

CHALMERS



Change Management with Lean approach - How the benefits from Lean can be applied in Change Management

*Master of Science Thesis in the Master's Programme International Project
Management*

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Department of Civil and Environmental Engineering
Division of Construction Management
CHALMERS UNIVERSITY OF TECHNOLOGY
Göteborg, Sweden 2012
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ABSTRACT

There is an increasing need of improving and updating the Change Management (CM) methods and procedures that exists today. These are the consequences of an more changing world, where the organizations needs to follow the flow, adapt and listen to what is required from customers and other stakeholder, in order to survive. Lean have been showed to be very advantageous for many organization, which is why this research is looking closer on how CM can be improved with the help of lean.

A literature review was first carried out in order to gain more knowledge about the theory in CM and lean. From each area in the literature review, the researcher has summarized the most essential factors to facilitate the understanding and the continuous work in this research including discussion, analyze and conclusion.

In order to create an understanding of the principles and methods that are used in organizations today and compare whether these habits were corresponding to the theory, there are four interviews with five people included. The results of these interviews are presented in chapter 5, Interview Results.

The data collected have been discussed, analyzed and compared in order to find potential patterns, connections, possibilities, etc. which would finally result in the conclusions that the research aimed to find.

Findings from the research are that many organizations already are trying to or have the ambition to become lean, but makes the mistake to implement some tools and techniques and believes that it is enough. Many patterns in upcoming problems and reasons of failure are found to be consistent with the answers from the organizations. These reasons are many such as lack of communication, lack of engagement, bad leadership and resistance. What lean can contribute with, is to learn the philosophy of lean and follow the mindset that lean advocates. Showing respect to the employees, educating, training, involving and communicating are some of the factors and methods. This task is not easy and it is not done overnight, in fact it can, and it will take decades to become lean. But at least now that it is known, the journey can begin!

Key Words: Change Management, Lean, Leadership, Communication, People, Culture, Philosophy, Continuous Learning and Education.

Förändringsarbete med Lean influenser - Hur fördelarna från Lean kan tillämpas i Förändringsarbete.

Examensarbete inom International Project Management

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SAMMANFATTNING

Det har bevisats att förbättringar och uppdateringar av dagens förändringsarbeten (Change Management) måste genomföras. Detta är resultaten av den allt mer föränderliga värld vi lever i som företag och organisationer måste lyssna och anpassa sig till för att skapa sig möjligheter till att överleva. Lean har visat sig vara fördelaktigt för många organisationer vilket motiverat författaren till denna uppsats att dyka djupare in i området och se hur förändringsarbeten kan förbättras med hjälp av Lean.

Arbetet är uppdelat i en teoridel där författaren beskriver olika teorier och metoder från dagens förändringsarbeten samt för Lean. Kritiska faktorer för de olika områdena förklaras och även bristerna som existerar och hur de kan motverkas och motarbetas.

Efter teoridelen följer ett kapitel (Interview Results) med en sammanfattning av de genomförda intervjuerna. Intervjuerna analyseras och diskuteras i kapitlet efter (Discussion and Analysis). Arbetet avslutas med slutsatser (Conclusion) och fortsatt forskning (Further research)

Trots att otaliga organisationer har försökt att införa fördelarna med Lean så misslyckas majoriteten p.g.a att de endast applicerar verktyg och tekniker från Lean. Detta är inte tillräckligt för att lyckas, utan vad som verkligen behövs är att implementera Lean med dess filosofi och tankesätt. Att respektera sina anställda, utbilda, träna, involvera och kommunicera är några av de faktorer som måste prioriteras. Detta är en stor utmaning för alla involverade och det tar många år innan man kan dra nytta av förändringarna fullt ut. Men nu när det är känt så kan arbetet börja.

Nyckelord: Förändringsarbete, Lean, Ledarskap, kommunikation, Människor, Kultur, Filosofi, Kontinuerligt Lärande och Utbildning

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Preface

During my years of studies, the thought of writing a dissertation and in what area has crossed me many times. But it was not until the last weeks of studies in Newcastle last year, that I decided to write about Change Management combined with Lean. Lean was introduced to me approximately one year ago when I participated in a course about lean. I got interested immediately of its foundation, philosophy, development, techniques and tools and I knew that this was something that I wanted to investigate further.

During my studies in Newcastle I had yet not decided exactly what to write about but when I read about Change Management, I made some further research about it and found in an article that it lacked in many aspects and that lean could contribute in improving the theories and methods of it. And this his was how the idea of combining Change Management and Lean finally became reality.

Göteborg, April 2012

Ricky Vainalis

1 Introduction

1.1 Background

Markets, people and organizations are developing rapidly in an unpredictable way with new technologies and innovations, which increases the uncertainty and complexity for today's project management procedures. Traditional project management methods lose their efficiency to master these challenges which is why, according to Saynisch (2000) there is a need for updating these traditional methods (Saynisch, 2000). To overcome these complexities it is important to manage the communication with the customer to understand these continuous developing needs, which is why lean is aimed to be used as a compliment for today's change management methods. The information flow must be tailored to ensure that the customer becomes and remains satisfied. Lean can bring significant improvements to this (Revelle, 2010).

Today, there are already many companies that try to implement the philosophies of lean in their organizations. But lean is much more than just techniques, it is a way of thinking which involves everyone in a culture of continuous improvement. It is a human system, customer focused and customer driven approach, where the employee are the customers of their upstream colleagues (Liker, 2004, p.xi).

There are examples that show why companies fail to implement lean due to executive managers who hear about lean, but rarely understand the philosophy and process of it, they have only acknowledged the results. This leads to a delegated assignment down, to a less enthusiastic manager, to check it out (Liker, 2004, p.270).

The Toyota Way can be summarized through two pillars: "Continuous improvement" and "Respect for People". The true value of continuous improvement comes from an atmosphere of continuous learning, where there it is not only accepted but embraced with changes (Liker, 2004, p.xi). This is why there is a need for making a research of how to include the benefits of lean to the change management in projects.

1.2 Purpose

Even though companies think they have accomplished to implement lean, they are according to Liker (2004, p.16), not even close. He says that for Toyota it took decades to create a lean culture and when it comes to companies outside of Toyota

and their closest suppliers, he would say that not even 1% get an A or B+ in lean. This shows that there is a quest from many companies to become lean, but still there is much to learn.

As mentioned above, Liker (2004) states that one of the major factors of success for Toyota is that they have the respect for their employees. That is why this study will look closer on how change management, can be improved and become more effective with the help of the philosophy and mindset of lean.

1.3 Research Questions

The following questions will be answered in the research:

- What is change management and how is it important in organizations?
- What is lean management?
- How can the benefits of lean be applicable to change management?

1.4 Objectives

- Essential factors of Change Management will be investigated in order to find where and how to improve it.
- Essential factors of Lean will be investigated in order to see how it can contribute the most and to find its most important aspects.
- The findings from the literature will be the foundation of for the discussion, analysis and conclusions compared with the results from the interviews.

1.5 Research outline

Chapter 1 Introduction.

Introduces the research including Background, Purpose and Research Questions.

Chapter 2 Literature review

The research starts with a literature review about the two areas Change Management and Lean. These are needed in order to gain a sufficient knowledge and view about the theories and methods that exists today. The research has also produced essential factors for both CM and lean as a result from the literature review. These factors are aimed to facilitate the understanding of each area and also to facilitate the continuous work of the research.

Chapter 3 Method

A description of the approach and procedure with different thoughts and ideas about the research. Limitations and deviations are also discussed.

Chapter 4 Interview Results

The results from the interviews are presented here. No analyzes or discussion are taking place here, just concrete results.

Chapter 5 Discussion and Analysis

This chapter discusses the findings from the literature and the interviews. These are analyzed and finally a conclusion is made.

Chapter 6 Conclusion

This chapter gives a conclusion considering all aspects of this research. Including results from secondary and primary data and also from the previous chapter, Discussion and Analysis.

Chapter 7 Further Research

Ideas and recommendations for further research are included in this chapter.

Chapter 8 References

2 Literature Review

This chapter is about the theories regarding change management and lean. There are four different methods presented in the change management section and a section that presents why change management fails. Later follows a chapter about resistance and how to deal with it and finally some of the most essential factors of change management. After change management the lean section follows, which presents and explains the theories and philosophies of lean and finally ends with the essential factors of lean.

2.1 Change Management

In the past, models of change tended to be incremental which had negative implications for change management practice. These planned changes led to efforts to be continuous improvement (what the Japanese calls *Kaizen*) practises and the major focus were put on changing sub-systems or parts of the organization, instead of focusing on changing the whole organizations at once. Today however, there are many assumptions about the incremental nature of change which have been reviewed (Hayes, 2007, p.3). Following models are a mix of different change models which will be analyzed and compiled later.

2.1.1 Lewin's three-step model

According to Cameron and Green (2004, p.96) there are many models developed about organizational change. Kurt Lewin developed his idea about organizational change from the perspective of the organism, metaphor. Lewin thought that it was essential to look at the whole process when making changes and that it would consist of three steps. Basically the first step is to unfreeze the current situation, which means to define the current state, surfacing the driving and resisting forces and picturing aimed end-state. The second step is about action, through participation and involvement a new state is aimed to be reached. Then the third and last step is about refreezing and stabilizing the new state of affairs, established by setting policy, new standards and rewarding success.

