

Managing a successful SAFe transformation

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<p>The thesis <i>Managing a successful SAFe transformation</i> addresses issues and phases of a Scaled Agile Framework transformation. The need for the research arose from the lack of equivalent studies of such contemporary subject.</p> <p>The objective of the thesis is to clarify and study the factors behind a successful SAFe transformation through a case study of two cases. The thesis' theory is based on previous research on change management and large-scale agile transformations.</p> <p>The qualitative research, carried out through interviews, was conducted by a four-member research team. The thesis and the research were composed during a quarter.</p> <p>It was found, that enhanced prioritising was the most desired outcome of the change, and improving the communication of the change could have a positive impact on the success of the transformation.</p> <p>Opinnäytetyö <i>Managing a successful SAFe transformation</i>, suomennettuna <i>Menestyksekkään SAFe muutoksen hallinta</i>, käsittelee skaalautuvan ketterän kehitysmenetelmän implementoinnin kysymyksiä ja vaiheita.</p> <p>Tämän tutkimuksen tarve nousi esille vastaavanlaisten tutkimusten vähäisyydestä johtuen ja se perustuu aiempiin tutkimuksiin muutoksenhallinnasta ja ketterien menetelmien laajamittaisesta omaksumisesta.</p> <p>Tutkimuksen tavoitteena on selvittää eri tekijöitä menestyksekkään SAFe transformaation takana.</p> <p>Laadullinen tutkimus toteutettiin nelihenkisen tutkimusryhmän toimesta, jotka suorittivat tutkimuksen haastatteluiden avulla. Sekä haastattelut, että opinnäytetyö valmistuivat yhden lukukauden aikana.</p> <p>Tutkimuksesta selvisi, että halutuin asia kyseiseltä transformaatiolta on tehostunut priorisointi ja merkittävimpänä parannettavana asiana on kommunikaatio, johon panostamalla erityisesti muutoksen alkuvaiheessa, olisi muutos voitu toteuttaa tehokkaammin.</p>	
Keywords SAFe, Scaled Agile Framework, Change Management, Transformation	

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1 Introduction

This thesis is part of larger collaborative work between four students, who conducted a series of interviews in two different companies, that have recently transformed to Scaled Agile Framework or are in the process of transforming. Each student has a different aspect on SAFe transformation, and this thesis will concentrate on change management in SAFe transformations.

The thesis has two main parts; theoretical and empirical. The theoretical part examines the literature and studies on the subject, starting with introduction and background, after which the theoretical part will present different approaches to change management and continues with presenting various ways of measuring change and success. The empirical part includes the research and analysis methods used, as well as results of our research. The scope of this research is limited within two large companies, which have adopted SAFe.

1.1 Background

A software development process typically includes various steps from analysis to testing and maintenance. The process of creating and maintaining software systems also consists of used models and methodologies which form a framework for managing the whole process. Currently, traditional development and agile development are the two most implemented methodologies. (Leau et al. 2012)

1.1.1 Traditional software methodologies

Traditional software developing models are based on consecutive sequences of pre-determined phases (Leau et al. 2012). The most popular traditional software development model is the Waterfall method. It remained many years as one of the most popularly used methods. It worked well for the development of operating systems and compilers and was used by many organizations developing large-scale software. (Misra 2007) Nonetheless, traditional methods require relatively large amount of defining and documenting at the beginning of the project, creating a heavyweight and non-flexible process, contrarily to more recently developed models (Leau et al. 2012).

1.1.2 Agile methodologies

Agile methodologies are practices built on the Agile Manifesto (2001) (Appendix 1), and they are based on the idea of incremental and iterative repetition (Leau et al. 2012). Figure 1 pictures the repetitive work cycles of Agile Development (Matrixsoftware 2013). Agile practices aim to offer lightweight software development processes, instead of the heavyweight processes the traditional methods offer (Leau et al. 2012). What makes Agile methods lightweight, is the repetitive nature of the development path. As it can be seen from Figure 1, these cycles continue until the developed product is complete.

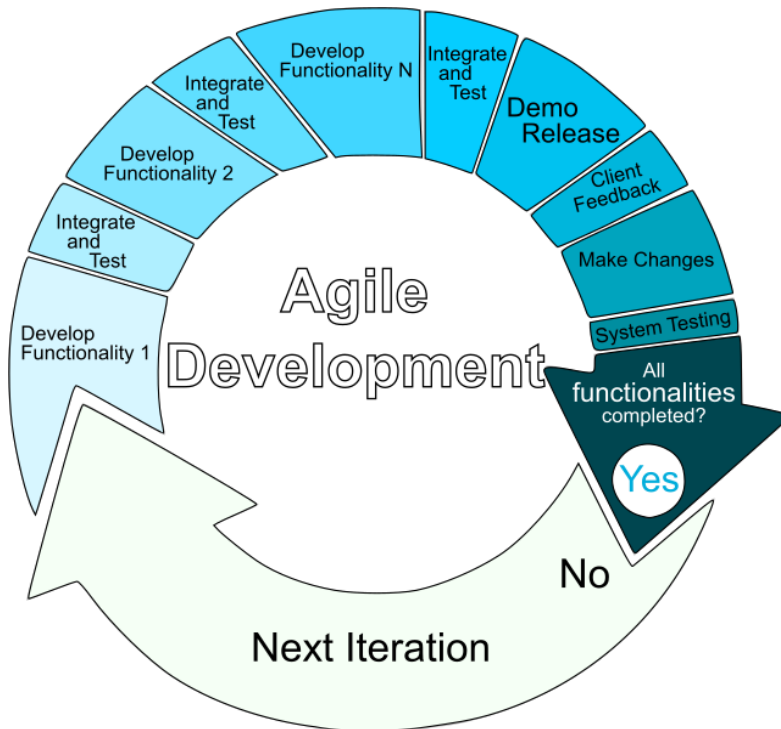


Figure 1 Agile Development Cycle includes repetition of multiple phases, making it lightweight in comparison with the Traditional methods (Matrixsoftware 2013).

Since Agile Manifesto was written in 2001, agility started to supersede traditional methodologies such as the Waterfall approach. According to State of Agile survey in 2014, 94 percent of software development companies were using agile methods in all or some of their teams. (Version One 2015) Similar data about customer organizations cannot be found, but based on the data about software development companies, it can be assumed that the percentage of customer organizations using agile methodologies is also significant.

As the use of agile methods has spread, the method has been adapted to different needs and also larger organizations have started to adapt agile practices, scaled to fit for their size. There are three primary methods for scaling agile; Disciplined Agile Delivery, Large-Scale Scrum and Scaled Agile Framework (Vaidya 2014).

1.1.3 Scaled Agile Framework

Scaled Agile Framework, SAFe, is a software development method based on Lean and Agile principles, designed by Scaled Agile, Inc. and initially developed by Dean Leffingwell. SAFe is a framework, which addresses three or four levels of a company, depending on the amount of people involved. These levels, on which SAFe incorporates lean and agile practises, are the Team level, the Program level and the Portfolio. For larger and more complex implementations, SAFe has the optional Value Stream level. SAFe's biggest advantages are its scalability and modularity, meaning the ability to recombine its components to match individual needs of different organizations.

(Scaled Agile 2016)

1.1.4 Change management and software development

Change management plays an important part in any organizational change and so it does in software development method transformations. An organization has to plan the change, target resources for it and do several other activities in the effort of implementing a new way of working (Paton & McCalmain 2008). Pinto & Slevin (1998) recognize that the key themes of a project success are projects and clients. Both of these main features are divided into three sub-factors, as shown in Figure 2.

