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Management of digital transformation in public- and private-owned organizations: How to steer the ship into the new harbor?

Management of Digital Transformation

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ABSTRACT

The digital transformation is a global phenomenon, that influences many aspects in life, including different business sectors as well as individual's everyday life. Digitalization happens all around the world and competition is hard. The ability to change and capabilities to utilize the modern technology affect to the success of companies more than ever before. The new technology forces companies to develop their businesses and change in a same phase as technology itself. Also, the 2019 global pandemic has forced businesses to utilize digital technology more than before and make faster changes in their business models because the interaction between the people has been limited.

Digital transformations are often studied from the point of view how much value they bring for the companies. However, the studies show that the benefits of transformations are not as profitable as the efforts that have been made for them. Reasons for the unsuccessful digital transformations are rarely researched area of studies and the interest to research the management of the projects is a starting point for this research.

This study examines how the management of the company can be improved in digital transformation projects in the public- and private sector organizations to improve the processes. Moreover, the common theories of change management and how they are reflected in the work of management is studied. Theoretical framework is a frame of references, that combines the theories of change management to the digital transformation and demonstrates the responses to the researched topic.

Study is conducted as qualitative semi-structured research and includes people perceptions and experiences from four different personnel categories, which include the managers from both private- and public sector organizations, as well as the employee perspective from the same organizations. The purpose is to better understand, how the management of the digital transformations could be improved and what effects the employees of the companies experience in the transformation process.

KEYWORDS: digital transformation; change management; digitalization; project management; digital maturity

TIIVISTELMÄ

Digitaalinen muutos on maailmanlaajuinen ilmiö, joka vaikuttaa moniin elämän osa-alueisiin, mukaan lukien eri liiketoiminta-alueet ja ihmisten arki. Digitalisaatiota tapahtuu kaikkialla maailmassa ja kilpailu on kovaa. Kyky muuttua ja kyky hyödyntää nykyaikaista tekniikkaa vaikuttavat yritysten menestykseen enemmän kuin koskaan ennen. Uusi teknologia pakottaa yritykset kehittämään liiketoimintaansa ja muuttumaan samaan tahtiin kuin itse teknologia. Myös vuoden 2019 maailmanlaajuinen pandemia on pakottanut yritykset hyödyntämään digitaalista teknologiaa aiempaa enemmän ja muuttamaan liiketoimintamallejaan nopeammin, koska ihmisten välinen vuorovaikutus on ollut rajoitettua.

Digitaalisia muutoksia tutkitaan usein siitä näkökulmasta, kuinka paljon niistä on hyötyä yrityksille. Tutkimukset osoittavat kuitenkin, että muutosten hyödyt eivät ole niin kannattavia kuin niiden eteen tehdyt ponnistelut. Syitä epäonnistuneille digitaalisille muutoksille on tutkittu vähän ja kiinnostus tutkia hankkeiden johtamista on tämän tutkimuksen lähtökohta.

Tässä tutkimuksessa tarkastellaan, kuinka digitaalisten muutosten johtamista voidaan parantaa muutoshankkeissa julkisen- ja yksityisen sektorin organisaatioissa prosessien parantamiseksi. Lisäksi tutkitaan muutosjohtamisen yleisiä teorioita ja kuinka ne heijastuvat johtamistyöhön käytännössä. Teoreettinen kehys on viitekehys, joka yhdistää muutosjohtamisen teoriat digitaaliseen muutokseen ja esittää vastaukset tutkittuun aiheeseen.

Tutkimus suoritetaan laadullisena, osittain jäsenneltynä tutkimuksena ja se sisältää ihmisten käsityksiä ja kokemuksia neljästä eri henkilöstöryhmästä. Näihin kuuluvat sekä yksityisen- että julkisen sektorin organisaatioiden muutoshankkeiden johtajien sekä työntekijöiden näkökulmia. Tarkoituksena on ymmärtää paremmin, kuinka digitaalisten muutosten johtamista voitaisiin parantaa ja minkälaisia kokemuksia yritysten työntekijöillä on digitaalisista muutosprosesseista.

1   Introduction

This chapter presents the motivation for the study and an outlook to the previous studies about the theme. The justification for the research is described and the research problem, including the objectives and research question for the study are presented. Also, the delimitations of the research and the structure of the paper is described.