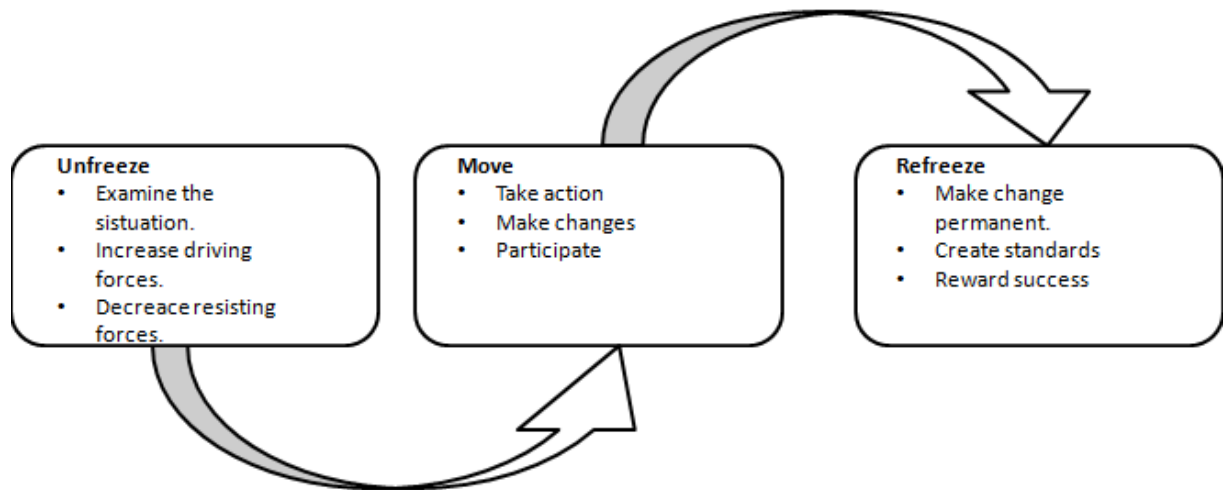


Figure 2.1 Lewin's three-step model

The underlying principle with Lewin's model is that driving forces must outweigh resisting forces in any change situation. In a situation of change as mentioned, the driving forces must outweigh the resisting ones, this can be done by increasing the driving forces or decreasing the resisting ones. Or in best scenario, both of them must happen (Cameron and Green, 2004, p.97). However, as Hayes (2007, p. 80) has observed, it is better to decrease the restraining forces within the individual, group or organization. This approach would result in a more sustainable and more permanent change than trying to increase the driving forces with pressure for change.

It is important for the management to communicate and inform the end users before introducing new technology. But merely top active communication is not sufficient to ensure success. This has to be done both ways. Levasseur (2001, p. 72) states that the fundamental principle of effective management is that people support what they help to create. Participation by the people affected in the change process is the major factor in effective change. When it comes to the second step, *Move*, it is still essential to remain the feeling and sense of teamwork and active communication among the people affected by the change process. As mentioned earlier that the success of change process depends on people supporting what they help to create is critical in all of the three steps of the process.

The third step, *Refreezing*, is not successfully accomplished until new behaviours have replaced those that existed prior to the change. This is not done overnight, it requires active involvement and support, from all part involved in the process.

Do not let the simplicity of the model fool you. Lewin's three-step model is according to Levasseur (2001, p. 71) an elegant and infinitely practical guide of complex and unsure situations in the change process. Cameron and Green (2004, p.98) thinks Lewin's model is a very useful tool when considering organizational change. Making a force field analysis is an exceptional way for the managers to see the driving and resisting forces that exists in any change situation. They also add that this model is sometimes used by managers as a planning tool instead of an organizational development process. This approach ignores the basic idea of people only changing if there is a felt need to do so. So instead of doing good for the organization, if this method is not done properly it can harm more than it helps (Cameron and Green, 2004, p. 99).

A good thing with the model is that it does not spell out in details what needs to be done in a change process. Instead it describes the major steps which must be followed in order to be successful. This is why it is the most powerful and fundamental tool, that every change leader should possess, according to Levasseur (2001, p. 73).

2.1.2 Lippitt's Phases of Change Theory

Lippitt, Watson and Wastley thought there was a need for expanding Lewin's three-step model. So, they created a seven-step theory, based on Lewin's model, but with more focus on the role and the responsibility of the change leader, than the evolution of change itself. First they divided the *Move* phase into three sub-stages:

- "The clarification or diagnosis of the client's problem."
 - "The examination of the alternative routes and goals, and establishing goals and intentions for action."
 - "The transformation of intentions into actual change efforts."
- (Hayes, 2007, p. 81)

They also believed that the change would be more stable if they spread it to neighbouring systems or to subparts of the system. This led them to the introduction of two further stages:

- Determining roles, so that all parties knows the expectations clearly.
Examples of roles are: cheerleader, facilitator and expert.

- Gradually terminate from the relationship. At this step the change leader are expected to withdraw and hand over responsibilities from their role, over time. This stage happens when the change starts to become a part of the organizational culture.
(Kritsonis, 2005, p. 3)

Hayes (2007, p. 82) summarizes the model by highlighting the important part of it which is to state how the organization's condition is now and how the desired state will look like. To form strategies and plans to see how to move towards the desired goal and also the importance of managing the personal and political issues associated with change.

2.1.3 Dalziel and Schoonver Model

This model is created by Daziel, M. and Schoonver, S. (1988, p. 15) and is divided into three areas; *organizational readiness*, *change-team roles* and *the implementation process*, which consists of three key questions:

- Is our organization ready for planned change?
- Are there the right mix of skills required to make the change possible?
- Is the implementation process prepared properly to ensure success?

According to the Dalziel and Schoonver Model, these three steps consists of different factors which the project leader has to deal with and manage to ensure a successful change process. First, change leaders or managers have to prepare the organization for change. Next, they have to ensure that the right mix of skills are available and lastly an action plan must be established so that the organization can ensure success.

Compared to Lewin's three-step model this model is also divided into three parts, but unlike many other models this one goes more into depth and describes in details how to handle the whole process and its critical success factors.

The following three areas (*organizational readiness*, *change-team roles* and *the implementation process*) must be manage and handled properly to make the change process effective and successful.

2.1.3.1 Organizational Readiness

As mentioned earlier, Daziel and Schoonver (1988, p. 51) describes the first steps of change as very essential. By following a simple, tested, step-by-step method for preparing managers and their co-workers, the change process can become more effective. Investigating an organization's readiness for change is the first step in finding barriers to planned innovation and developing effective strategies for change across five dimensions. It is particularly important to look at critical factors in an organization's culture when introducing change. If this is not done properly, the change effort may be done in vain. There are five attributes that represent organizational readiness:

- *"History of Change:* The prior experience of the organization in accepting change."
- *"Clarity of Expectations:* The degree to which the expected results of change are shared across various levels of the organization."
- *"Origin of the Idea or Problem:* The degree to which those most affected by the change initiated the idea or problem the change solves."
- *"Support of Top Management:* The degree to which top management supports the change."
- *"Compatibility with Organizational Goals:* The degree to which the proposed change corresponds to past and present organizational practices and plans."

(Daziel and Schoonver, 1988, p. 15)

The authors elucidate the importance of success in the start. This can be achieved by stimulating the affected people towards change, meeting key problems and sharing information. The most important thing is not to fail at the start, even if it is necessary to move more slowly or only start a small part of the change.

2.1.3.2 Change team-roles

In change efforts or process, the leader must allocate people for the six key team roles defined. Even though there are different roles, they are all dependent on one another and work tight together in the change process. However, if the team has a well working and effective communication, it is fully possible for them to work independently, with the change leader coordinating their common effort. According to Daziel and Schoonver (1998, p. 72) these six roles do not have to be allocated to six

different individuals. In some cases roles may be shared and in other cases one person may perform more than one role. It is of little importance who fills the role, but role coverage is the factor believed to be one of the aspects to ensure success.

- *"Inventor:* Integrates trends and data into concepts, models and plans; envisions the "big picture" first; adapts plans."
- *"Entrepreneur:* Instinctively focuses on organizational efficiency and effectiveness; identifies critical issues and new possibilities; actively seeks advantages and opportunities."
- *"Integrator:* Forges alliances; gains personal acceptance, as well as acceptance of the team and their program; relates practical plans to strategic plans and organizational issues."
- *"Expert:* Takes responsibility for the technical knowledge and skills required for change; uses information skilfully and explains it in a logical way.
- *Manager:* Simplifies, delegates, assigns priorities; develops others; gets the job done at all costs."
- *"Sponsors:* Ensures support and resources from the highest levels of the organization; communicates where the change fits in the overall organizational "vision"."

(Daziel and Schoonver, 1988, p. 18)

According to the authors, role coverage is the factor that ensures success. Each role, including the different skills and behaviours, must be performed. *Who* fills the role is of little importance. Choosing the team is not an easy task for the leader, however, they have the responsibility to discover and understand the concrete qualities of each person to be able to sense how to gather these human resources and skills needed for change.

2.1.3.3 Implementation Stage

Now to the third and last area of the model, the Implementation stage. According to Daziel and Schoonver (1988, p.108), in successful implementations the primary benefits of the change are made apparent to end users. To achieve this, as the change effort evolves, change leaders create concrete plans including a number of key issues, which are translated into proposed actions in ongoing organizational practices.

- "*Clarifying Plan* is the process in which implementers define, document and specify the change."
- "*Integrating New Practices* is the process in which an organization incorporates change into its operations."
- "*Providing education* includes those programs in which end users learn about and use new processes and procedures."
- "*Fostering Ownership* is the process through which end users come to identify new processes and procedures as their own, rather than regarding them as changes imposed upon them."
- "*Giving feedback* is the process in which a detailed objective is monitored and used to judge the effectiveness of the implementation plan."

(Daziel and Schoonver, 1988, p. 20)

2.1.4 The Organizational Change Framework

This framework is made by two authors, Oakland *et.al* (2007) based on their research about the critical factors in successful change management. Senior managers, from 28 different organizations participated in the research. Interviews, questionnaires and literature reviews are examples of methods they used. The research resulted in a development of a framework for successful change, which is presented below.

The Organizational Change Framework, is unlike the other methods presented earlier, not a method. As the name says, it is a framework, a powerful aid with guidelines for organizations wishing to initiate a change program or to increase their success.

The framework consists of two main parts of change management. These parts can be described as two cycles which the organization experiences during the change; *Readiness for change* and *Implementing change*.