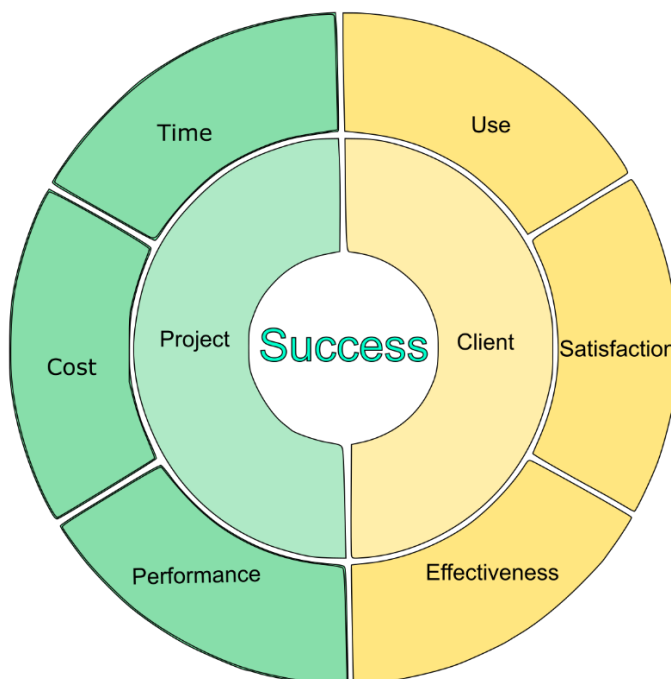


Figure 2 Internal and external success factors of management presented as the Model of Success (Pinto & Slevin 1988)

On the left side of the Figure 2 on the green background, are the internal factors, and on the right yellow side the client-related external factors are displayed. Success, as can be concluded from Figure 2, consists of both internal and external factors. The green factors are the ones which people involved with the project aim to perform daily and the yellow factors are the ones that matter later on. The success of the change depends on the time when the success factors are viewed: seemingly bad projects may later on prove to be successful, and on the other hand, even if the scope and the budget objectives of the project would be met, a change may not be successful. (Pinto & Slevin 1988)

1.2 Reasoning and research questions

Because of the topical interest to scaled agile projects, especially to SAFe, and the lack of reliable published studies of SAFe transformations, a need for a consistent study, in which the transformation was examined, particularly from customer point of view, has risen.

The overall goal of the thesis is to understand how the change management is handled when adopting SAFe approach. Particularly, this thesis will address these research questions:

1. How the change management is organized during the Scaled Agile Framework transformation process?
2. What the company wants to achieve by adopting scaled agile framework and with what methods the objectives of Scaled Agile Framework's introduction and implementation are measured?
3. How does the involvement of human resources influence the outcome of the objectives in transformation to Scaled Agile Framework?

2 Change management

Change management means the tools and processes that resource and direct activities to implement change; it describes the methods that are needed to make the change happen. Change management is not as much concerned about the knowledge transfer and the capacity to manage change in the future, as is organizational development. Organizational development addresses reinforcement and improvement of strategies and processes, aiming to organization effectiveness through a system wide application and transfer of knowledge. (Cummings & Worley 2009)

Change is inevitable and the ability to change is a key factor in success. By effectively managing and exploiting change situations, it is possible to qualify as a winner in the society and the organizational field, as Paton and McCalmain described. (Paton & McCalmain 2008)

2.1 Approaches to change management

Change management is a series of activities, not a one-time function (Richards 2013). These activities are examined in several different models for organizational development and transformation. In this chapter three different approaches for organizational change are presented: Kotter's steps, Kurt Lewin's model and Burke's approach.

2.1.1 Kotter's Eight Steps

One of the most popular one is probably Kotter's (1995) model of renewing organizations. Kotter (1995) argues that a consistent, holistic approach must be taken to efficiently and successfully change an organization and the workforce. Kotter offers eight steps to transform an organization;

1. *Create a sense of urgency* – establishing a sense of urgency and helping others to see the need for a change is essential in creating cooperation to drive the transformation. Kotter states that over 50 percent of companies fail at the first phase as a consequence of the challenges of driving people out of their comfort zones or for the reason that they lack patience.
2. *Form a guiding coalition* – the change can only be handled as a mutual effort, not single-handedly. A transformation ought to be led by a powerful coalition of capable people and this mass of capable people should be achieved early in the effort, or nothing significant happens. In addition to a dynamical and supportive head of organization, the optimum coalition consists of people with a powerful title, reputation and expertise. Organizations failing in phase two often underestimated the difficulties of producing change and therefore took the forming the strong coalition too lightly.

3. *Create a vision and strategies* – an objective is only as good as it is easy to communicate to employees, customers and stockholders. Kotter argues that “if you can’t communicate the vision to someone in five minutes or less and get a reaction that signifies both understanding and interest, you are not yet done with this phase of the transformation process.”. In failed change efforts, there are plenty of plans, directives, programs and also a lack of vision.
4. *Communicate the new vision* – in order for the transformation to be successful, hundreds or thousands of employees need to understand and accept the change. The acceptance will not be achieved if the change is not communicated often and a lot. The most effective communication is done by actions, preferably by a respected executive.
5. *Empower people and remove barriers* – a guiding coalition empowers others to act by communicating about the change well and showing the new direction, but communication by itself is not enough. Barriers and obstacles need to be removed so people can get involved with the change. Barriers can be built by narrow job categories or performance-centric rewarding systems. No company has the resources to remove all the barriers especially in the beginning of the change, but the major ones should be treated correctly to maintain credibility of the transformation.
6. *Create short-term wins* – Short term objectives are necessary for maintaining the momentum. Without the impression of gaining small victories, large quantity of people lose interest in the change effort. With this in mind, managers should actively search and achieve goals and reward people involved.
7. *Consolidate improvements and create more change* – the temptation to declare victory after years of hard work is obvious but should be resisted. Companies are often compelled to get over with the change after a large project or implementation succeeds. It is not until maybe five or ten years until the changes sink in to company’s culture, and it takes patience to be able to resist the temptation to declare the transformation to be finished.
8. *Institutionalize new approaches* – there is a danger that new practices will be forgotten after the pressure of change is lifted off. The transformation still needs to be consciously promoted by showing people how the new attitudes and approaches have helped to improve performance. It also needs to be made sure that the second generation of top managers are on the same page with the new way of the company, in effort to avoid setbacks for example by hiring in accordance with the old ways.

Kotter analyses these eight steps to be the ones where most mistakes are made, and by failing in one of these a company is most likely to fail the entire change effort.

2.1.2 The Kurt Lewin Model of Change

One of the earliest theories is Kurt Lewin’s change model. (Cummings & Worley 2009) In his model Lewin describes three phases; unfreeze, move and refreeze. (Lewin 1951)

1. *Unfreezing* involves preparing the organization for change by establishing a sense of urgency. The first phase is supposed to motivate organization members to engage in change activities by showing discrepancies between behaviour currently exhibited in company and desired behaviour in the company.
2. *Moving* phase is about coaching, training and mentoring people as they go with the transformation. The goal is to develop new behaviours, values and attitudes for individuals, departments and organizations.
3. *Refreezing* stabilizes the new way of the company. Establishing a new balance is reached by rewarding and reinforcing wanted behaviour, attitudes and also the values the company emphasizes.

Lewin's three-phase model offers a general framework for understanding organizational change. Compared to Kotter's eight phases of change, Lewin's three steps are rather broad. Nonetheless, Kotter's eight steps can be mapped onto Lewin's model. As seen in Table 1., unfreezing consists of Kotter stages from one to four, creating a sense of urgency, forming a guiding coalition, creating a vision and strategies, and communicating the new vision. Kotter's fifth and sixth phases empowering people and moving barriers, and creating short-term-wins form Lewin's second step "moving". Refreezing includes Kotter's final two phases, consolidating improvements and creating more change, and institutionalizing new approaches. (Cummings & Worley 2009)

Table 1. Kotter's Eight Steps mapped to Lewin's Three-Step Model

Create a sense of urgency	Unfreeze
Form a guiding coalition	
Create a vision and strategies	
Communicate the new vision	
Empower people and remove barriers	Move
Create short-term wins	
Consolidate improvements and create more change	Refreeze
Institutionalize new approaches	

2.1.3 Burke's Seven Phase Model

The third model is the Warner Burke model which describes the organizational change process in seven phases which a company typically encounters during a transformation process. (Burke (1994) in Paton & McCalmain 2008)

1. *Entry* – this initializes a communication between a company and a consultant. Typically, an organization recognizes the need for change and initiates the contact. Both parties involved will search the issues and establish a rapport for working on the change. Both the company and the consultant needs to be sure that they are going to be able to work with the other
2. *Formalizing the contact* – a two-way process where not only the consultant clarifies what they intend to do but also the company explains what it is contracting to do.
3. *Information gathering and analysis* – this phase starts after a successfully negotiated contract. The consultant initiates the contact to begin the diagnosis phase which purpose is to gather necessary information and to make sense of it.
4. *Feedback* – after the consultant has analysed and summarized the gathered information, it will be presented to the company. The data needs to be understandable for the organization's members to be able to take action based on the information. The objective in this phase is to raise discussion in addition to two other basic elements, that should be presented in the feedback session; the data gathered and the initial analysis.
5. *Planning the change process* – fifth stage of the organizational development model will take place after the feedback session once there is a better picture of what steps are likely to be needed in the transformation. The objective in this phase is to see what alternatives there are and which one is the best way to proceed, based on the feedback given.
6. *Implementing the changes* – after a consensus of the action needed has been reached, implementation may take place. Warner Burke suggests that the consultant should also be involved in this phase, since a company by itself easily is impacted by those objecting the change.
7. *Assessment* – the final step of the transformation process is to evaluate the results of the change. Final phase examines what has been done, what is the current state of an organization and what steps should be taken in the future in order to continue the development.

