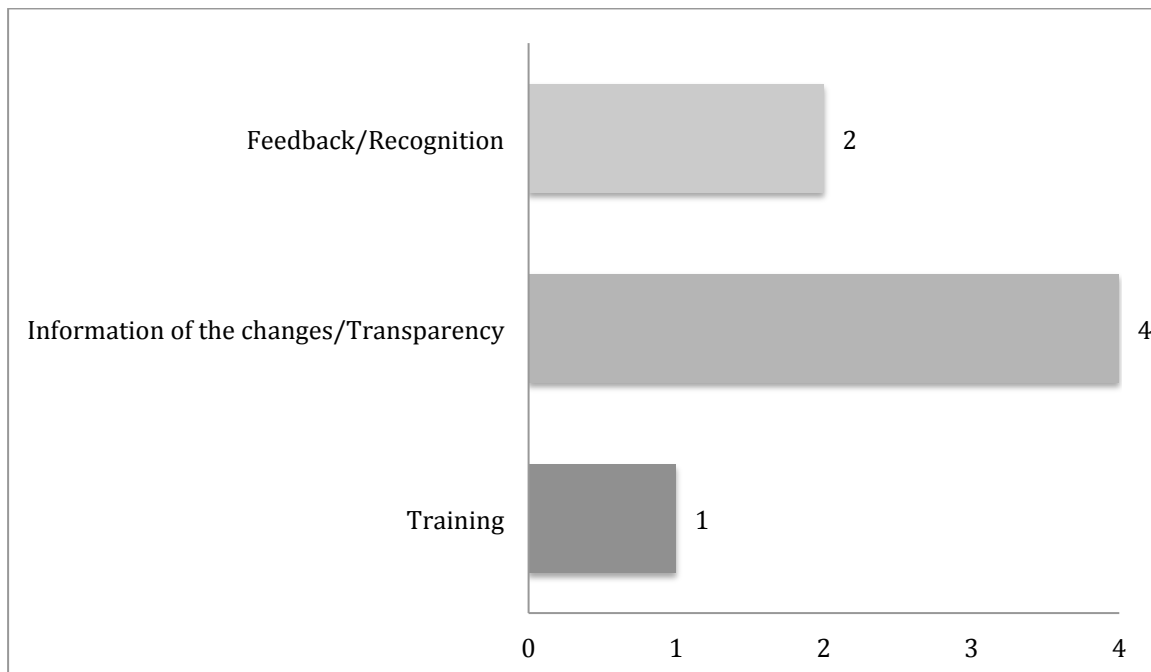
As is evident from Figure 5., most respondents answered that communication is the most important factor after Lean implementation. Everyone is notified of the changes, everyone is briefed on what the change is and what it means. Informing everyone of the new possible policy and ways of conducting work. Respondents also felt that training is important. Making sure that everyone has the knowledge to be able to use the new process or service, and that the quality of work will not decrease. According to Crute, Ward, Brown and Graves (2003), effective and open communication should be maintained throughout the entire Lean implementation process. Furthermore, Cotte, Farber, Merchant, Paranikas and Sirkin (2008) additionally highlight the importance of communication. Stating that communication will affect the employees motivation and mindset towards the entire Lean implementation process, including probable the change. According to Arnheiter and Maleyeff (2005), employee training is important factor. It is important to maintain the employee’s effectiveness through training, which includes various problem-solving skills. According to Womack and Jones (2003), transparency is one of the most important parts and factors of Lean implementation. Everyone is able to see and contribute on the value creation and the employee satisfaction. This gives the organisation motivation to continue to improve

Respondents also deemed important to be able to give feedback after the Lean implementation and to be recognised for it.

*“Recognition and appreciation to someone who has given feedback.”*

*“The employees who are using the new process and service are also asked for guidelines.”*

According to Womack and Jones (2003), getting immediate feedback and receiving feedback is important. This enhances the motivation of the employees as well as the transparency within the organisation.