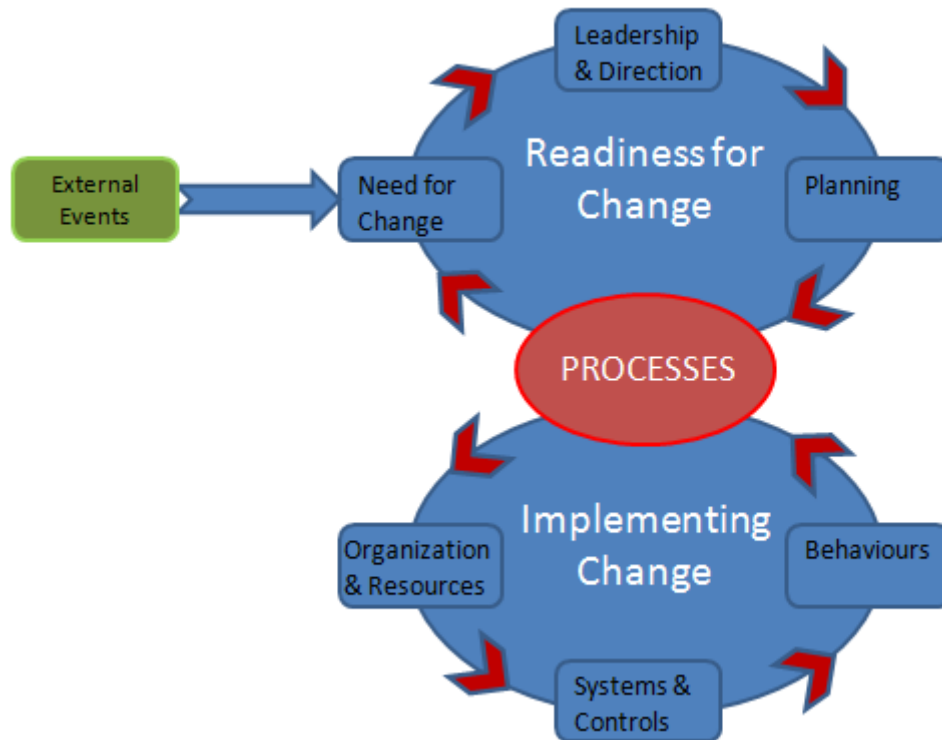


Figure 2.2 The Organizational Change Framework

The experience from many of the managers is that the first part of the cycle, readiness, is not well understood or developed. This is a frequent event in many change programs, such as the six sigma and is often due to the rush into implementation. To brake this bad habit and get in to the top circle, the first thing to start with is to understand what the key drivers for change are, both inside and outside the organization. This is done in order to make clear for the stakeholders why there is a *Need for Change*. At this stage, the leader must emphasize and show meaning to the change, otherwise there is a risk that the enthusiasm and the will, quickly disappears. This is why clear and consistent *Leadership and Direction* is needed. The Need for Change which has been developed must be turned into expectations, in form of values, aims, measured objectives and targets. Based on these steps, the circumstances then allows the leader to make the *Planning* which focuses on the strategic objectives.

The implementation stage is often a potential failure for many attempts of change. This is why the next call must be the organizational *Processes* in which people live and work. The process drive the way the *Organization & Resource* work, including the structure, roles, competencies and resources. Then the performance measures and technology supports the organization's *Systems and Controls*. And eventually, the

Behaviour, which is triggered by all the things mentioned above - structure of the organization, the manager, measurements of employees, processes and systems, etc. all of those included in the organization.

Furthermore the author states that the attitudes, beliefs and values of the employees are the change leaders responsibility to manage. It is important for the leaders to be aware of them and in these cases most often it is the systems and environment that causes problems and deterioration. The behaviour is critical for the process to work or not. This affects the achievements in quality and time which is crucial for success.

Finally, it is all about the people and their identifying, understanding, managing and improving process - things any organization has to do particularly well in order to achieve its objectives and become successful (Oakland and Tanner, 2007).

2.1.5 Why failure?

We have now been introduced with different methods and theories about the change management area. They have much in common, such as structuring the models by processes with different steps which are supposed to be followed and so on. These simplified steps and rules may sound easy to follow and with small risks of not succeeding with the change, but according to several sources, many change efforts fail. Frankly there are only approximately 10 % of all organizational change that succeed (Oakland and Tanner, 2007, p. 1).

According to Karp and Helgö (2008, p. 86), this has its foundation in the understanding from the leaders. Even though it exists decades of research and experience in the area, managers still struggle with change. Karp and Helgö (2008, p. 86) thinks it is due to people tending to professionalize all types of human interactions into tools of change management. This is a too mechanistic and instrumental approach to human beings, change and leadership in general. The leaders lack in understanding the complexities they are facing. It has less to do with structures and strategies than with the nature of human beings and the reaction to change and the leaders.

There are often different views and thoughts on *if* and *why* changes should be implemented. Karp and Helgö (2008, p. 88) believes that top managers and leaders on top level sees the changes as opportunities to strengthen and renew the organization. They also see the changes as possibilities to advance in their careers. This is not the case for many other employees, including the middle managers. The changes are mostly not their idea nor are they welcome.

Porter (2011, p.25) is on the same track. He means that the majority of the changes fail due to poor understanding and effort in the people and culture involved in the change. Leaders should instead involve stakeholders in every step of the process to ensure success. Porter states that there are two causes which are the most underlying failure points and knowing these will help you in your change process.

1. Most people are by nature, creatures of habits and when change is suggested this is directly reflected with fear. This is often focused or founded by loss of their own livelihoods. They get concerned that the change will make them less valuable and wanted in the organization.

2. Users will not change themselves. If they are doing as they understand what they are expected to do in their job, then they will see no need in changing their behavior.

Furthermore, Porter (2011, p.25) states that if the change leader wants to implement a change, the end users must accept it, otherwise they will not adopt to it nor will the change become sustainable or stabile. The leader must understand the change from the user's perspective and how it will affect their job and its environment.

According to Oakland and Tanner (2007, p. 2) a research revealed that a typical company has, during the last five years, applied more than three new tools or techniques annually. This trend is continuing, since the typical company would adopt another 3.7 tools in the coming 12 months. However, these attempts from the companies are unfortunately in vain. "Most improvement effort have as much impact on company performance as a rain dance has on the weather!" (Oakland and Tanner, 2007, p. 2)

Another factor why the change management are known to fail is the ignorance from the manager of the three phases, which employees are known to go through during a change; denial, resistance and exploration. They expect the employees to move very quickly from the first phase to the last, when in fact that each individual go through all of the phases at different time and speed. There are many things that managers do that creates crisis in the management of change. Some of the things may not be done intentionally, but the result of these actions is generally the opposite of what they hoped for (Stanleigh, 2007, p. 35).

Things that creates crisis and can be the factors to why change management fail are:

- "not engaging all employees;"
- "managing change only at the executive level;"
- "telling people they have to change, we're in a crisis;"
- "sending staff on a change program and expecting change to occur;"
- "not honoring the past;"
- "not giving time for staff to vent fist and then change."

(Stanleigh, 2007, p. 35).

Once again we can see that the people involved, such as the end users and other stakeholders, are so incredibly important for the change process to become successful.

2.1.6 Resistance to Change

As seen in the previous part, paying too little attention to the people before and during the change, was the major cause to why changes failed. Change was reflected with fear and ignorance and the lack of understanding and need for change led to resistance. Managers attempted to follow their mechanistic and instrumental models of how to succeed when they totally missed the issue of handling resistance from the people. Resistance can come from all levels in the organization, but mostly the resistance comes from the employees which are directly affected by the change.

Since it appears that this area is so important for change management, this chapter will introduce the subject of resistance within organizational change.

Hayes (2007, p. 278) argues that change (C) will occur when the product of dissatisfaction with the present situation (D), vision of what is possible (V) and practical first step towards reaching the vision (F) are greater than the cost of change/resistance (R):

$$C = (D \cdot V \cdot F) > R.$$

But is it really that easy to define resistance, by making a formula of it? Smollan (2011, p. 12) defines resistance as a destructive force that runs counter to the interests of the organization. It is also frequently seen as a form of refusal to do what is required or as evidence of a half-hearted effort (Smollan, 2011, p. 12).

Hayes (2007, p. 205) presents four main reasons to why people resists change:

2.1.6.1 Parochial self-interest

Many stakeholders involved in the change, focuses on their own best interests, rather than the organization's. If these people think that any change would cause them to lose something of value, they will resist change. What managers often do wrong is that they do not pay enough with attention to the employees' personally concerns with the changes.

As mentioned earlier, resistance can come from all levels of the organization. This can be expressed when managers, even senior managers, can become resistant to change if they feel that their power or authority is threatened.

2.1.6.2 Misunderstanding and lack of trust

Poor communication can lead to misunderstandings which in turn can be the source of resistance. Stakeholders often resist change due to the lack of understandings of the implications it may have for them. This may lead them to perceive that the change will cost them more than they will gain.

Bad trust goes hand in hand with resistance. When stakeholders do not trust the change leaders, they are likely to resist any change they propose. Change leaders often fail to anticipate this kind of resistance, because they believe that people only resists changes that undermine their best interests.

2.1.6.3 Different assessments

Another common reason why some resist change is that different stakeholders assess the change differently. Change leaders are sometimes seen as they assume to have all the relevant information they need to conduct an adequate organization analysis and that the people affected by the change have the same facts. Often neither assumptions are correct. Change leaders often lack in take in account of how the change might affect external stakeholders, outside the organization. These stakeholders can be an important source of resistance.

2.1.6.4 Low tolerance for change

We are all limited in our ability to change, some are more than others. This limitation reflects on peoples' concern on how to develop new skills and behaviours that will be required of them, which makes them develop resistance to change. Even when the stakeholders understand the need for change, they can sometimes be emotionally unable to make any change. The change may involve a grieving process, similar to that which occurs when a person loses a loved one.

An interesting point that (Smollan, 2011, p. 13) shares is that the resistance from the employees can be positive for the organization. The resistance may prevent the organization from making costly mistakes. This means that the employee not only resists due to their own interests, but also to the organization's interest. Changes processes can involve huge risks which change leaders often have miscalculated. Sometimes employees has another point of view, and may be more appropriate information regarding the change, which can awake the refusal and doubt among them.

2.1.7 How to better deal with resistance to change

In the 1940s Lewin first introduced a method with the idea of removing the resistance to proposed changes within organizations (Fielder, 2010, p. 371). But since then, much have happened. As Smollan (2011, p. 14) puts it; resistance may not be inevitable, but there are methods or ways to manage it, before or when it is manifested, and as Smollan stated that it can even be good for the organization with some resistance.

As we have seen from the literature, employee participation is often mentioned as a step in the change process. But, according to Lawrence (1969, p. 4) this is not a good way for the management to think about the problem. He means that it may cause more problems than it helps.

However, Smollan (2011, p. 14) presents some guidelines for the manager to reflect upon (which among others includes employee participation), and may help to manage the work of dealing with the resistance to change.

- Discuss the proposed change with the various stakeholders and understand their view in order to see the potential impact of change for them. This can be facilitated by letting the employees participate to produce better decisions and to show dedication to them.
- Understand that in the change there might be winners and losers. It is naturally for people to defend against loss, which is why the leader must work out either how to minimize the losses or to compensate for them.
- Handle resistance with care. Try to understand that resistance may be conscious, semiconscious and unconscious and behavior resistance may be overt and covert.
- Think over which strategies to use before dealing with resistance. Will participation simply waste valuable time while problems grow or opportunities wither? How helpful will they be?

Self (2007, p. 12) means that if the organization is not ready for change, it will automatically create resistance by the employees. The change leader is responsible for making the organization ready for change, which should also be their target instead of trying to overcome the resistance.