In comparison with the two previous models, Warner Burke emphasizes an effective internal or external consultant and collaboration with him/her throughout the process. This will be discussed more closely next.

2.2 Change agents

“Organizational development refers to a long-range effort to improve an organization’s problem-solving capabilities and its ability to cope with changes in its external environment with the help of external or internal behavioural-scientist consultants, or change agents, as they are sometimes called.” (French 1969)

As Warner Burke (Burke (1994) in Paton & McCalmain 2008) strongly emphasizes consultation throughout the change process and Wendell French (1969) includes change agents in the very definition of organizational development, they certainly deserve a closer examination. Basically, change agents are assisting an organization to become more effective (Cummings & Worley 2009). This role of a consultant acting as a facilitator of change is one of the keystones in a successful change process. In Version One’s survey (2015) having agile consultants or trainers and having an internal agile support team are listed as fourth and fifth factors on easing the scaled agile transformation. An outsider, or an internal figure from a different part of the organization, is often needed to move a company, or a part of it, to its new direction (Paton & McCalmain 2008).

Helping senior executives to create a vision of the company’s future is essential in redirecting the organization’s route, and it is also one of the key responsibilities of a change agent (Cummings & Worley 2009). As earlier argued in Kotter’s Eight Steps’ phase three, in failed transformation efforts there are often plenty of plans and programs, but no vision. In addition to assisting the vision creation, change agents are crucially needed in minimizing the resistance to change (Paton & McCalmain 2008).

2.3 Communication

With the intention of overcoming the resistance to change and to make the transformation effort as smooth as possible, credible communication should be open and there should be plenty of it (Kotter 1995). Generally, resistance occurs when people are uncertain about consequences of the change, and a lack of adequate communication feeds speculations and uncertainty (Cummings & Worley 2009). In Version One’s State of Agile survey 2015, one third of the respondents stated that one of the reasons their agile project failed was due to “a broader organizational or communications problem”.

Fry and Greene (2007) argue, that providing radical transparency on every aspect was the key to their successful SAFe rollout. They over-communicated the vision and plans to everyone, in addition to sending daily metrics to people involved. This information sharing and

communication with everyone was critical for the transformation, because it offered a chance to adapt on a daily basis. (Fry & Greene 2007)

2.4 People involvement and empowerment

Change management is about people management, and in addition to openness and communication, people involvement and empowerment are equally important (Paton & McCalmain 2008). The main characteristics of involvement are distribution of power and a scope of decision making (people should make decisions on matters that they should be affecting). These two elements are theoretically linked, as a result of that without the required authority to implement decisions, the scope of decision making is also most likely rather limited (Morgan & Zeffane 2003).

Fry and Greene (2007) list involving more people early on as the first thing they would do differently next time in an agile rollout. A dedicated, fully empowered agile rollout team, built from each section of the organization, is a key element in a successful SAFe transformation. Fry and Greene also suggest running an open space meeting early in the process in order to involve everyone up front, for example by having everyone put their top three issues on sticky notes, group them into topics and resolve them. (Fry & Greene 2007)

Because agile teams rely heavily on trust, having a so called anti-change agent or a non-player can easily disable an agile team (Boehm & Turner 2005). Involving and empowering employees increases trust and commitment to the change (Paton & McCalmain 2008). Contrarily, it can be concluded that poor involvement will lower the motivation and make employees less committed to the change and to the organization. Thus, if not handled correctly, a change process may have a negative influence on a company, not just from the development point of view, but also in overall atmosphere. In order to avoid the resistance to change, it seems that organizations under transformation should actively maintain and create trust by empowering and involving people, explicitly emphasize transparency and communication.

3 Measuring change

Not all transformation efforts are successful, some fail miserably and most fall between success and failure. How can we measure a transformation which is neither a triumph nor a fiasco? There seems to be a lack of research about measuring the success of a transformation and change management (Kotter 1995). According to Kotter (1995), fewer than 15 out of 100 or more companies accomplish their transformation objectives, which means that at least 85 percent of transformation efforts fail. There can be many reasons for failure, and in the following chapters we are going to discuss how different aspects of measuring the change can be used to identify such problems.

3.1 Measuring agility

International surveys about agility are conducted by a few parties. Version One conducts a consistent State of Agile survey annually since 2007 (Version One 2015) and Amblysoft performs surveys once or more every year about different aspects of agility (Ambler n.d.).

Measuring the success of an agile transformation is really about measuring the success of the exchange between IT and Business, as well as between the Business and its external customers (Cuenca 2015). Scott Ambler's survey reveals that while most of the respondents have had experiences about successful agile adaptations, also 15% have never succeeded in any agile initiatives (Ambler 2012).

It is reasonable to measure agility with different value indicators based on the time period of the change. One logical division is to measure short-time success and long-time success. The latter is more likely to include economical results and short-term indicators naturally focus more on metrics that can be seen on a daily or weekly basis. As Baker, Fisher and Murphy state in Pinto & Slevin (1998), in the long run what matters is whether all the parties affected by a certain project are satisfied. According to State of Agile survey (Version One 2015), velocity is the most commonly used metric that measures success on a day-to-day basis. Other widely used short-term agile characteristics are iteration burndown, release burndown and planned versus actual stories per iteration. The term *burn-down* refers to tasks still to be done in relation to the time left.

3.2 Transformation objectives

Regardless of the size of an organization, when it is undergoing a transformation the main objective is often the same: “to make fundamental changes in how business is conducted in order to help cope with a new, more challenging market environment” states Kotter (1995). What Kotter said can also be applied to agile transformations. In Version One’s State of Agile survey (2015) which gathered the answers of 3925 respondents, there are multiple reasons listed for adopting agility. The reasons for a company to transform into agility can also be viewed as the problems of previous models they are addressing and new objectives hoping to fulfil.