**Figure 5. Important factors after Lean implementation**

In the fourth question in the second questionnaire the respondents were asked how the changes from the Lean implementation should be presented. In order to discover the employee perspective on the whole Lean implementation process it is of importance to uncover how employees would want the changes to be presented within the organisation.

Most respondents wanted the changes to be informed via email. Other respondents preferred changes to be informed face to face, in meetings. And some respondents preferred that the changes be informed in the company’s intranet webpages.

*“In a light fashion, through email.”*

*“In a short manner, and email would suffice.”*

*“In the departments intranet pages, or in the departments annual meeting.”*

*“In the departments annual meeting and sending the material via email after”*

*“The bigger changes could be introduced in the departments intranet pages, and the smaller ones could be added to the guidelines. It could also be brought up in team meetings.”*

*“In meetings; department or team meetings. Email will also suffice.”*

Bicheno and Holweg (2009) highlights the importance of standardizing the work that has been established after the Lean implementation. It is important that the changes are communicated accurately, and the employee's are given training, in order for the employees to sustain the changes that derived from the Lean implementation. Introduction of change is not seen as the end of the Lean implementation process. A successful Lean implementation includes maintaining and sustaining the changes in a long-term scale. Informing employees of the changes increases transparency thus enhancing employee attitude towards change.

A respondent also preferred the changes be introduced in meetings so there would be a possibility for discussion.

*“If it is a wide and extensive change, it would be good to inform about it in a meeting. The best way would be if there is a chance to participate and not just observe. Or at least think about the changes together and discuss about it.”*

According to Bicheno and Holweg (2009), in the Lean tool, kaizen, the importance of having meeting after Lean implementation is deemed important, in order to prevent setbacks from happening. There should be follow up meetings where the success of the implementation is followed, and necessary actions taken.

In the fifth and final question from the second questionnaire the respondents were asked if there was a need for training after changes are introduced, and what kind of training.

According to Arnheiter and Maleyeff (2005), employee training is important factor. It is important to maintain the employees effectiveness through training, which includes various problem-solving skills.

*“Learning small changes might not require more than a notification, but learning bigger changes might require training or learning as a group, for example like a study group.”*

*“If the change is extensive then absolutely training is needed, but smaller changes could be notified through communication. Doing a learning video of the course would be good rather than a heavy two hour study training.”*

*“Depends on the change. If there is no bigger change on the processes, a notification is enough. But if there is a new system that requires skills, than a training should be offered. For example a study group training.”*

*“Training is needed, so everyone understand the change in the same way. Training should be conducted in small groups, so it would create discussion.”*

*“Yes, training is needed every time a new change is introduced. It is important that everyone learn how to cope with the change, so that the new change will not be accounted to certain people. It is important to take care of the knowledge of the employees.”*

Some respondents considered it to be dependant on the change. If it is a minor change to the guidelines, then a smaller scale of notification of the change will suffice. But if the change affects widely on the use of processes, there should be a more extensive training, to ensure everyone has the ability to use it. Abdullah, Uli and Tari (2008) also highlight the importance of training, according to them the factors that contribute to the success of Lean implementation are management commitment, employee involvement and training and education. The importance of employee training has become important due to the fact that more employees are included in the Lean implementation process. Furthermore, Weber (1985) states that the success of Lean implementation is highly dependant on the employees

and their competences. Employees are the ones performing the tasks and applying the changes created by Lean implementation (Kabst, Larsen & Bramming, 1996). Organizational training in a group setting has been proven to be effective and that employees need colleagues to intensify the learning and training process (Helfrich 1994, Kabst, Larsen & Bramming, 1996). According to Wildermann (1993), the training and learning should be intra-company and not take place outside the organisation. In order for the learning to become permanent it is important that the training and learning takes place close to where the actual work is conducted (Kabst, Larsen & Bramming, 1996).

One respondent answered there is no need for training.

*“No. Just making sure that everyone finds out about the changes at the same time is enough.”*

A respondent highlighted the importance of guidelines, someone being in charge of updating the guidelines after change.