As, Smollan (2011, p. 14) presented earlier, the change leader should make an effort to understand the people affected by the change and the potential impact on them, Self (2007, p. 13) also highlight that point. The change leader must clarify how the impact will be, to acknowledge and provide as much help as possible to those that may be affected.

Fielder (2010, p. 374) uses a model to manage the resistance in change program. This model is based on models and tasks structured for project risk management and consists of the phases. Only a simplified form of the model will be presented, which provides bullet points that are aimed to be followed, one by one:

- "Identification and evaluation of resistance potentials."
- "Planning of managing resistance."
- "Avoidance/promotion of and preparation of resistance."
- "Resolution of resistance."
- "Controlling of resistance measures and potentials."

2.1.8 Essential Factors

It is discovered from the literatures that there are some common factors appearing in the change-models. These factors are:

1. Understand the problem - All models described earlier, have an introduction of describing the essence of knowing and understanding the problem. Some pay more attention (*Lewin's three step model* and *Dalziel and Schoover Model*) to describe that the understanding of the problem is fundamental in order to understand the need for change. The change must be understood by everyone involved. Including senior management, change leaders, workers and other stakeholders.
2. Understand the need for change - When the problem is understood there needs to be some drivers for the people affected by the change. The necessity and the benefits of the change must be emphasized. This phase is emphasized in *Lewin's three-step model* (with driving and resisting forces) and also in the Organizational Change Framework.
3. Support from all the levels in the organization - In order to succeed with the change, it is essential to have the support from all levels of the organization, including external stakeholders. Frequent communication and information to these are vital, especially at the initiation phase of the change. The Dalziel and Schoover Model emphasizes this more than other models.
4. Targets - The Dalziel and Schoover Model, The Organizational Change Framework and Lippitt's Phases of Change Theory, all of these models brings up the essence of setting up clear targets such as project goals, visions, missions and values. These measurements facilitates the vision of the future state and also the understanding of the expectations.
5. Resistance - As seen from the factors to why many change effort fail, it is due to resistance of change from the employees. Resistance is highly probable to happen in every change process. To decrease the risks of resistance to occur, it is important to involve, communicate, support, listen and allocate

responsibilities. The fact that none of the models brings up the issue of resistance, (except for Lewin's model where it is described as restraining forces), make it even more essential and significant.

6. Planning - Before any project, planning is compulsory. This includes budget, timeline, risks, training, responsibilities etc. The plan should be accessible for everyone involved to minimize uncertainties. Planning is brought up in The Organizational Change Framework and The Dalziel and Schoover Model.
7. Employee ownership - In order to make the change sustainable not making it go back to its initial form, fostering ownership of the change among the employees can be a solution. Lewin's third step, refreezing is about making the change permanent, this is also brought up by The Dalziel and Schoover Model.
8. Leadership - The Lippitt's Phases of Change Theory, The Dalziel and Schoover Model and The Organizational Change Framework emphasizes all the essence of the leader's role during the change. The models are described from a change leader's perspective and how the change leader has the major responsibilities etc.
9. Roles - Having the right skills to make the change possible and letting everyone know what to do is often brought up by the different methods, especially in The Dalziel and Schoover Model.
10. Communication - As a last factor, and maybe as the most important one, is to communicate. Communication is essential, in all its forms, verbal, digital etc. All information related to the project should be accessible to all involved at any time. This prevents misunderstandings and knowledge can easier be transmitted through the organization.

2.2 Lean

There are hundreds or thousands of different theories and methods to find about the area of Change Management. The few that are described in this thesis are just a fraction of all. But as seen from the essential factors and also the reasons to why many attempts fail, it is possible to find a pattern among them. The most essential in order to succeed with any organizational change is to focus on the employees and your relation to them and to the stakeholders of the change in general. Now, since the aim of this thesis is to investigate how the benefits of Lean can be applied in Change Management, there will be less focus on techniques and tools of lean and more of the soft parts such as relationship, employees and organizational culture. The following chapter will introduce Lean and as mentioned, focusing on relationship, employees and organizational culture. The purpose of this is to gain a view of Lean with its principles to see how the benefits can be applied in Change Management.

2.2.1 A brief introduction and history of Lean

Kanban, 5 S's, Visual control, Poke yoke and SMED, are all key tools and techniques within the Lean system. These methods and many other, are used today by increasing number of organizations worldwide. Their origin is from Japan, within Toyota in the 1940's. The Japanese wanted to create a system based upon a continuous flow which did not rely on long runs to be efficient, but on the recognition that only a small part of the total time and effort to process a product added value to the end customer. Compared to the western world where the philosophy of mass production, initiated by Henry Ford, was followed, these were each other's opposites (Melton, 2005, p. 662).

According to Liker (2004, p. 7), lean is the end result of applying the Toyota Production System (TPS) to all areas of your system. The founder of the TPS, Taiichi Ohno describes it more in detail:

All we are doing is looking at the time line from the moment the customer gives us an order to the point when we collect the cash. And we are reducing the time line by removing the non-value-added waste. (Liker, 2004, p. 7)

The TPS was developed after the World War II. At this time Ford and GM used mass production and big equipment to produce as many part as possible as cheaply as possible. Toyota's market was not as big as America's after the war, which forced

them to be flexible with a variety of vehicles on the same assembly line in order to satisfy its customers. And this was how it all started (Liker, 2004, p. 8).

2.2.2 Becoming Lean

It is no secret that Toyota has been and still are very successful both in good and in bad times. This trend is still in place. Toyota forecast an increase of 20 percent in global sales to a record of 8.48 million vehicles worldwide, in 2012. This mean that Toyota would regain the top ranking from General Motors. The reason they lost sales was because of the natural disasters in Thailand (flooding) and in Japan (quake and tsunami). Measuring by stock values, Toyota is much higher than its rivals, at \$ 111 billion, which is more than Volkswagen and General Motors combined (Kim, 2011).

Such information and other evidence shows the progress and success of Toyota. With this knowing you might ask the question why other companies (not only automotive manufacturers) have not learned and imitated the TPS? Information about Toyota's production system has been available for over 30 years, but still no other company has achieved to duplicate same results. What is the secret? According to Liker and Meier (2007, p. xix), the answer lies in great people. People with knowledge and capability in an organization which supports them to create the need for such talents. This is mainly what distinguishes companies from each other. Generally, organizations have access to the same technology, raw materials, machinery and even the pool of potential employees. This is particularly where the success lies in, but the full benefit is from the people at Toyota who cultivates their success (Liker and Meier, 2007, p. xix).

Many managers and organizations believe that lean is a collection of different tools and methods which if implemented will contribute with many concrete benefits in their work. It is easily understandable that many have this view since it many times come from an often simplified and beautified version of lean. A version which only highlights the benefits as they would become reality just by implementing some tools and techniques. Examples of these descriptions can look like;

"Lean involves implementing a set of shop floor tools and techniques aimed at reducing waste within the plant and along the supply chain." (Scherrer-Rathje *et al.* 2009).

And

"The benefits of being lean are:"

- "decreased lead times for customers"
- "reduced inventories for manufacturers"
- "improved knowledge management"

(Melton, 2005, p. 663).

There are examples that these misunderstandings result in failing attempts from companies to implement lean. One example is that executive managers who hear about lean, but rarely understand the philosophy and process of it, only have acknowledged the results. This leads to a delegated assignment down, to a less enthusiastic manager, to investigate it, which eventually results in a failed attempt. Together with many other reasons linked with poor understanding and support are common reasons to why lean-attempts fail (Kilpatrick *et al.* 2006).

As mentioned earlier in this chapter, the purpose for this thesis was to investigate how the benefits of Lean can be applied in Change Management. Tools and techniques will not be the emphasized, instead areas such as leadership, employees and organizational culture will be focused. In order to explain the importance of the factors which will be investigated in this thesis, the TPS view of culture can be described as an iceberg. The top of the iceberg represents what is more visible and what you see when you visit an organization for the first time. Below the surface is the Toyota Way culture that is the foundation of lean. This iceberg can be found in *The Toyota Way* (Liker, 2004, 298).

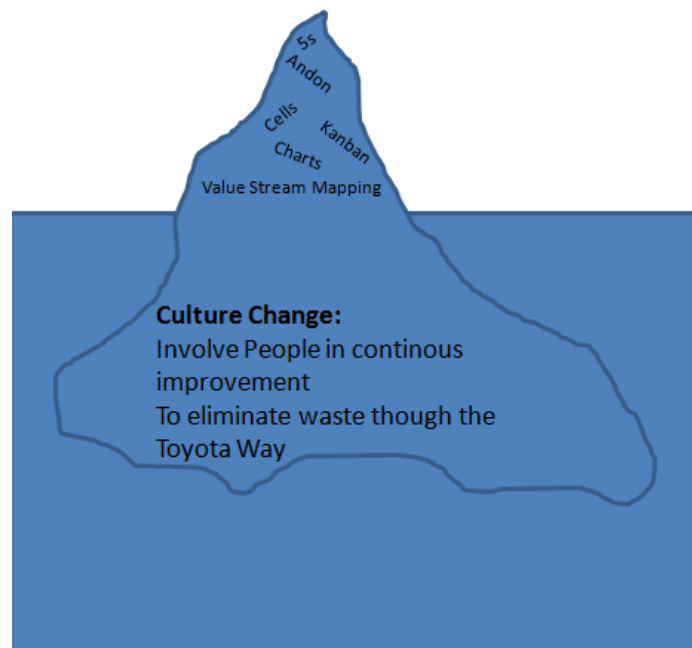


Figure 2.3 Iceberg model of TPS

However, it is important to remember that in order to go all the way through and transform an organization into lean, it is essential to include all aspects of lean in the entire organization. Which also means implementing tools and techniques of lean. As Teresko (2006, p. 3) formulates it: "Unless TPS is everywhere in an organization, it is nowhere." In this situation this is not necessary, since the purpose is not to become lean, but to gain some of the benefits from it to improve the Change Management process.

2.2.3 Bullet points and aspects

To become lean and make cultural changes, this requires an understanding and commitment of the system to sustain and constantly improve it. Something which is, according to Liker (2004, p. 291), the most difficult for Western companies. The organization must learn how to develop a system and sticking with it and improve it. To do so, the organization needs a long-term thinking and substantial leadership. Toyota's model was intentionally to create a philosophy, built from the ground. It may take decades to transform the organization's culture, like this. (Liker, 2004, p. 290).

Liker (2004, p. 290) states some bullets about changing a culture and what is known about it;

- 1) "Start from the top - this may require an executive leadership shakeup."