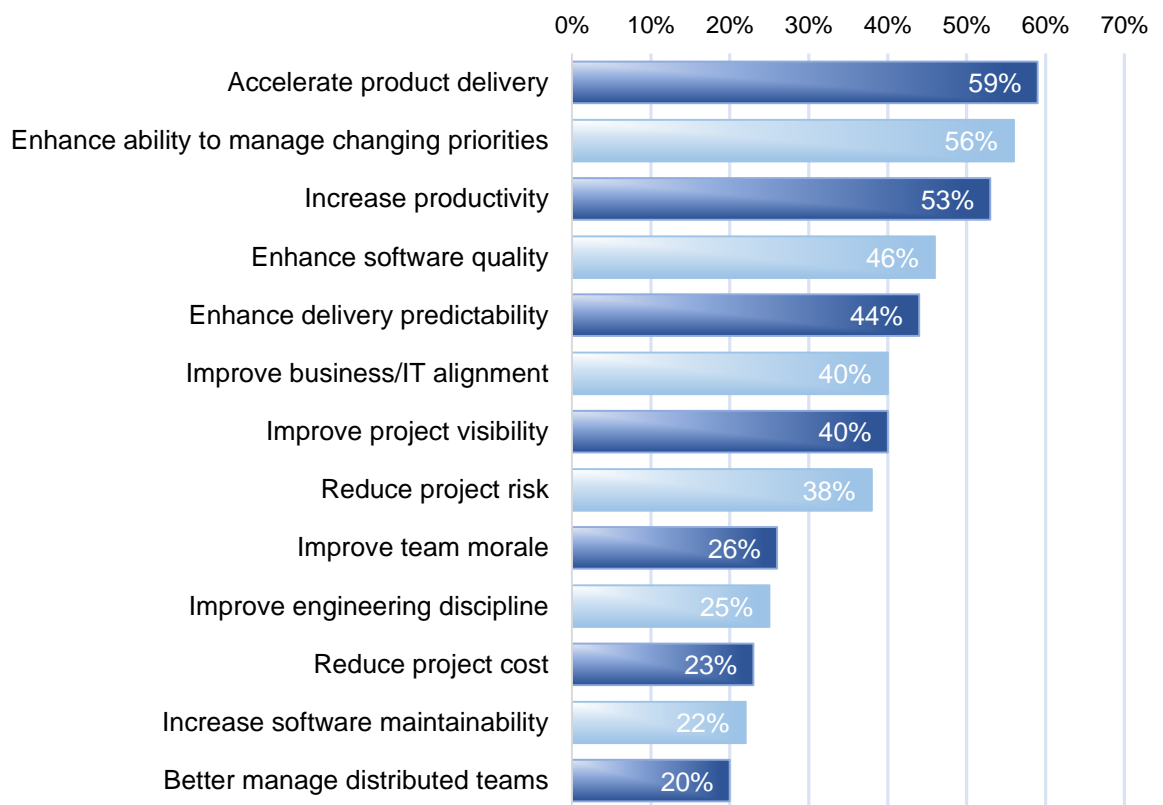


Figure 3 Reasons for adopting agile, answers to a survey on Version One (Version One 2015)

Based on the Figure 3, it can be concluded that the three main objectives for agile transformations, as well as SAFe transformations, are accelerating product delivery, enhancing ability to manage changing priorities, and to increase productivity. These objectives indicate the flaws in previous development methods, suggesting that they have been too slow and stiff.

3.2.1 Critical Success Factors

In order to reach the wanted state of an organization there are many factors to be taken into account. Critical success factors, CSF, are objectives that are critical for a business to meet to drive an organization's strategy forward. Effective CFS is something that is vital to a company's success and also benefits the organization or a department as a whole.

(Reilly 2016)

El Hameed et al. conducted a qualitative study in 2016, where they grouped the critical factors of success from previous studies and match them with their relative agile principles, to illustrate the most valuable ones. The most valuable people factors turned out to be education & support and customer centric issues. The next most valuable people factors are management style and communication skills. Education, for example, includes team learning agile techniques and applying them to non-agile companies. Organizational factor valued the most is Corporate Culture, which refers to the importance of a change of the atmosphere and mindset along the agile adoption. Regular delivery of software was credited as the most valuable factor process-wise, and the next valued process factor is concerned about effectively gathering the requirements. (El Hameed et al. 2016)

3.2.2 Key Performance Indicators

Key Performance Indicator, KPI, is an indicator that shows easily recognizable metrics that are meaningful to the customer. A typical KPI is delivery time, measured from the accepted customer request until production delivery. Measuring the effectiveness of the agile transformation can be done by analysing how KPI values over time compared to their respective thresholds. (Cuenca 2015)

Version One's survey shows that more than half of respondents assess the success of their agile initiatives by on-time delivery, as seen on the Figure 4., whereas 11 percent don't even know how the success of agility can be measured. A vast majority of the factors listed in Figure 4. could also be Key Performance Indicators. For example, all of the top four value indicators seen in Figure 4. could be used measuring SAFe's success as KPIs.

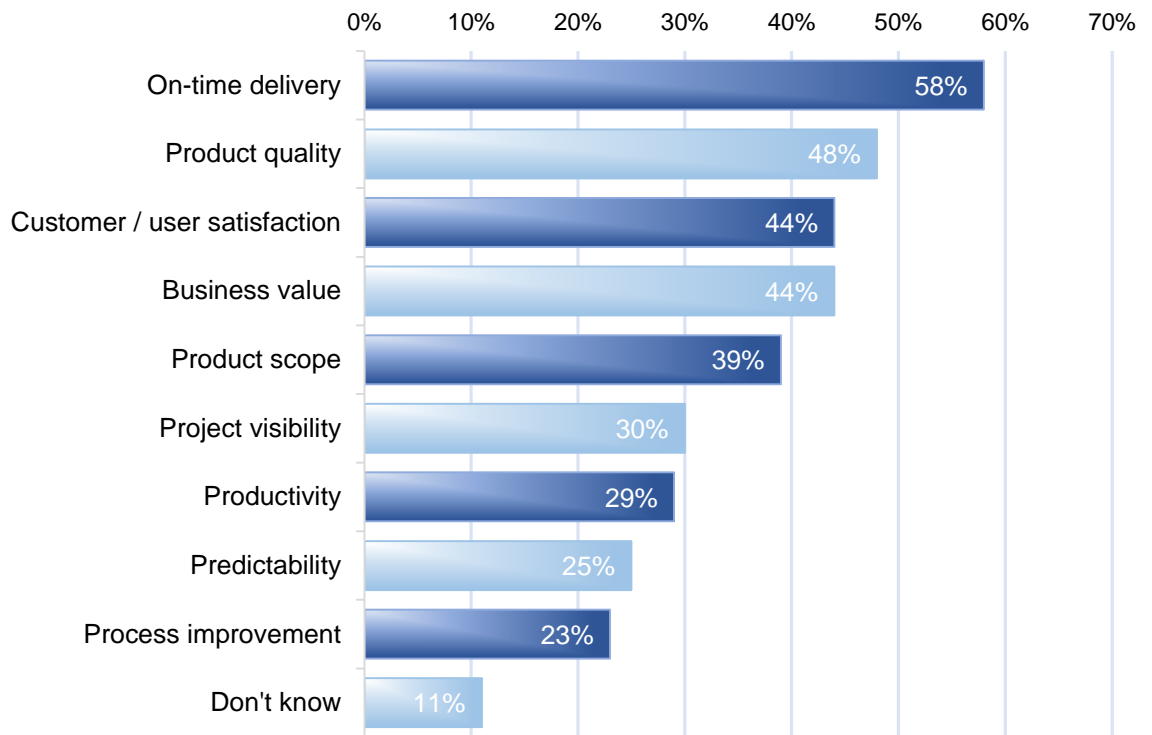


Figure 4. How is success measured with agile initiatives? Answers to a survey on Version One (Version One 2015)

3.2.3 Return on Investment

The reason for studying Return on Investment, ROI, is to demonstrate the business value of using agile methodologies (Rico 2008). ROI can be affected by risk, time and other factors and amongst those “other factors” is also whether or not a company is agile (Kelly 2016). ROI can be divided on qualitative soft-side ROI, such as improved morale through agility, and quantitative hard-side ROI, which could be for example the previously mentioned business value in Figure 4 (Rico 2008).

ROI basically evaluates an investment’s efficiency by calculating the ratio between net return and investment (Kelly 2016), although there are more than one way of calculating ROI, it is in this thesis presented as follows;

$$ROI = \frac{Net\ Profit}{Investment}$$

(Farris et al. 2010)

Organizations may be efficient on installing changes, but often lack on achieving implementation and the important Return on Investment. Paula Alsher (2012) states that one of

the major impediments to transformational change ROI is the false notion that getting a project installed would be the same as implementation, when in fact it is not. Installation means that a new process has been communicated, and getting the system up and running naturally creates a sense of accomplishment. However, if transformational change success is measured by installation, there will be a lack of behaviour change as well as ROI. (Alsher 2012)

Alsher (2012) claims that to achieve implementation, there are five ways a project success should be measured, and to have a successful implementation, all five of these aspects should be accomplished:

- On time
- On budget
- All technical objectives met
- All business objectives met
- All human objectives met.

These five aspects are aligned with what Pinto & Slevin summarized about project success aspects being time, cost and performance (Pinto & Slevin 1988). They also emphasize the client side by mentioning usage, satisfaction and effectiveness, which can be mapped onto Alsher's human and technological objectives.

4 Hypotheses

This hypothesis of a successful SAFe transformation is based on the theoretical background. The hypothesis is assembled of the combined findings of previous publications.