*“Guidelines are good, and specific people should be assigned to update it.”*

According to Bicheno and Holweg (2009), it is the kaizen leader’s responsibility to follow through and ensure that the discussed changes and improvement measures are implemented and sustained. According to Wildermann (1993), the training and learning should be intra-company and not take place outside the organisation. In order for the learning to become permanent it is important that the training and learning takes place close to where the actual work is conducted (Kabst, Larsen & Bramming, 1996).

The themes that arose from the second questionnaire is the importance of thorough planning of the Lean implementation. Respondents highlighted the importance of knowing the actual process and service before Lean implementation. Furthermore, identifying the possible challenges that might arise from the implementation. This provides the organisation the possibility to contemplate on solutions how these challenges would be confronted. Respondents also highlighted the importance of selecting the right process and service for Lean implementation, making sure the advantages and benefits gained outweighs the possible challenges. This can be conducted with a right strategy. Respondents considered that the



changes should benefit the employee as much as it benefits the customer. Additionally, the change should enhance the working atmosphere that results in better customer service.

The importance of providing training for employees after the changes that derive from the Lean implementation have been introduced was highlighted. Important to maintain employee competence, and ensure required skills and knowledge will sustain. Also employees deemed important that there is a proper guideline for the implemented change, and that the guideline should be updated and maintained. Respondents considered communication to be vital during the Lean implementation process. Emphasizing the importance of communication on the reasoning behind the Lean implementation. Respondents considered it to be important that the reasoning behind the implementation is openly shared.

## **4.5 Discussion**

The purpose of the research is to study the employee perspective on the lean implementation process. The findings received from the questionnaires revealed the employee perspectives. Furthermore, revealing factors which employees deem important in the Lean implementation process, as well as stating their perspective on the obstacles and drivers of the Lean implementation process. This chapter will further synthesize the questionnaire findings with the research questions.

The main factor employees deemed important before Lean implementation was conducting an in-depth research of the process and service before Lean implementation. The importance of detailed research of the process and service in order to recognize potential calamities and challenges that might arise when implementing Lean. Furthermore, employees suggested that the strengths, weaknesses, opportunities and threats should be evaluated beforehand, highlighting that implementing Lean shouldn't be taken lightly. Additionally, employees considered that the benefits that would be gained from the implementation should exceed the potential expense. However, employees did recognised that renewing processes and services to be important. Employees emphasized the importance of implementing Lean onto a process or service based on urgency and importance, not conducting Lean implementation due to its popularity, but due to actual need.

The importance of communication was another main factor employees deemed important before Lean implementation. Notifying the reasoning behind Lean implementation was considered exceedingly necessary. Furthermore, employees highlighted the necessity of being informed the schedule of the Lean implementation. When the implementation begins and when is the actual implementation of the change date. Employees consider significant that the desired benefits gained from the implementation is informed. Previous studies have suggested that open communication in the Lean implementation process will enhance employee motivation. Employees also consider crucial to be informed of the impact of the change. All the aspects the change will affect. Additionally, the information of possible new policies should be informed. Notifying the changes on the policies and new conducts.

#### *Important factors before Lean implementation*

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- The strengths, weaknesses, opportunities and threats are evaluated before Lean implementation.
  - Making sure the benefits gained exceeds the expense.
  - Implementing processes and services in a hierarchy based on urgency.
  - A thorough planning is conducted.
  - Employees are informed why Lean is implemented and the schedule of the implementation.
  - The benefits gained from the implementation is informed.
  - All the aspects the implementation will affect is informed.
  - Informing about the possible new policies
- 

The importance of communication has risen as one of the important factors after Lean implementation for the employees. Employees deemed important that the information, of what has changed, and the impact the change has, should be communicated. Furthermore, the information of the change should be received through email, organisations intranet webpage, in the departments annual meeting or during smaller gatherings such as team meetings. The second factor employees deemed important, after Lean implementation, is the importance of training. Ensuring that everyone encompasses the ability to conduct their work accordingly.