- 2) "Involve from the bottom up."
- 3) "Use middle managers as change agents."
- 4) "It takes time to develop people who really understand and live the philosophy."
- 5) "On scale of difficulty, it is "extremely" difficult."

According to Sun (2008, p. 24) lean thinking has a great influence on people's mindsets, including the following aspects.

- 1) *Lean thinking challenges habits.* Sun means that employees will, with lean thinking, adapt and make small but continuous improvements of business settings. This is encouraged and motivated by receptiveness to change.
- 2) *It is time to recognize the power of lean thinking.* Seen from the Japanese manufacturers, lean focuses on the whole process which leads to greater impact in the market pace. Compared to the American manufacturing where the people focus too much on the physical aspects of manufacturing.
- 3) *People on the shop floor are the lean experts.* The abilities of the employees at the shop floor is used to implement improvements. The success of lean implementation is about those who spend the most time on the shop floor.
- 4) *Lean thinking requires dedication.* Lean thinking is about seeing the value of long-term tools with openness around goals, expectations and outcomes. We must work hard before we can learn how to work smart.

Similarities from Liker's bullet points and Sun's aspects are for instance that the lean philosophy is about involving the shop floor workers and use their expertise to make improvements. These are the one who spend most time at the shop floor and knows how things work. Another thing is that you have to let the transformation take the time it requires. It is not possible to rush through a transformation and skip some steps, it may take longer time. No one understands the principles and the philosophy directly. It requires long-term goals and patience.

As discussed earlier, the essence of the people are very essential in lean philosophy. Something that shows the importance of it can be seen in the book *The Toyota Way* where six of fourteen principles about the philosophy are related to people. These six are:

Principle 1. Base management decisions on a long-term philosophy, even at the expense of short-term financial goals. This principle is one of the most important long-term investment Toyota makes is on its people.

Principle 6. Standardized processes primary for the use of continuous improvements. Standardized work and job instruction training go hand in hand. This will facilitate the work of learning how to see waste and make improvements.

Principle 9. Leaders within the organization must know and understand how to work and live the philosophy and teach it to others. These leaders must, in order to teach to others, have the skill of teaching as a leader and know the work to teach and support others.

Principle 10. The People and teams must learn how to follow the philosophy of the organization. Teams depend on well-trained people and part of individual development is learning to work in teams.

Principle 11. Help your supplier to improve by challenging them, this way you show them respect. The suppliers need the same qualities as you and to be developed in similar ways.

Principle 14. Relentless reflection and continuous improvement helps your organization to become a learning organization. Becoming a learning organization is at the top of the hierarchy of the Toyota Way pyramid because it is viewed as the highest level of organizational effectiveness.

Toyota has developed a culture where teaching is highly valued and considered as the central part of any manager's job. This culture is viewed as the key to long-term success, if this teaching environment does not exist, the group's performance will surely suffer (Liker and Meurer, 2007, p. 7).

In lean, there is a tool or part of the philosophy called *Kaizen*, which means continuous improvement. This way of thinking should be applied in all levels of the organization. For example, like traditional organizations tend to wait with changes

until some expert tell them to, lean organizations analyze their own strengths and weaknesses against their suppliers and competitors. They study their customers and their needs, and continuously evaluating their environment for opportunities and threats. This strategy of constant change together with involvement and learning at all levels will require constant assessment and constant awareness. These transformations do not happen overnight, they require patience and long-term perspective (Jackson and Jones, 1996).

2.2.4 Communication

Towe (2010, p. 51) is on the same track as Liker. She thinks that the key with any organizational change is communication. Using communication in order to translate and teach the principles of lean for the employees, is critical. Reasons for the change, expectations during and after the change needs to be spelled out in common terms. If the employees are left without proper information about changes in their daily work, concepts will get incorrectly and rumours will start to fly.

Communication is also important to get support from the employees about the change. Resistance will develop if the employees feel unconfident about the change and for instance believe that the lean transformation will make them lose their jobs. That is why it is necessary to point out that no one will lose their job because of the lean transformation, only that it may change people's responsibilities and give them more challenges and opportunities (Towe 2010, p. 52).

2.2.5 Organization

Henry Ford believed in philosophy of expanding labour productivity by investing in specialized equipment, increase the degree of specialization of task and by separating the planning and management functions from the actual production efforts. This organizational structure of mass-production firms has its foundation from Taylor. This type of organization created an antagonistic relationship between workers and management in the US.

Toyota on the other hand, use team production and TPS. This comes from the Japanese culture, where emphasis on consensus and co-operation is natural. Management of Toyota invested in well educated and trained workers, which gave them more flexibility, compared to Ford. Toyota has the managerial philosophy where

empowerment begins at the shop floor, this is the opposite to what many are used to, the top-down management system (Fane *et al.* 2003).

Table 1 underneath shows the distribution of different skills needed within the different organizational levels. When it comes to technical-functional skills such as engineering, the majority of the skills are found at the shop floor, with the first-line supervision. This is in line with the philosophy of TPS and having the down-up empowerment. Administrative-Operational Planning and strategic-conceptual entrepreneurial skills are allocated for middle and senior managers (Fane *et al.* 2003). This allocation of responsibilities shows how everyone is involved and takes decisions together.

Table 2.4 Leadership levels in lean-system oriented organizations

Organisational levels	Skills needed			Total
	1 Technical-Functional (Engineering, Accounting, Marketing, etc)	2 Administrative-Operational Planning (Human Relations, Goal Setting, Decision Making, Problem Solving, etc.)	3 Strategic-Conceptual Entrepreneurial (Strategic Thinking, Scenarios, Issue Planning, Strategic Response, etc.)	
Senior management ● Directors ● Vice Presidents ● Executive VPs ● Chief Op. Officers ● Chief Ex. Officers	10%	20%	70%	100%
Middle management ● Dept. Heads ● Functional Managers ● Product Managers ● Project Managers ● Team Leaders	30%	50%	20%	100%
First-line supervision	75%	20%	5%	100%

Carroll (2001, p. 81) talks about the term empowering leader which is a leader, that actually does not lead, but supports and helps teams and people to learn and lead themselves. The traditional manager is known to be the leader who gives clear lines of authority, well-defined tasks and seemingly tight control from top to bottom. He or she must be in control at all times and know exactly what everyone is doing. The empowering leader does not have the control, instead the leader is a developer of people, teams and the organizational structures that support them.

In an organization where very few things change or when the tasks are very simple (as in many traditional organizations) it is possible for the workers to do their work as they are trained to do and as the rules and instructions say. The supervisors perform their tasks as defined by the organizational structure and the instructions from their managers and their managers do the same. But in a world where change is so important to survive, creativity is necessary. This can only be done in an organization where information and decision making are driven down to the people accomplishing the task and where the employees are empowered to make decisions without seeking management approval. These lean organizations are more matrix formed and not as the traditional heretical organizations (Carroll, 2001, p. 82).

2.2.6 Methods and actions

"People are our most valuable resource" (Liker and Meirer, 2007, p. 7). What Toyota has succeeded with compared with other bigger auto companies is the superior in quality, which has been excused by others of the superiority of the Japanese worker. But Toyota has successfully proved that they can succeed to run their business and produce cars in other part of the world, which mean that they do not need Japanese workers in order to succeed. Toyota is primarily interested in people with high work ethic, who are familiar with hard work and have the motivation to lean and perform (Liker and Meirer, 2007, p. 12). Liker (2004, p. 300) describes Toyota's process with new operations in e.g. North America, as all U.S. senior manager were assigned Japanese coordinators. The Japanese coordinators' job was to coordinate with Japan and to continuously teach U.S. employees about the Toyota Way thorough daily mentorship.

Toyotas leaders believes that the company's only source of competitive differentiation is the exceptional people they develop, that has been their top priority. In fact, Toyota in Japan hires almor all of its new employees directly from school. In some cases from a Toyota City technical high school, where students already have been taught The Toyota Way. Toyota is their first job, and typically their last. This facilitates the process of not having previous experience from other companies with conflicting approaches (Liker, 2004, p. 299).

As experienced from the literature, involvement from the employees is essential in an developing organization. Dennis (2002, p. 104) describes a method, the Kaizen Circle Activity (KCA), which consists of six to eight members. The KCA is formed by a

manager who needs help with a problem. The circle concludes with a presentation with the results and future activity.

Benefits from the KCA are among others;

1. "Strengthens team members' ability to:"
 - "Work as part of a team."
 - "Lean a team."
 - "Think clearly and logically."
 - "Solve problems."
2. "Build tem-member confidence. Team members fell good knowing they have contributed to the company's success. They are ready for the next challenge."
3. "Attacks critical problems with "hundreds of hands"."

As a part of the culture at Toyota is to have same goals and acting the best for the organization. At Toyota the employment security is an implicit guarantee for the effect that only in the most sever circumstances and as a last resort would result in termination. There are no special treatment for executives with offices or dining rooms. And the *Genchi genbutsu*, is the principle or spirit at Toyota, which ensures that managers and senior managers are in constant contact with shop floor environment and its members (Dennis, 2002, p. 141).

2.2.7 Essential Factors of Lean

Following are some factors that from the literature are considered to be critical in Lean.

1. Customer value - As one of the founders of the TPS, Taiichi Ohno (Liker, 2004, p. 7), formulated to add value to the customer and reduce waste. One of lean's main pillars is to create an operation where the work adds value for the customer and reduce the work that doesn't.
2. Great people - Several sources e.g. Liker and Meier (2007), Sun (2008) and Towe (2010) explain that Toyota believes that their competitive differentiation comes from the great people they develop. Talented people that are taught the TPS from the beginning.
3. Think long-term and substantial - The philosophy, goals, expectations, openness and outcomes must be long-term and understood by everyone (Liker, 2004), (Sun, 2008), (Dennis, 2002).
4. Change with small improvements - According to Liker and Meirer (2007), Sun (2008) and Jackson and Jones (1996) lean is about making small, but continuous improvements. Change is essential in order to survive in today's developing world.
5. Understand and commit - Also must the entire organization understand and be committed to the philosophy of lean in order to improve it. For example when managers use the principle *Genchi genbutsu* (Dennis, 2002).
6. Involve shop floor workers - In order to make change sustainable and successful it is essential to involve workers in the decision making process. Adapting the principle of involving from the bottom and up (Sun, 2008), (Jackson and Jones, 1996). Fane *et al.* (2003) emphasizes the knowledge that the shop-floor workers have and the importance of them sharing it.