The first hypothesis is based on the studies in the chapter 3 “Measuring change” and its subchapters. The hypothesis concerning a successful SAFe transformation is presented below in Figure 5.

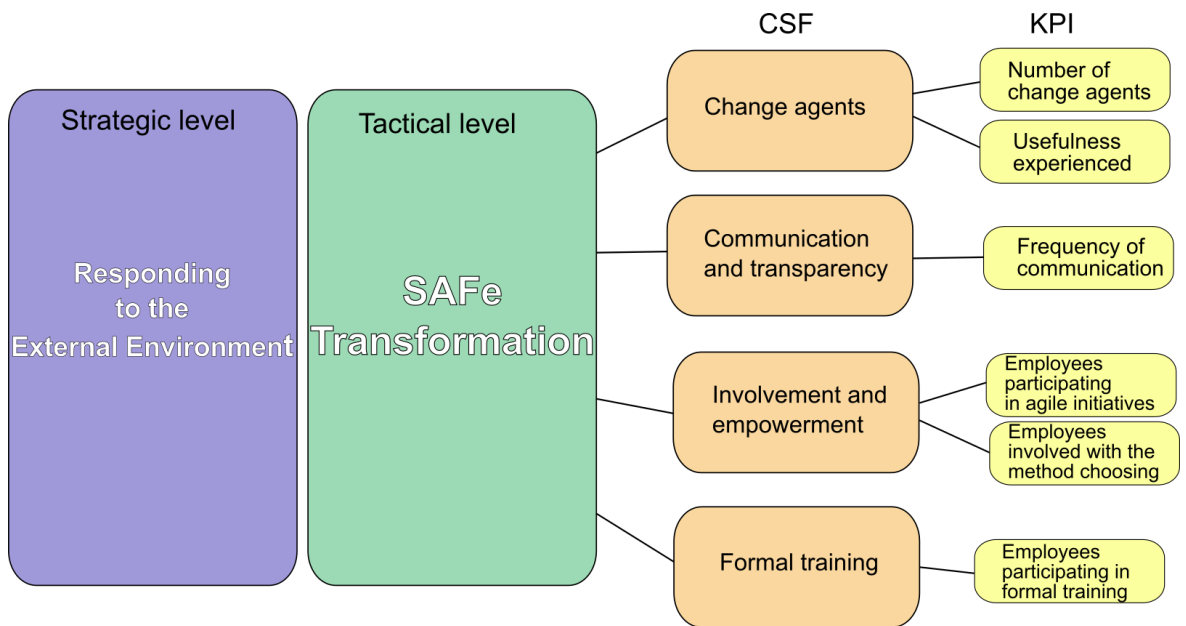


Figure 5 Hypothesis of a successful SAFe transformation

An organization initiates a SAFe transformation in order to respond to the changing environment and market situation, these strategic and tactical levels are pictured on the left in Figure 5. Critical success factors in this change are presented on an orange background, for example, in this thesis change agents and formal training are considered as major aspects in the pursuit of a successful transformation. CSF’s are then derived into Key Performance Indicators. For example, a CSF “Change agents” is derived into KPIs which are the number of change agents, and how useful the employees thought the change agents to be.

The second hypothesis is that in order to perform a successful SAFe transformation, an organization carries out the change with the well-tried John Kotter’s change model.

5 The research and methodologies

The purpose of this chapter is to clarify the methodologies and types of analysis applied in our research and justify the chosen processes and methods of this thesis.

There are two main methodologies for the process of gaining information; qualitative and quantitative research. Quantitative research is a method where a theory, composed of variables, is measured with numbers and analysed with statistical techniques (Abavi 2008). To simplify the definition, quantitative research is interested in numerical outcome. Because the research questions of this thesis cannot be answered numerically, qualitative method will be applied.

5.1 Qualitative research

In contrast to quantitative research's statistical approach, qualitative practices are interested in questions about:

- What?
- Why?
- How?

This being a rather rough description, because qualitative research is not a narrow study, but it includes a wide range of methods and approaches. It has a rather flexible design and the method of executing qualitative research depends of various different factors. For example, the objectives of a research and the characteristics of research participants are both influencing aspects. Also the researchers themselves, depending on their position and environments, are influencing on how the research will be carried out. Despite the wide spectrum of qualitative approaches, there are several common characteristics of qualitative research. For example, the common goal of providing an in-depth and interpreted understanding of the world of research participants, and producing an output that includes detailed descriptions of the studied phenomena. (Ritchie & Lewis 2003)

Issues with qualitative research are concerned with reality as well as ways of learning and knowing about the world. There is a debate about whether an external reality exists independent of our beliefs or understanding or not, meaning that we cannot be sure what there is to know about the world. Researcher can never be purely objective, because they always have some amount of base-knowledge, and approaching research data with a blank mind is virtually impossible. Even if there is no hypothesis to test, the generated

data will always be influenced by assumptions derived from previous experiences of work and life. (Ritchie & Lewis 2003)

Regardless of the profound issues of qualitative research, it is the most suitable approach for answering the research questions of this thesis, where the interest is focused on “what?” and “how?”. The problems and limitations of this type of research will be acknowledged in planning and conducting, as well as interpreting the research and its results.

5.2 Interview as a qualitative research method

Observational methods, semi-structured and in-depth interviews, and focus groups are all methods of qualitative research (Ritchie & Lewis 2003). A reasonable choice for a qualitative research method is interview, where the research questions can be properly addressed. There are various types of different qualitative interview methods, of which Myers and Newman mention:

- Structured interview, where interviewers follow a complete script. These types of interviews are often used in surveys.
- Unstructured or semi-structured interview, where there is an incomplete script and some room for improvised questions also.
- Group interview, which can be structured or unstructured and where two or more people are interviewed at the same interview. (Myers & Newman 2007)

The choice for this thesis' data gathering method is a semi-structured, face-to-face interview. In consideration with the quality of this thesis and the addressed research questions, this choice appeared as a natural approach. A few other types of interviews were lightly considered before making the decision about a face-to-face interview, which seemed to be best suited and in line with the objectives of the research group. Given the characteristics of the research questions, slight social nuances and spontaneous responses are considered important for gaining honest and truthful research data, as Opdenakker (2006) describes some of the advantages of a face-to-face interview to be.

The semi-structured design was chosen for reaching a conversational progression of the interview and to have a possibility to address whatever may emerge during the interview session, while having well-prepared questions. In this case, to ease the process, interviewers did not take notes during the interviews, but the interview was recorded with the consent of the interviewee. Although, it might be useful to take notes during the interview, in order to keep up with the issues handled.

In a semi-structured face-to-face interview situation, the interviewer has to formulate the questions in accordance with the interviewees answers, to maintain the conversational nature of the interview. This means, that the interviewer has to listen the responses and to keep the questions to be asked in mind at the same time. (Opdenakker 2006) In the performed interviews, this aspect required an extra concentration, but did not prove to be a major problem.

There are many other challenges in a semi-structured interview, and one of the significant issues regarding our interviews can be the lack of trust. The interviewee may not feel comfortable with sharing his or her opinions openly with the interviewer. As the interviewer and the interviewee are strangers to each other, the interview situation is not as genuine as would be preferred. The artificiality of the interview is caused by the time pressure of answering questions and forming opinions in a pre-defined schedule. (Myers & Newman 2007) All of these factors affect the reliability of the data, and therefore the results are also influenced.

6 Research target and implementation

The research for this thesis was in the form of a case study of two cases. The nature of the research questions and a fact that they address a contemporary phenomenon are valid reasons for choosing a case study approach (Yin 2009). The two cases in question were chosen because in both of them SAFe transformations were ongoing, which allowed us to gather the data needed in order to answer the research questions.

6.1 Before the interview

The companies involved in this research were contacted, and requested to participate in the research. We had priori information about some organization using SAFe, and thus were able to contact them directly. Two large corporations, which both were in the middle of a SAFe transformation, agreed to participate in the research. We agreed on interviewing four people in each organization. From both organizations we interviewed a manager, a business representative and two project participants such as developers or software architects. By interviewing people with equivalent positions, we wanted to achieve a coherent starting point. The interview script, presented in Appendix 2, was drafted through cooperation.