The type of training that is required is dependant on the scale of the change; employees considered that minor changes could be informed through new policies, hence eliminating the need for training. Additionally, employees considered that training should be provided for bigger scale changes. Highlighting the importance of training in small groups. Receiving new guidelines regarding the change was deemed important. Furthermore, being able to follow new guidelines through an updated policy was considered significantly important.

Being able to provide feedback and receive recognition was deemed as one of the main important factors after Lean implementation. Employees consider important to be able to give feedback after the change has been implemented. Furthermore, employees highlighted their practical knowledge thus ability to recognize immediate setbacks. Highlighting the importance on forwarding information of any possible challenges. Recognition for good work is highlighted by employees, and is seen as one of the main motivation enhancement techniques by various studies. Furthermore, employees want recognition for their good work and effort. Recognition that learning and adapting to change takes effort and training.

#### *Important factors after Lean implementation*

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- Everyone is informed of what is changed.
  - The changes should be informed through email, in the organisations intranet page, in the departments annual meeting or during the team meetings.
  - Everyone receives training.
  - The form of trainings is dependant on the work. Training in small groups is preferred.
  - Everyone knows how to conduct the work after the change is introduced.
  - A new according policy and guideline is conducted.
  - Being able to give feedback regarding the new changes.
  - Being recognised for the work.
- 

The main obstacle of the Lean implementation process, perceived by the employees, is technology. Employees stated that systems not being able to bend to new change might cause complications. Furthermore, the need for systems having to be exchanged in order to cater for

current needs. The other main obstacle that was stated was employee resistance. Employees highlighted that there are always employees who will be apprehensive about change. This apprehension might affect the atmosphere hence affecting the mindset of other employees. Furthermore, open communication of the Lean implementation can decrease apprehension. Other factor that was deemed as an obstacle was the fear of quality decrease due to change. Loosing the positive aspects achieved thus having to create new. Additionally, employees considered that the change might be rigid thus prevent possible new improvements that might need to be made. In order to have a competitive edge, change is vital.

#### *Obstacles of the Lean implementation process*

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- Technology. Some systems being old and not being able to serve current needs.
  - Some employees resisting the change.
  - Fear that quality might suffer due to change.
  - New change being rigid thus preventing possible improvements
- 

Having the right people being part of the process was considered as the main driver of the Lean implementation process by the employees. Having the right leaders and Kaizen masters leading the events and the process. Furthermore, having the right people with according skills and knowledge part of the process. However, employees considered that management should have the main responsibility of the implementation process. This responsibility by the management was also considered as one of the drivers of the Lean implementation process. Other main driver was that the implementation is highly based on statistical measures and facts that derive from that. Having a statistical calculation on the benefits that might be gained from the process. Additionally, having a clear objective and timeline was considered as a driver, in order for the process to have a designated route to follow. Employees recognized the importance of Lean implementation being continuous. Having follow-up tasks and maintain the change is considered important and one of the drivers of the implementation process.

### *Drivers of the Lean implementation process*

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- Choosing the right people to lead, and be part of the Lean implementation.
  - Management taking responsibility during the Lean implementation process.
  - Having a clear objective and timeline before the Lean implementation.
  - Having qualified Lean masters.
  - Lean implementation is based on statistics and not on gut feeling. Using pure facts.
  - Having a statistical calculation of the benefits.
  - Having follow-up tasks and measures after the implementation.
- 

All the employees considered that Lean implementation is necessary. Considering it as a way to improve process and service conduct, thus improve customer as well as employee satisfaction. Employees considered communication, being able to give feedback, receiving according training and being recognized for good work as one of the important factors in the Lean implementation process. All of the employees believed in the success of Lean implementation, stating that the process is nothing new and it is a way to renew old ways, and a way for the organization to reflect their processes and services, their management, their employee satisfaction and their customer satisfaction.