7. Standardized work - According to Liker and Meirer, (2007) standardized work facilitates the process of improvements. This also facilitates the possibilities of several people to learn the same work.
8. Leaders must teach - Toyota believes that the leader's most important job is to teach others. The organization must develop a learning culture, which should never stop. Towe (2010), Liker and Meirer, (2007)
9. Communication - Once again, communication is brought up in order to succeed in an organization. According to several sources (e.g. Towe (2010), Liker and Meirer (2007) and Liker (2004)) communication is important in order to learn, support, listen and much more which is essential in an developing organization.
10. Job Security - Dennis (2002) and Towe (2010) states that Toyota is clear with the message to its employees, that no changes will ever risk their job security. The only thing that may happen is other tasks and responsibilities.
11. Lean everywhere - In order to implement Lean and gain its benefits, it must exist in the entire organization (Teresko, 2006).

Educate and train - As mentioned, the people are the most valuable resource which if they are continuously trained and educated, will result in a great long-term investment. (Fane *et al.* 2003) (Liker and Meirer, 2007).

3 Method

3.1 Introduction

The aim with this research is to find how the benefits of lean are applicable into the processes of Change Management. This chapter will explain the procedure of the research and evaluate different methodological approaches and data collections.

3.2 Research approach

The structure or method used for this research is the most common in business and management research. Remenyi *et al.* (1998, p. 73) calls it *Passive Observation* and this is applied when the researcher is unable to conduct an experiment and has to rely only on evidence that already exists. In this case the researcher has collected information from interviews, articles, books written reports etc. In order to gather information from different sources and with a big variety. The researcher searched at both British and Swedish databases as well as at the library and on the web. One reason to prefer information from scholarly, refereed journals and books is according to Treadwell (2011, p. 61) that they give you access to primary research. Other popular articles may be a summary of other authors and does not provide you with citations to tell you what the real source wrote.

The literature review was a prerequisite for the researcher, in order to establish the existing facts about the theory and models that already existed. It is important to examine the existing literature critically since it is a maxim that researchers should trust only certain information and always be suspicious (Remenyi *et. al*, 1998, p. 75).

The literature review contains different methods and theories about Change Management and Lean, in order to as described above, establish a sufficient foundation of knowledge within the two areas. Essential factors about each area were then produced from the facts that were gathered.

3.3 Interviews

Interviews includes identifying and selecting individuals for a study, getting their permission to interview them and then gather information by asking them questions or observing them (Creswell, 2012, p. 10) This was how the researcher proceed with the interviews.

For this research, there are four interviews conducted with a total of five respondents. This means that in one interview, there are two respondents attending at the same time. The author choose to solve this by presenting the answers with four letters which means that letter B, represents the answers of two participants. The interviews were made in order to gather qualitative information about the subject and to see and compare whether the interviewees' answers about CM and lean would match with the literature or if there existed any major differences. The structure of the interviews were not decided until after the literature review were done. The researcher created the questions for the interviews based on the essential factors that were found. However, the structure of the interviews were most Semistructured interviews. These interviews are based on broad questions where the researcher formulates the question as "Tell me about..." or "What is your view on...". Some additional questions were also dropped to allow the respondent to make more detailed answers (Treadwell, 2011, p. 165). According to Creswell (2012, p. 16) collecting data from a small number of participants, stating the questions in a general and broad way and writing the report using flexible, emerging structures are some of the characteristics for a qualitative research. All of these characteristics are covered in this research.

Whether or not the researcher knows the respondents this may affect the answers and lately the results (Hanson, *et al.*, 2011, p. 377). In this research the researcher knew one out of five participants.

Telephone interviews were avoided consciously in order for the researcher to avoid risks of misunderstandings and making it more practical. Even if telephone interviews are more cost saving (Wilson *et al.* 1998, p. 320) all the interviews were made face-to-face.

When all the interviews were done, they were written down from the records into transcripts and later summarized in the results. This is explained and presented in the part *Interview Results*.

Furthermore, even though there are a limit amount of interviews, the research becomes more reliable the more the it relies on different types of evidences (Yin, 2004, p. 100).

3.4 Data analysis process

When the researcher were done with the information gathering it was time to analyze and discuss it in order to come up with a final conclusion. This was done by analyzing and evaluating the theory and methods from the literature review, mostly the essential factors as a basis and then connect or compare them with the findings from the interviews.

This method is comparable to *Cross-Case Patterns*, where the researcher lists the similarities and differences between cases, or in this case areas of theories. This way of researching develops new categories and concepts which may have not been anticipated by the researcher (Huberman, 2002, p. 18).

3.5 Limitations and deviations

Due to different factors the results are affected in this research as well as in any other research. Things do not always go as planned or, the researcher chooses to change directions or details during the journey. As mentioned, there were some limitations and deviations that affected the results of this research, such as time, word count and resources.

Only a limit of interviews were possible and most of them were conducted through contacts of the researcher. Some of the respondents were also known by the researcher from before, which may have had an impact on the results, in form of different level of informality in the discussion etc. The respondents were about the same age, they were all from the industry in or near the Gothenburg area, but they had different experience in their managing position and knowledge in lean.

Another thing was that not all respondents agreed to be recorded during the interviews which forced the researcher to make notes and try to remember the answers. This does not give the same conditions for the researcher to analyze and compare the answers, since it is not given the opportunity to listen to any recordings.

The researcher did not have any major experience in interviewing which also might have some affect on the results, in form of how the questions were asked and if there were any follow up questions asked etc. The researcher selected not to change the interview questions too much between the interviews. The only time any changes were made was after the first interview.

Furthermore the study was only aiming for a general view of the change management approach, which means that it did not provide a detailed depth in any business.

3.6 Ethical considerations

All the participants have been informed of the aim and purpose of the research and their role in the research in order to remain ethical considerations. The researcher has explained how their answers will be analyzed and utilized in the research. Prior every interview, the interviewee has been asked to fill in and sign a consent form, where they agree on being recorded or not and that they give the researcher the disposal to use the information they share in his research.

4 Interview Results

This chapter presents the results from the interviews conducted with five experienced managers from the industry. All of these managers have years of experience in their roles, but they are from different industries and in different positions. Respondent A is an Assistant Business Manager. Respondent B is a Project Manager. Respondent C's position is Manager Project Delivery and Development, and finally respondent D is a Senior IT Manager.

The results will be presented according to each area such as the researcher has formed the interview from. The questions were formed so that the answers would show how methods, routines and mindsets are in the working life which will be compared to the literature, especially to the findings, the critical factors that were found in the literature review.

4.1 Change Management Introduction

All the interviewees were approximately on the same track concerning their view on Change Management (CM) in general. Words that frequently were brought up to describe CM were: *improve, adapt to survive, changing world or environment*. The interpretation was that they all felt a need for change and that it was unavoidable but that it was problematic and required much effort and resources even for the smallest changes. Differences in the answers from the respondents can be seen in their view of the time it takes for a change to be implemented. Respondent A and D described changes as efforts that requires much resources and takes long time, and at the same time respondent C described change as a continuous process, something that requires constant awareness and adaption. Respondent A was the only one that brought up challenges or problems with CM, before the researcher asked the question. The source of the challenge was the people involved in the change, and respondent A stated that a change can be complex because: "human is often very comfortable with the things they are used to do and when they know what will happen".

4.2 Change Management Method

Respondents B and D claimed they used a formal model for their changes. This official model were used within all their organization. These models were the official and formal bullet points or working ways that they were supposed to follow during a

change process. It could include, analyzing, informing, involving and specific teams. Respondent B uses a method that is called PPS and is especially formed for project management situations. It consists of totally eight decision points and that model is best suitable for their business and organization.

Generally, the answer about their method and how it usually works, is that senior managers makes a decision that a change needs to be done. After that, middle managers are informed about the expectations or the aim with the change, and they receive the responsibility to solve how to implement the change. Respondent A, B and D describes the possibility for the end users to make detailed adjustments or decisions on the change, to give them responsibly and the possibility to influence. Respondent A say it is not an easy task, especially not for middle manager that comes in a central position, between the end users or employees and the senior managers. When the information about the change is presented for the end users, there might be some conflicts and middle managers must compromise so that both end users and senior managers are happy.

When it comes to special change teams, there are to some extent different answers from the respondents. Respondents A, B and D say that teams and roles depends on the specific change

and situation. Respondent C answers that since they don't have any standardized methods that they follow, the change including teams, are different each time. And since change is not very incorporated to their organization it also depends on the person that takes the initiative to make a change.

All respondents clearly states the essence of following up the changes. After the implementation, the responsible people needs to see if the change was successful and what things that went well and bad. "We follow up our changes and try to show the results" (Respondent B). " Respondent C: "After changes have been accomplished we follow up the result and discuss them."

When the researcher asked the question about sustainable changes, what and how the organizations do to ensure that a change remains in its new form and not changes back to its initial form, he received different answers. Respondent B had a different mindset regarding that area and answered that their goal is to successfully make a change that works. But since they try to continuously improve their organization, they do not wish

to make any changes that are to robust so that it will be hard to change them again, in the future. The other respondents, A, C and D said that communication and follow up would ensure a sustainable change.

4.3 End Users

As regards to the end users, it seems like the respondents and their organizations are well aware of the importance of end users in change processes. A common factor that all respondents are mentioning as critical is the involvement of end users. Involvement during the initiation phase of the process where the end users have the possibility to shape and make decisions of the change, mostly in level of details. A well functioning and frequent communication is pursuant to all respondents extremely essential in order to succeed with your CM. According to previous experience from respondent A, it is easier to share information and reach out to everyone in the organization if it is small and has a good fellowship among the employees. Respondent A thinks that this also facilitates the acceptance and the conditions for communication.

Respondent C has the same thoughts and talks about also highlights the leaders' importance of getting commitment and creating a sense of responsibility among the end users, in the initiation phase of a change process. To succeed with that, respondent C says: "Methods to succeed with this can be as I described, a well worked groundwork and clear information. It may also include follow up and a two-way dialogue."

Respondent D is also convinced about the importance of end users and mentions that the leaders has the responsibility to share the information that is the basis for the decisions. "It is important to share the overall goals that the organization have in order to motivate why the changes are needed. These goals needs to be open and clear for everyone in the organization it facilitates the work of creating a common philosophy and striving towards a common goal." (Respondent D).