6.2 During the interview

The research group, composed of English and Finnish speaking students, performed the interviews in a four-week window, during which each student interviewed two persons. In both companies, the corporate language was English but all the attendees were Finnish natives. As a result, half of the interviews were carried out in English and the other half in Finnish. For each interview, there was a student and a thesis supervisor whose role was more observation-oriented. Two hours were reserved for an interview, and each interview lasted average one and a half hours. In the beginning of each interview, the interviewee was asked a permission to record the discourse, and all of the attendees were willing.

6.3 After the interview

The collected data was transcribed from the taped interviews and further processed into the form of observation lists. After the interviews, the scripts were further examined in order to find out the most important issues for this thesis. These chosen questions are written in blue in Appendix 2. The created observation lists were coded by finding common

factors in the answers of chosen questions, and grouping them based on the selected themes. In this thesis, the data was coded with grouping the answers by a positive or negative nature of a response, and/or through frequently occurring key words, depending on the quality of the matter. Through this process, several trends were found. To maintain the confidentiality, after the transcriptions and observation lists were created, all the audio files of the interviews were downloaded into an e-learning system and deleted from the original storage places, which were either a phone voice memo or a recording device.

6.4 Reliability of the research

To examine the success of the study, Myers and Newman's guidelines (Myers & Newman 2007) set a fairly comprehensive benchmark for an excellent performance of the interviewer:

1. *Situating the researcher as actor.* Myers and Newman recommends the researcher to situate themselves and the interviewee, with questions about one's background and role. As it can be seen in Appendix 2, we had prepared preliminary questions about the interviewees background and role. Also in the beginning of every interview situation, our research purposes and interviewers background were briefly introduced.
2. *Minimising social dissonance.* To put it short, minimising social dissonance means minimising whatever could make the interviewee uncomfortable. To avoid doing this, interviewers aimed for a good first impressions, by dressing up appropriately and using correct language.
3. *Represent various voices.* By this, Myers and Newman suggest interviewing people with varying positions within a company. As previously mentioned in the method part, we interviewed people with varying positions in each of the cases.
4. *Everyone is an interpreter.* The interview leads to creation and reading of texts, as Myers and Newman argue. The interviews led to creation of the transcripts and observation lists on which the results of this thesis are based on. On each step interpretations are made that subsequently affect the final result
5. *Using mirroring in questions and answers.* To carry the conversation forward and to go into detail in some areas, mirroring the comments of the subjects to create a subsequent comment or question was a practice used in the interviews frequently.
6. *Flexibility.* As semi-structured interview was used, the interview was quite flexible. Even though the aim was to go through all the main questions of the interview form (Appendix 2), there still was room for manoeuvre. As long as all the major topics were addressed, the arrangement and depth of handling each topic brought a lot of flexibility.
7. *Confidentiality of disclosures.* As mentioned before, all the recordings and other material were handled confidentially and erased from the original sources after the secure storage of the files in the e-learning system.

Based on the comparison with the guidelines of Myers and Newman, I consider it is safe to argue that the interviews were successfully executed and therefore this is considered valid research.

Because this thesis is one of the four individually produced theses, based on the jointly produced research, all of the group's members' previous experiences and prejudices will be affecting the outcome and results of each finished thesis – although the effect can be minimal, but there will be least some level of impact. This influence can be interpreted as a positive or negative, in relation to a successful research. Firstly, because all of the research group members have their own affected view of the reality, the influence is more gentle altogether than the reality of a singular researcher. Secondly, even if every student of the research group will presumably and highly probably steer their own theses in accordance with their subjective reality, the variability in the subjectivisms of the together produced research will bring some advantage in contrast with an individually and solely produced research.

One more important factor to be taken into account, should be the role of the interviewee. The role of the respondent makes a difference and steers the answers based on the experiences and prejudices. Depending on the position of the interviewee, data may be biased.

7 Results and discussion

In this chapter the results gathered from the interviews are discussed in detail. The results are divided in main categories including knowledge behind choosing SAFe, the effect on the whole organization, as well as change agents and the change metrics. The topics and questions which had the least data collected, or which the interviewees had the least knowledge about, are presented in their own chapter *Less known topics*.

7.1 Choosing SAFe

In both cases, the decision about SAFe implementation was based on the shortcomings of the previous Waterfall method, in effort to response to changing market environment and becoming more agile. The main problem most of the interviewees were hoping to address with SAFe was prioritising, which was also the second most desired outcome presented on Figure 3 of chapter 3.2. Other mutual problems SAFe was hoped to solve were scheduling issues and enhancing the estimating business features and criticality. Many employees had high hopes and were hoping for quick results, when after a year or two, realized that the change will take years and a transformation is an ongoing process.

Not one of the interviewees had considered any other method but SAFe. Because of this, it cannot be said for sure that SAFe is the best choice for these companies. It is peculiar how there were not any other options, or at least none of the interviewees knew of. Baring future studies in mind, it would be interesting to find out why organizations might do a decision of this scale without any alternatives. Also, how it affects the whole change, for example, it can be assumed that the justification and reasoning (to others within the company) might be challenging when the decisions are not very well founded.

7.2 Effect on the whole organization

“Understanding that agile impacts multiple departments and organizational standards is crucial to scaling successfully” (Holler & Culling 2010). As one interviewee described, it was not very clear, what was wanted from the business department, and when the transformation started their knowledge about agility or SAFe was relatively narrow. One important aspect for a company considering SAFe transformation is to pay special attention to the target groups of the change. For example, when business department is involved, a training sessions directed for the group’s needs would probably be more beneficial than participating in the same training sessions as the IT personnel, since it is not reasonable

to assume that they would have the same initial information about the subject, nor that the same information would be essential to the different groups with different tasks. Joint training sessions are surely useful, but then the concentration should be more general and broad, and individual sessions should be provided separately for different groups, such as IT.

7.3 Change agents

The most congruent topic of the research was the matter of the change agents. Firstly, all the respondents recognized the change agents in their organization, which can be interpreted as a versatile use of the change agents. Secondly, every interviewee who answered the question about the usefulness of an agile coach, experienced the agents as very useful asset, especially in the beginning of the transformation. Both organizations had internal as well as external coaches and consultants. Change agents were found especially useful in planning and sparring.

While 100 % of the respondents recognized the use of the change agents, and also worked with them, it seems interesting why the communication about the progress of projects or the transformation itself did not reach most interviewees.

7.4 Measuring the change

Probably due to the fact that both transformations were roughly in the same stage, neither organization's subjects had any examples about measuring the change. Future studies in mind, a check-up after a two years might be interesting, and then there also could be actual metrics. Even if any actual metrics are yet to be seen, all the interviewees who answered the question about their organizations current state were in mutual understanding on that the SAFe transformation has definitely been an improvement and are confident it will succeed. The advantage that comes from this kind of atmosphere is more than just a positive view on the transformation, but it also increases the commitment with the organization and perhaps encourages other parts of the organization to embrace the change too.

7.5 Less known topics

In the study of the two cases and analysing the results, one of the main trends found was the lack of knowledge in many questions concerning SAFe transformation. On the other

hand, the lack of answers might not be a lack of knowledge. To some questions which were left unanswered, the reason could be either that the interviewee was reluctant to answer the question knowingly, or unknowingly avoided addressing the topic at issue. The other reason behind an unanswered question may also be a bad question layout, meaning that the interviewer has failed targeting the question properly. I suspect that depending on the nature of a question, reasons can vary. Unfortunately, it is possible only speculate. Future studies in mind, this is an issue where more attention should be paid by properly addressing all questions and observing non-answered issues carefully, in order to find out whether a question is left unanswered because of reluctance, conscious or not, or due to the lack of the interviewee's knowledge, when the interviewer should collect the "I don't know" answer. With four or more interviewees whose answers were not collected about some issues, these questions were the most unanswered ones:

- Project management
- Alignment and involvement of employees
- Common objectives
- Change resistance

The questions can be divided into two groups, where project management, employee involvement and common objectives are closely related to change management and communication, when change resistance is handled as its own entity.