### *Employee perspective on the Lean implementation process*

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- Lean implementation is necessary.
  - It is important to have the right people be apart of the Lean implementation process.
  - Importance on being able to give feedback.
  - Importance that the feedback is taken into consideration.
  - Affective communication throughout the process.
  - Receiving proper training after the implementation process.
  - Being recognized for good work.
-

## 5 CONCLUSION

The purpose of this research was to investigate the employee perspective on the Lean implementation process. Previous studies have emphasized the importance of employee involvement and motivation in Lean implementation processes. The aim of this research was to explore which factors employees considered important before and after Lean implementation. Employee participation can enhance the success rate when implementing Lean in a process or service, thus it is essential to know what employees deem important in order to enhance their own interest, involvement and motivation.

The respondents highlight the importance of their own involvement, before and after the Lean implementation process. The respondents particularly deemed management involvement important, in order to ensure that all the employees are informed and offered necessary training. Communication on the Lean implementation throughout the process has also emerged as an important factor for the respondents. Respondents deemed training to be an important factor after Lean implementation. Being provided training in order to maintain competence and also adapt new change. Additionally, the respondents saw active management and employee involvement as one of the drivers of Lean implementation. In order for the Lean implementation to be successful it is important that the right people with the right set of skills are part of the entire process. Furthermore, respondents also highlighted the follow-up tasks after Lean implementation as a driving factor. The follow-up tasks containing; giving and receiving feedback and observations, offering necessary training and sustaining the changes with various guidelines and study group meetings. The respondents also deem receiving reassurance and positive feedback for their work as important.

The obstacles of Lean implementation, accordance to the respondents, are the technological setbacks. The technology being too rigid for changes thus not being able to be altered or updated. All respondents deemed Lean implementation to be necessary; a way to enhance customer service and eliminate unnecessary aspects. Implementing change that is tangible and achievable was important to the respondents. Implementing change that will provide actual improvements not only in customer satisfaction but also employee work as well. Respondents highlighted the necessity of suitable research of the process or service beforehand. This is to eliminate the possibility of occurrence of any challenges.

This research contributes to the field of Lean management by further exploring the employee perspective and what they deem important. Employees are seen as the pillars of the success of Lean implementation, further enhancing the need to research their perspective. This research also introduces a field that is rarely studied in Lean management, the field of pension insurance. The data was collected in a large Finnish pension insurance company, further bringing new knowledge to the field of Lean management. This research also adds new knowledge on Lean implementation in the set of a large Finnish pension insurance company. This research also contributes as a future reference for managers implementing Lean into their organisation. Revealing employee perspectives and desires. Previous studies have enhanced the importance of employees in the Lean implementation process. Gaining knowledge of employee perspective provides knowledge on how to enhance employee activeness and participation in the Lean implementation process.

### **5.1 Limitations**

This research's objective is to explore the employee perspective on the Lean implementation process thus having a strong focus on one perspective. The research on the employee perspective on the field of Lean management is scarce, whereas the management perspective has been vigorously studied. As a result, other perspectives such as the managements, is not investigated and further explored. The scope of this research was to uncover the perspective of the employees in order to recognize factors that affect their mindset and motivation. Although this research did not further specify how their motivation or mindset would be affected by the results, it is a subject beyond this research's scope, and left for future research.

### **5.2 Future research**

Although this research had a focus on employee perspective in order to recognize the factors that affect their motivation and mindset, how these factors would affect their motivation and mindset in practice was left for future research. A case study research that follows a Lean implementation onto a specified process for a specified time, all the while putting into practice the results gained from this research would uncover, in a practical manner, how these factors would affect the employee motivation and mindset.

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## **APPENDIX I**

### **INTERVIEW I**

1. Do you believe Lean implementation to be necessary?
2. What do you think are the benefits gained from Lean implementation?
3. What do you think are the possible challenges of the Lean implementation process?
4. What do you think are the success factors of Lean implementation?

## **APPENDIX II**

### **INTERVIEW II**

1. What are the factors that need to be taken into consideration when implementing Lean?
2. What are the important factors that need to be considered before Lean implementation?
3. What are the important factors that need to be considered after Lean implementation?
4. How the changes from the Lea implementation should be presented?
5. Is there a need for training after Lean implementation? What kind of training?