In CM-processes it is important to have a good leadership and the involvement of the end users is according to several respondents, dependent on the leader. As mentioned earlier, all respondents believes that involvement and communication is essential in order for a change to be successful. Respondent A, B, C and D describes methods they use to communicate with all levels in the organization. These methods could be

open meetings, emails, intranet, billboards, documents etc. "So to avoid resistance and misunderstandings it is important to have continuous communication and be clear about the reason of the change." (Respondent D)

It was obvious that communication was one of the factors that the respondents thought was most critical, in order to succeed in CM. Respondent D said that risks of misunderstanding increase when the information flow is long and complex, e.g. through different levels in the organization and with complex terms and language. This is why respondent D, as well as A, B and C advocates involvement and information sharing with all stakeholders especially at the beginning of a change process.

The question about job security and whether or not the respondents inform their employees that their jobs were not put at any risk due to a change, resulted in different answers. Respondent A and D said that they always inform and tell the involved people that the change will not affect their job security. Unfortunately this is not always possible, for example during the financial crisis the organizations were forced to make several changes which resulted in terminations in order to adapt to the changing environment. But they are both on the same track when they motivate that changes are done in order to become more competitive and that the recourses that they gain from a change, can be and are always reinvested in the organization, when possible.

Respondent B on the other hand, creates an answer which shows the low job security shop floor workers have when all costs that are possible to cut are becoming realistic on behalf of some jobs. Respondent B motivates this with saying: "So if we are able to perform better and be more effective, and cut the costs on behalf of some employees jobs, this it is better for the whole organization as a whole". Reinvestments from changes are done, and the example that respondent B drops is reorganizations and changes from positions at managerial levels. The motivation for this is that shop floor workers are less capable to change work tasks or position due to lack of interest or education. Respondent B: "This is harder to accomplish with the shop-floor workers because most of them don't have any education and cannot do anything else than what they are doing and working with today. Some of them are even scared to start to learn something new, they are so comfortable with their tasks they have today." Finally respondent C says that they have not experienced a need to inform

their employees about this, since they have never felt that it has been a threat for them. At least not in their organization, which is quite separated to the production part of the organization.

4.4 Pros and Cons

The answers about upcoming problems in the CM-process, varied quite much from the respondents. Respondent A, said that when managers believe that everyone understands the change, when they actually don't, is a big problem. Respondent A said: "This is why it is so important to take time to answer questions and inform. Trying different methods in order to increase the possibilities of understanding, e.g. by showing the goals clearly, visualising the process and to follow up the work."

Respondent B experienced major problems in their CM-process but believe that they have accomplished to solve most of them. One thing though, that is mentioned is the resistance they sometimes face when a new change is presented to the end users. The respondent thinks that this is a special case or situation for their organization since they have a very high rate of middle age, 48 years, and many of them have had the same tasks at the same place for many years as well. It is no question that the leaders takes their responsibility and inform the end users about the problems. The respondent thinks that the end users most times are well aware and understands the need for change but that the resistance is based on an emotional question. To tackle this, it is even more important with clear information and making sure that no surprises pops up.

Pilot project works exceptionally in the work of getting acceptance of people. If the end users discover that a certain change works at another system or organization. It is easier to understand and accept it. Unfortunately, there are not enough recourses to create these pilot projects, according to respondent C.

Respondent D had an interesting answer to upcoming problems in their CM-process. First of all, they rather see problems as challenges. Respondent D thinks that dealing with people is a big challenge in every CM-process. "We are complex creatures and the leaders' role is very important in a change process." (Respondent D).

Concerning things that works well in the CM-process, the answers were more alike from the respondents. Answers like routines, methods such as pulse meeting in the morning, following up after finished changes were mentioned.

4.5 Lean

According to all respondents they have or are implementing lean to some extent. What separated them from each other was that respondent A, C and D seemed to be more aware of that lean is an never ending story. That it is not just to implement some tools and/or techniques, but you have to continuously improve and also be aware of the mindset of lean. Even though respondent B answered that they have lean in their organization and mentions things such as lean philosophy and mindset, it is still a big focus on their lean tools and techniques that they use daily at work, such as 5S.

However, the feeling that shows is that all respondents finds lean as advantageous for their organization and that they are continuously trying to implement more of lean, even in the future.

On the answer of possible advantageous that lean brings to their organization the respondents had different answers. Respondent A said that lean helps to create a learning organization, that decisions are taken in all levels and that it develops great people. Respondent B divided the organization to shop floor workers and managers and explained that shop floor workers could bring more benefits from tools and techniques (such as 5s and 5 why's). Managers on the other hand, could focus more on the lean philosophy and thinking and less focus on tools. Respondent C explained the awareness of customer value that lean brought to their organization. Since they are in the sales business and often have direct contact to the customer, it is extra important for them to have that mindset. Respondent C also mentioned the small but continuously improvements as a major benefit that comes from lean. But also in this case, lean is more used and developed in the production part of the organization. Just like the respondent C, respondent D also says that lean is more used and developed in the production part of their organization, but that lean brings many advantageous in form of e.g. structure from tools and techniques that exist. Notable, is that respondent D, once again talks about the people in the organization and how important asset it is, just like lean advocates. All levels in their organization are trained and educated in lean which respondent D finds very helpful and beneficial for their continuous work in their organization.

All respondents had the mindsets of doing small but frequent changes, but mainly to have a long-term thinking, all according to rules and philosophy of lean.

4.6 Other

Factors that were estimated to be the most important in an organization in order for a CM-process to become successful can be found in bullet points below. These bullet points are a summary of the answers from what the respondents said.

- People
- Leadership
- Communication

The people that are affected by the change must be involved and properly informed. This is extra important in the first stages of a change in order for the process to continue to be successful.

"A well functioning leadership is essential in a change process. Only by informing you can achieve very much as a leader." (Respondent B).

A leader has the responsibility to make sure that all involved have the correct information and to make sure that no uncertainties exists. Respondent C answered that the implementing stage is the most critical factor in order for a change to become successful. This goes hand in hand with good leadership since respondent C also says that in order to achieve with a successful implementing stage, you will need a solid and consistent leadership.

All these factors and aspects has to do with communication which all respondents clearly states as one of the most critical factor in order to succeed with your CM-process.

4.7 Summary

This summary aims to highlight the most important findings from the results of the interviews. This is done in order to facilitate the understanding and further work, but also to follow the pattern of presenting essential findings from previous data, as in earlier chapters.

Change Management - All the respondents says they feel a need for change. They answered that change is necessary and saw it as something natural but that it requires much resources and that it is complex. People were mentioned as one of the biggest challenges in a change.

Method - 2 of 4 organizations claim to use some form of official CM-method. Generally the changes are decided from the senior management and then passed down to middle managers which then has the responsibility to implement the change. Middle managers have to negotiate both with end users and senior management in order to find the best solution for everyone. Respondent A, B and D say that they have different teams and roles each time depending on the change and the situation. All 4 respondents clearly states the essence of following up a change. It shows the result for all stakeholders and it facilitates the work of improving for the next change.

End Users - End users have an important part in the organizations. The leaders are well aware of involving them, already from the beginning of every change. End users gets the privilege to make adjustments, take decisions and to influence on the change. Leaders agree that the involvement of end users is essential in order to succeed with a change. Open goals and common philosophy facilitates the work of reducing resistance and increasing acceptance.

Leaders - Leaders have an enormous important role in the organization. It is the change leaders' responsibility to make sure that everyone understands the change, involvement and communication is also up to the change leader to accomplish. According to the respondents, resistance can be avoided by clear directives, frequent communication and short ways between the different levels in the organization.

Communication - Results shows that communication is very important in any organization, in whatever change or work you do. It needs to be frequent, short ways thorough every level of the organization (to avoid misunderstandings), clear goals, easy language and involvement from the beginning of the change. Methods that the organization use to communicate are: open meetings, e-mails, intranet, billboards and documents.

Job Security - Only 2 of 4 organizations inform their end users that a change will not put their jobs at risk. The difference from the respondents was that those who informed their end users that their jobs were not at risk, also claimed to reinvest the resources that were gained from the change.

Pros and Cons

- Change leaders must take the extra time needed to inform about the change and make sure that everyone understands, which they unfortunately don't.
- Resistance can occur due to different factors, sometimes emotional. In those cases it is important to be even more informative and make sure that there are no uncertainties.
- Pilot projects are good in purpose of showing the end users the results of the change but they are difficult to arrange and manage.
- Changes are complex and requires much resources and experience. Even if people are mentioned as the biggest asset in an organization, they are also claimed to be very difficult to deal with. People are very different and as much as they can be an asset for the organization, they can also be a problem.

5 Discussion and Analysis

5.1 Introduction

The main aim of this research is to see how the benefits of lean can be applicable into Change Management (CM) in today's organizations. The data gathered in the research is divided into primary and secondary data. This chapter will compare, contrast and link the results from the literature and the interviews to conclude this research and finally make some recommendations and conclusions in the next chapter. But if we look back to the questions in the introduction there were three in total and the two first will be discussed before the question of lean and its connection to CM will be covered.

- What is change management and how is it important in organizations?
- What is lean management?

CM is something that all organizations have to deal with, whether they wish or not. There is a fierce competition and organizations must adapt in order to remain competitive. According to the results from the respondents they are well aware of the need of change but they find it problematic with many challenges. Lean is in some way the same as CM. It is not possible to describe what lean is in a few sentences, but what lean has in common with CM is the change, or continuous improvement. In order to become lean it requires years, or decades of hard work, it is a never ending story. Lean is so much more than some tools and techniques, it is about a philosophy, a culture and according to lean the people in the organization is the greatest asset of them all. Lean has shown to be very advantageous form many organization, but what benefits can CM gain from it, in order to become better?

First of all, to find how the benefits of lean can be applicable on CM, it is important to state the factors that are that are most essential and have the most effect on the methods. This is why the researcher selected to investigate the essential factors of CM. Essential factors of lean were also investigated which were seen as a prerequisite, in order to know what factors that could help to bring benefits from lean.

It is important to be aware of and emphasize that these essential factors are the result of an investigation and consideration from this researcher. This means that the results

are to some extent depending on the researcher, which means the literature and assumptions that the researcher based its statements on.

The interviews are done in order to be compared with the literature and see if there are any bigger differences. Problems, advantageous and methods are many times totally different from what the literature says and what really happens in the industry.

5.2 Discussion and Analysis

5.2.1 Change Management

Today the world is developing and expanding faster than ever before. Information, technology, transport, everything goes much faster and in order for the organizations to remain competitive and survive they must adapt. All respondents are well aware of this changing environment and know that if they do not change, in the long run, they will not survive. So, change is for the organizations something natural and needed, but there are as much similarities as there are differences in their mindsets and their methods of working with it.

Today's CM-methods have been criticized and needs to be updated. Firstly, this chapter will discuss the defects with the CM-methods and see how lean can contribute with its benefits to make it better.