7.5.1 Change resistance

Change resistance can make a difference in the turnout of the transformation, as briefly argued in the theoretical chapter two. One third of interviewees mention, that there was some amount of resistance, while two third do not address the issue. No one specifically denies whether there has emerged any opposition. This indicates, that there might have been change resistance, but it is not wanted to be shared with the interviewer. But then again, there are several indicators about resistance in the answers to question about difficulties encountered during the transformation, which refer to some stage of change resistance experienced. For example, vendors sticking with the Waterfall method despite claiming to have implemented SAFe, was mentioned by a couple of the interviewees. To conclude, the reason for the vast majority leaving direct question about the change resistance unanswered, might be that the interviewees did not consider these difficulties as change resistance. If they had considered and perhaps prepared to face some change resistance of this nature, it might have improved the quality of the transformation and prevented scheduling problems mentioned by half of the respondents.

7.5.2 Management and communication

The questions about change management and project management were also left quite vaguely answered, if answered at all. Only one sixth of interviewees has an idea about how a SAFe project, which they have been involved with, has been managed, while one interviewee pondered, that the overall change was scattered into smaller sections so fast, it is hard to keep up with the purpose and progression of the project. The respondent also stated, that the management has not been very clear and he/she has had to make active inquiries in order to follow the progress and direction of the project in question.

As mentioned in the change management model presentation, the change starts somewhere and at least in the beginning, there should be driving force or a guiding coalition taking the change forward. Four-fifths of the subjects did not know whether there is or has been a driving force behind the adoption or where the idea has originated. Either the information on the change, or how it will be conducted, has not been communicated to the people affected by the change. It seems that in the main, transformation team the communication was plenty, but the information did not spread from the core team, or not enough attention was paid to communicating to the larger audience. It also seems that the business part of the organizations was lesser communicated than the IT. Also the possible training sessions were only directed to IT and technology departments, and the business side was not supported and informed thoroughly. Even still, people were excited about the change and had an enthusiastic approach.

These shortages in communication mean, that if there had been a proper change model to follow, it had not been implemented completely. As John Kotter states in the previously mentioned step four of his change management model – in order for the transformation to be successful, hundreds or thousands of employees need to understand and accept the change. The acceptance will not be achieved if the change is not communicated often and a lot. A majority of interviewees also mention that one thing they would like to be done differently, is increasing the communication and information, especially in the beginning of the transformation. Based on this, communicating the change in both cases has not received enough attention. Also when asking how has the management supported the implementation, only one sixth answer was positive. Perhaps also this is an issue which could be solved by improving the communication.

One interesting aspect was the employee involvement and empowerment. None of the regular project employees had any knowledge or opinions about the involvement of employees, but one third of interviewees thought that the empowerment on the other hand

has improved and that they have had more decision making power and were very excited about that.

Perhaps the most surprising issue in communicating the transformation is that even if the project objectives seemed to have reached some of the interviewees, only management knew what the common objectives of the SAFe transformation were. When inquiring whether there is something a person would want to be done differently in the transformation, one third hopes that there would have been more information and communication in the beginning. As emphasized in the three change models presented, creating and communicating the new vision and objectives is one of the key things in a successful transformation.

7.6 Testing the hypotheses

The hypotheses presented previously in chapter 4 are now tested against the gathered data. The hypothesis suggested the successful SAFe transformation to be a combination of well implemented change management model, such as John Kotter's model of change, and Critical Success Factors and Key Performance Indicators presented in Figure 5. Since the both cases studied are still carrying out the transformation, their success is yet to be determined, but because all the interviewees felt that the change had been fairly successful so far, they can be considered as successes at this point.

The differences between Figure 5, the hypothesis based on the theoretical background, and Figure 6, the model based on the results of the gathered data, are one added CFS and five new KPIs. The added CFS is "Well-founded choice", which means the reasoning behind the decision of choosing the specific framework. KPI "Employees involved with the method choosing" was removed, because there was no data about the subject, indicating it was not considered as a key factor in the transformation by the interviewer or by the interviewee. KPI "Number of change agents" was altered to "Number / reach of change agents", because the influence of the change agents was found to be as significant as their involvement and distribution across the organization. The involvement of the change agent itself is not sufficient to guarantee a successful change management, but their influence and reach across the organisation is vital for the change. The five added KPIs, highlighted in Figure 6, are:

1. *Grounds for the selection (of the chosen method)*. This means that there should be carefully thought justifications for the chosen method, and these reasons should also be communicated within the company.

2. *(The chosen method) compared with n different methods.* The decision on a suitable method is questionable if there have not been any alternatives. In order to produce a valid reasoning behind the decision, there should be options to choose from. This phase would also clarify the vision and objectives, which should be communicated within the company.
3. *Communication before the transformation starts.* The amount of communication before the implementation starts is also important in order to be able to launch the method change smoothly and in order to make sure the plan and the objectives are also clear for everybody who will be involved with the change.
4. *Decision-making power.* The amount of responsibility distributed to employees is an important factor in creating a good atmosphere of the transformation and to commit people to the change.
5. *Variety of formal training.* The variety of formal training refers to the different approaches of training directed at major parties of the change and the new way of working.

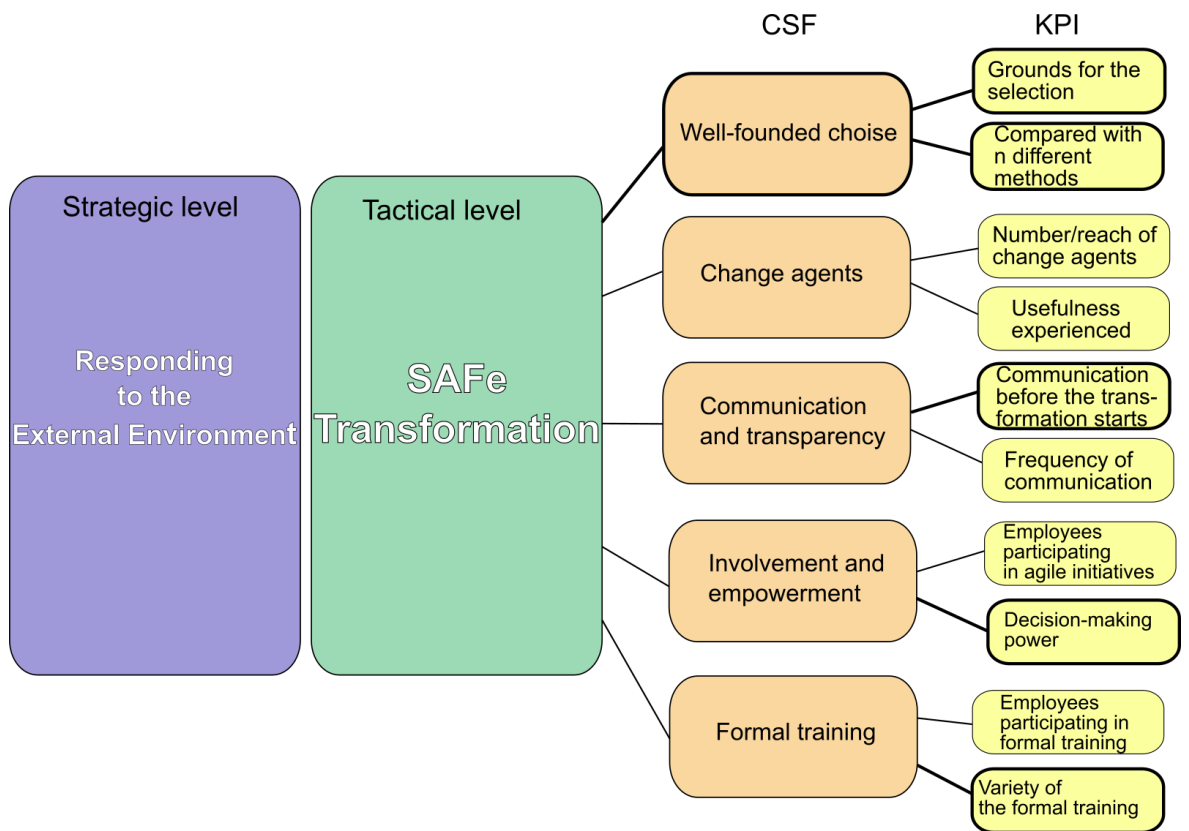


Figure 6 Results of a successful change management in SAFe transformation

Based on the research data, following a change model with precision, as opposed to what seems to have been the case in these organizations, implementing the change could have been smoother. Because, then the challenges emerged in the data analysis would have been addressed and likely prevented. Therefore, it can be presumed that the hypothesis about using a change model is correct.

8 Conclusion

The selected methods for this case study, face-to-face interviews and the method for analysing the data, proved to be good decisions in order to gather and examine precise information. The successful study design facilitated the execution of research and analysis. In addition to validity, as compared to Myers and Newman's guidelines presented in chapter 6.4, this research also meets the requirements of reliability.

The main findings of the research are the insufficient communication of the change, more valuable than expected change agents and the unexpected unreasoned decision about choosing SAFe. Also the most coherent objective of the change, interviewees hoped to gain improved prioritisation through SAFe. In these two cases, the atmosphere was nevertheless very excited and supportive, but the overall change could have been improved with communicating the reasoning and objectives behind the change. Measuring the change after two years of implementation was too soon as the change process is still on the way.

The third research question of this thesis "How does the involvement of human resources influence the outcome of the objectives in transformation to Scaled Agile Framework?" could not be answered, because not enough data was discovered on the issue. It was found that the empowerment had a positive effect on the atmosphere, but the lack of the data about involvement and the effect it might have had is too little to study. This could be something to do research on in the future.

In addition to the matter of involvement, the suggestions for future studies as mentioned are:

Selecting the framework. Why organizations might do a decision of this scale without any alternatives, could it be because there is not enough information available or is SAFe just the "only option" for scaling Agile, and if it is, why? Also, how it affects the whole change, for example, it can be assumed that the justification and reasoning (to others within the company) might be challenging when the decisions are not very well founded.

Measuring the change. Since both cases were in the process of transformation, there were no metrics yet to be compared. Perhaps a study on subjects with three or more years' experience with SAFe would produce more comparable data between the previous methods and the new way of working.

Communicating a SAFe transformation. There seemed to be relatively many shortcomings with communicating the change, so it would be interesting to study how much the commu-

nication alters the results of the change and if a thorough communication starting from before the change could speed up and enhance the transformation process, or if there still would be the same amount of change resistance.

The study has revealed several important aspects of conducting a successful SAFe transformation. The true success of the SAFe transformations within the two study cases considered in this thesis will be seen in the future, when more time has passed since the changes were initiated.

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Appendices

Appendix 1. The Agile Manifesto

The Agile Manifesto

Individuals and interactions	<i>over</i>	processes and tools
Working software	<i>over</i>	comprehensive documentation
Customer collaboration	<i>over</i>	contract negotiation
Responding to change	<i>over</i>	following a plan

While there is value in the items on the right,
the items on the left are valued more

Beck, K., Et. Al., 2001. Manifesto for Agile Software development. Agile Alliance, p.1-2.
Available at: <http://agilemanifesto.org>.

Appendix 2. The interview form

Interview Question Group	Interview Questions	
1 Interviewee role and background	1.1 What is your current role?	
	1.2 How long have you been in this project role?	
	1.3 How many people in your team?	
	1.4 What is the team structure? Separate roles for testing, development etc.?	
	1.4.1 How skilled are your team members?	
2 Project - the pilot (development) project or method implementation project?	2.1 What type of project?	
	2.1.1 Complexity of solution?	
	2.1.2 Criticality?	
	2.1.3 Size of the developed system?	
	2.2 How large is the project?	
	2.2.1 How many teams and people?	
	2.2.2 How has it changed?	
	2.2.3 How long / how many man months?	
	2.3 How was the project managed?	
	2.3.1 Plans before starting SAFe, how were they managed?	
	2.3.2 Did the plans/roadmap adapt to challenges/successes?	
	2.4 Are all team members in the same location?	
	2.5 Could you draw a picture of the project and surrounding organization?	
	3 Reasons	3.1 When did the organization start implementing SAFe?
		3.2 For what reasons was SAFe selected?
3.2.1 What problems were you hoping it addresses?		
3.2.1.1 From previous methods		
3.2.2 What benefits were you hoping it brings?		
3.2.3 Did you have any reservations about it, then or now?		
3.2.4 Was there a driving force behind the adoption?		
3.2.4.1 Management? External consultant?		
3.3 Were any other alternatives explored?		
3.3.1 Which ones?		
3.3.2 Why was SAFe chosen over them?		
3.4 History?		
3.4.1 What methods were used before		
3.4.1.1 What were the main benefits of previous methods?		

	3.4.1.2 What were the problems or limitations of previous methods?
4 Beginning	4.1 What was the development method starting point?
	4.1.1 How mature were the development processes?
	4.1.2 How mature was the (customer) business process which was developed in SAFe pilot project
	4.2 What was the business process (to be developed) starting point?
	4.2.1 Maturity of developed business process?
	4.2.2 Rate of uncertainty
	4.2.2.1 Uncertainty of results / objectives
	4.2.2.2 Uncertainty of current situation / processes
	4.3 How did the implementation start?
	4.3.1 Pilot in small team, or all at once?
	4.3.2 Formal training first, or as you went along?
	4.3.2.1 How useful was this training?
	4.3.3 How was the change communicated? Method change / business change?
	4.3.3.1 How was it received? How did you feel about it?
	4.3.3.2 Alignment and involvement of employees
	4.3.3.3 Common objectives (product vision etc.)
	4.3.4 How did you adjust the work load during the adoption?
	4.3.4.1 Theory vs practice: did you feel there was pressure to deliver as much as usual even though you were in the middle of the transformation?
	4.4 Did you implement SAFe “by the book”?
	4.4.1 Changes or own ways of working from the start, or later on?
	4.4.2 What differences?
	4.4.3 How has self-organization worked?
	4.5 Did you employ an agile coach?
	4.5.1 External or internal?
	4.5.2 Is he or she still active? Or just in the beginning?
	4.5.3 What did the coach do?
	4.5.4 Do you feel it was useful to have a coach? Why?
	4.6 Change resistance

	4.6.1 How did you originally feel about SAFE / agile?
	4.6.2 What were the attitudes of your co-workers / managers / employees?
	4.6.3 How was the change management done?
	4.7 Management support
	4.7.1 How has management supported the implementation?
	4.7.2 Agile “on paper” vs reality?
	4.7.3 Theory vs organizational reality (HR requirements on roles and staffing, legal requirements, upper management lack of understanding, pressure)
	4.8 How has the surrounding organization affected the 4.9 adoption of SAFe?
	4.10 How do you measure the success of the transformation?
5 Current state	5.1 Where are you currently regarding the adoption? 5.2 What agile practices other than those advocated by SAFe are you using, if any?
6 Effects	6.1 changes in the surrounding organization / organizational structure / behaviour 6.1.1 Agile / flexible organization? 6.1.2 Empowerment / intrapreneurship?
7 Future	7.1 What are the next steps in the adoption? 7.2 Where is the organization going? 7.2.1 Continue with SAFe? 7.2.2 SAFe as an only method used?
8 Challenges	8.1 How do you feel the adoption went/is going? 8.1.1 What difficulties did you encounter? 8.1.1.1 How did you react? (Retros, I&A) 8.1.1.2 What did you change? 8.1.2 Change resistance 8.1.3 Unfamiliarity of agile 8.2 Did you notice any practices which didn't work so well? 8.2.1 Which ones? Why? 8.2.2 Did you change anything based on this? 8.3 Has anything changed for the worse since the adoption of SAFe?
9 Successes	9.1 What went well in the adoption of SAFe? 9.2 What benefits has SAFe brought? 9.2.1 KPI's: Improved delivery, software quality, etc.

10 Opinions	10.1 What is your opinion about SAFe?
	10.2 How is the organization doing in your opinion? Are you better or worse off after SAFe?
	10.3 Software quality
	10.3.1 What is the state of your software now (vs before implementation of SAFe)?
	10.4 Do you feel you are truly agile?
	10.5 Would you do anything differently?
11 Advice	11.1 Do you have any advice for other people and companies intending to adopt SAFe?
12 Possible probing questions	12.1 How has communication evolved?
	12.1.1 Teams
	12.1.2 Team members
	12.1.3 Clients
	12.1.4 Management
	12.2 Consistency of methods
	12.3 Interaction with other parts of organization (e.g. HR)