As seen from different sources, primary and secondary, it is clear that a big issue in the CM-methods is resistance. Resistance can be expressed in different ways, caused by different reasons and by different levels in the organization. According to the literature and the interviews, this is one of the major problems in CM. Reasons and factors to why resistance occur are many, e.g. due to lack of understanding of the complexity with change and too much focus on tools instead of human interactions and relationship (Karp and Helgö, 2008, p. 86). Respondent A from the interview said that it is a common problem that leaders think that all involved understands the change, when they actually do not. One exception from this pattern was the answer from respondent C. Respondent C does not describe resistance as a problem in their organization. Although, the respondent where only talking from his part of the organization (sales department) and could not share further details from the situation in the production area, which for sure would have had an impact on his answer. What is important to share is that, respondent C thought that resistance was not a problem for them because the end users were positive to change, which they became by a well

established groundwork and making sure that they have understood why the change are needed. It should also be added that respondent C was the only respondent that said that they do not have to deal with the question of job security related to changes, since they do not feel threatened in their situation they are in. This factor has certainly an influence to the question of resistance among all the people in the organization.

The literature emphasizes the importance of involving everyone affected by the change. Porter (2011, p. 25) mean that the majority of changes that fail do it because of poor understanding, effort in the people and culture involved in the change. But, when the interviewees described their change methods and factors that are essential in order to succeed with a change, they said that involvement of stakeholder (including end users) is highly important and also something they are working with in every change. Acceptance from the stakeholders is also a condition for the change to be successful. This can be done by involvement, communication and as Porter (2011, p.25) says, understand the change from the user's perspective.

If you summarize the failing factors of CM it is not the methods or any tools that are the source to the problems. Actually, many leaders seek after solutions and methods with the help of tools. But, this is wrong, because it is not possible to put an mechanistic and instrumental approach to human beings, changes and leadership in general, according to Karp and Helgö (2008, p. 86). Both the literature and results from the interviews show that relations, communication, leadership and end users are the factors that are the source of failure. These things are according to several respondents and the literature, the biggest challenges in CM, which can be the answer to why many leaders seek for easier solutions as Karp and Helgö (2008, p. 86) described it. Frankly there are only 10 % of all organizational change that succeed (Oakland and Tanner, 2007, p. 1), it is clear that something needs to be done.

There are in total ten different factors stated by the researcher as the most essential for CM. These factors are the result from the literature and shows both factors that are important and vital in CM as whole, but also factors that are generally the most common reasons to why change processes fail.

1. Understand the problem
2. Understand the need for change

3. Support from all the levels in the organization
4. Targets
5. Resistance
6. Planning
7. Employee ownership
8. Leadership
9. Roles
10. Communication

All these factor can somehow be linked or solved by either leadership, end users and/or communication.

Now that the factors for CM are established, we will discuss how lean can contribute with its benefits in order to solve or help the shortages of CM.

5.2.2 Lean

As seen from the literature, more and more organizations are implementing lean, also all the respondents confirm that they have it or are implementing it. These evidences show that lean is popular and that many organization finds it advantageous to use it. But, according to the literature, what many organizations do wrong is that they implement some tools and techniques and expect to become lean and gain all the benefits of lean, which is totally wrong. This mindset is also confirmed from at least one respondent, respondent B. In their organization, they were absolutely certain that they had lean already, not that they were implementing it, but that they had it and were following the rules of it. Compared to the other respondents that said they were implementing lean, and spoke about, not only tools and techniques, but also mindsets, culture and philosophy. Furthermore, respondent B was the only one that said they could not connect job security with changes. This might be one of the reasons to why

their organization were the one who saw resistance as a bigger problem than the other respondent's organizations.

Lean is not only about increasing the effectively by implementing tools and techniques, it is about the whole philosophy and mindset that is the foundation of it.

The first two factors described as essential factors for CM is *Understand the problem* and *Understand the need for change*. These are required conditions in order for a change to be successful. In lean, it is possible to find clear connections to understanding, teaching and knowledge transferring as some of the essential factors, such as *Understand and Commit, Involve shop floor workers, Leaders must teach* and *Educate and train*.

By involving, continuously teaching, educating and training it is easier to understand if it occurs a problem and why there is a need for change. It should be added that lean advocates standardized work which facilitates the work of improving something and also to enable someone else to learn how to perform the same task. This is though not always possible, such as in an office environment, where there may be different and varying tasks every day.

Leaders or leadership are included in the essential factors of CM and lean. The difference is that CM describes leaders as the one with the major responsibilities during a change and the essence of the role. Lean also advocates the importance of the leader but claims that a leader's most important duty is to teach others. This may also reflect in the situation where lean is about giving the shop floor workers responsibility and freedom to make their own changes and adjustments in their environment. People on the shop floor are the lean experts, this means that the people that are at the shop floor are also the best suitable for making the changes there. This is possible since lean also advocates the sharing of common goals that are long-term thinking, which includes e.g. customer value. The leaders' role is thus to create the long-term goals and shaping a culture that are for all the organization and to continuously learn and teach. All this together with continuously changing with small improvements, are critical pillars in the philosophy of lean.

When end users, or shop floor workers gets the opportunity to make the continuous changes that they need in order to improve their work methods, environment or whatever it is, they are also more involved and willing to conduct in changes.

When respondent A reflected of the differences from its old organization it was more difficult to implement a new change there, compared to the new organization. Respondent A believed that it could depend on the big size of the organization and the long way the decision making had to travel. The advantageous with the new and smaller organization was that the decisions do not have to be made at the highest level of the organization, instead middle managers are given more responsibility and it is more like a flat hierarchy where you can see the leaders among the shop floor workers. *Genchi Genbutsu* as it is called in lean.

Lean philosophy advocates fellowship in a different way than CM does. In lean it is more implied that understanding and knowledge is obvious, and the essential factors are more about *how* to make people understand and willing to change. Communication is obviously the most basically method for sharing knowledge and making people understand, which is included as an essential factor in both CM and lean. But as described earlier, leaders use the method *Genchi Genbutsu* where they go around and follow the work at the shop floor to show interest and to see how things are and work. This behaviour creates a solid fellowship and trust between the shop floor workers and the managers.

Training, teaching and educating, are parameters and methods that are essential for everyone for an organization that wants to become lean. And the existents of lean in all levels is crucial because: "Unless TPS is everywhere in an organization, it is nowhere." (Teresko, 2006, p. 3).

When lean claims that the leaders teaches and educates you may wonder how come all the leaders are experts in the philosophy of lean? The truth is that according to the lean philosophy, people are the most valuable resource (Liker and Meirer, 2007, p. 7). Senior managers and leader in Toyota have one time started as simple workers on the shop floor where they were taught about the philosophy of lean and at the same time the principles and rules of working at the shop floor. This is the source to Toyota's competitive differentiation, that they develop exceptional people (Liker, 2004, p. 299). It takes long time to understand lean, but it takes even longer time to become lean, it is an never ending story.

5.2.3 Summary

If we summarize it, CM has ten different essential factors, which in one way or another are connected to each other. In order for people to accept a change they need to *understand* and *support* it. This can be done by clear *targets*, *planning* and creating the feeling of *ownership*. It is the *leaders'* responsibilities that these factors are accomplished with the help of a robust *communication*. All these actions must be well performed and every stakeholder must be treated as an individual. Otherwise there is big risk that *resistance* occurs, which is one of the most frequent and biggest problem in CM, according to the literature and the interviews. The conclusion is that there are many well functioning methods and theories in CM, but they often burst due to issues with people and relations.

Lean has the advantageous to handle and value great people and relationships in the organization. They create and build up a solid and secure organization from the bottom up. Investing in shop floor workers, educating and training them, so that they one day know and are confirmable with lean and are ready to take a step further to become leaders in the organization. As described in earlier chapters, people are according to Toyota, their most valuable recourse and the source to their competitive differentiation comes from the great people they develop. Shop floor workers gets the trust they need to build up confidence and trust back to other leaders. Understanding the common, long-term goals creates a secure feeling which facilitates cooperation, acceptance and motivation, among everyone in the organization. These are prerequisites for a smooth and successful process in CM.

6 Conclusion

Since this research was not about investigating how to become lean but to see how it may be used to gain some benefits from it to improve CM it is not essential to see exactly *how* they (Toyota, or some other lean organization) do in detail. But looking at an overall perspective, what benefits CM can draw from lean, which are much and many. It is more about mindsets, thinking and philosophy rather than strict methods and rules. As seen in the discussion part, Toyota's most important asset are the people. Continuously improving, allocating responsibilities and investing in education and training improves the conditions of creating an organization where the CM-process is smooth and effective.

In this research there are many examples and discussions around shop floor workers or employees, but in many organization there are no shop floor workers. It is not essential in this case since lean should exist in all levels of the organization in order for it to work. Learning a culture, a philosophy and a mindset is applicable on every organization, with or without floor workers.

The researcher has drawn some conclusions regarding benefits and main pillars from lean that are possible to and should be applied in today's CM-method in order to streamline and stabilize their challenges. These are leadership, communication and people and are the absolute most important factors in an organization and their operations.

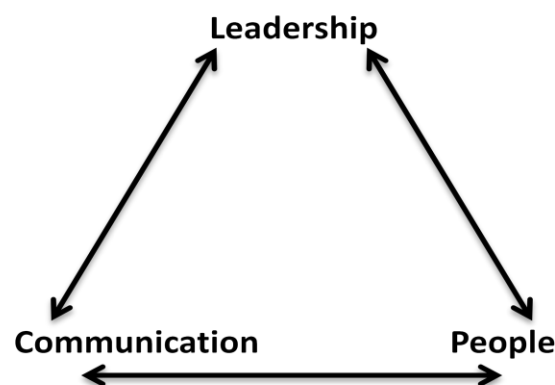


Figure. 7.1 Leadership, communication and people

Finally, the conclusions from this research may not seem to be revolutionary. The hypotheses prior this research could be similar to the results that have been discovered. But just the verification of these conclusions with thoughts and views from a wide range of sources, including managers in Sweden, this shows the need of change and the essence of improvements.

7 Further Research

By putting more time and resources on the study, it could be more reliable and possible to see how some of the improvements would affect the CM-process in a long-term.

An alternative for further studies would be to include case studies which could add value to the validity of the research. And since sustainability is becoming more and more important in our environment, it would be interesting to make a research to see how CM can improve considering the environment.

Another interesting aspect could be to investigate how different cultures responds to the improvements that lean brings to the CM-process that has be revealed from this research. Are they the same, or do these improvements work better in a particular area, if yes why?

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