1.1   Motivation for the study

Why to transform? is a fundamental question for digital transformation. The Digital transformation has been occurring in the companies already decades, since the digital revolution in 1950's. However, for the company to remain competitive, the transformation process must continue still to this day. The covid-19 pandemic has boosted the utilization of new digital technologies because the contacts for communication and operation between the own personnel and the customers has changed dramatically. The exploring of new digital technology has been an ongoing process in almost all industries. The transformation to taking advantage of new technologies requires transformation of the key business operations and affects also to the companies' organizational structures as well as firms' management concepts. Businesses must create new management practices to administer the complex transformation processes (Matt, Hess & Benlian 2015).

In this context, it is sporadically studied what importance the management of the company plays in the successful digital transformation and how the employees of the company experience the change process. For every business, the digital transformation looks different, and the change process is always a challenge and unfamiliar for every individual in the organization. The management is the key player, that implements the strategies and gets employees motivated and engaged for the digital changes.

Companies' strategy formulation is an interesting process and there is existing wide range of academic literature about the strategy formulation and theories about the

management of transformations. The interest in this study is especially grown towards the field of actual implementation of the created transformation strategies and their effects in the field of digital transformations. How to get the employees engaged and motivated to pursue the common goal and how to communicate the wanted direction to everyone in a way that it is understood equally, knows where the company is heading and what is the individual's role in this process. Managers are linchpins between the top management and the employees and as an important communicator and implementer in the change process and strategy implementation as ensuring the health of an organization.

"Digital transformation is no longer a choice, it's an essential driver of revenue, profit and growth," (Gaskell, 2018).

Digital maturity and an ability to work agile are the keywords to survive. The phenomenon has cleared its way to influence into customers' behaviours to the organizational structures and how the gathered data can be analysed in a modern world. 2017 SAP report presents that even though 84% of respondents' state that it is vital for their company to prioritize the digital transformation in their strategic objectives, hence only 3% have completed their digital transformation plans (Gaskell, 2018). *Protiviti report 2018*[1] states that the risk of digital transformation was the number one concern for businesses in the year 2019 (Tabrizi, B., Lam, E., Girard, K., & Irvin, V., 2019). However, even though the digital transformation is regarded as the biggest concern for the companies, from all the digital transformation initiatives, only 70% reach their objectives (Zobell, 2018). In 2018 to various digital transformation programmes was estimated to spend $1.3 trillion, but $900 billion of those expenses vanished into air (Tabrizi, B., Lam, E., Girard, K. and Irvin, V., 2019).

In this study the primary stress is on management and how the digital transformation is administered inside the companies. Even though the importance of the managers in

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[1] Protiviti is a global consulting company and for the report was gathered information from 825 respondents, including directors, CEOs and senior executives around the world in the fall of 2018.

the process of change has been acknowledged already, it is observed how unfortunately many times the changes among the employees evoke resistance and usually the need for the change and the effects of it are poorly communicated. Controversially sometimes changes happen in the organization or working procedures without the proper consultation of the employees. Because of that, the implemented changes can even lead the company to the wrong direction.

The study compares the differences between the organizations in public- and private sectors and analyses the effects of the management's practises among their employees. The research is focused on the digital transformation practises of the management and in contradiction to the experiences, how the employees experience the procedures. The digital transformation projects in this research are dealing mainly about new ERP programmes or financial management systems. Moreover, the exposure of common theories of change management in the management's practises is studied. The study aims to give an insight to four different personnel categories: including manager's practises in private- and public sectors and employees' experiences towards the practises of the managers in the same chosen sectors and how the work could be improved.

1.2   Research gap

The Key findings of Altimeter's research *The 2017 State of Digital Transformation* presents that many companies suffer from leaders, who do not feel the urgency of the needed digital transformation changes. The company culture is also seen often mainly risk-averse. The phenomena as politics, egos and fear are stated to be the main obstacles when trying to achieve the digital changes the companies are needing. When companies invest to the digital transformation activities, they are usually considered as short-term projects with limited budget, even though the digital transformation is rather seen as a long-term process. These are for instance reasons why businesses already fail in the beginning in the way to the digital maturity (Solis, Littleton, & Leaders, 2017).

In addition, the research *Skills for Digital Transformation* conducted by Patrick Hoberg, Helmut Krcmar, Geerhard Oswald and Bernd Welz in 2015 states that 80% of the respondents consider the digital transformation as an important aspect for the overall strategy of the business. Though, only 42% of the respondents stated that the companies they work for have established a vision for the digital transformation; and in addition, only 35% of the respondents have clearly defined digital transformation strategy for their company (Hoberg, Krcmar, Oswald, & Welz, 2015). Based on the previous researches, this study's research gap is presented in a following picture.
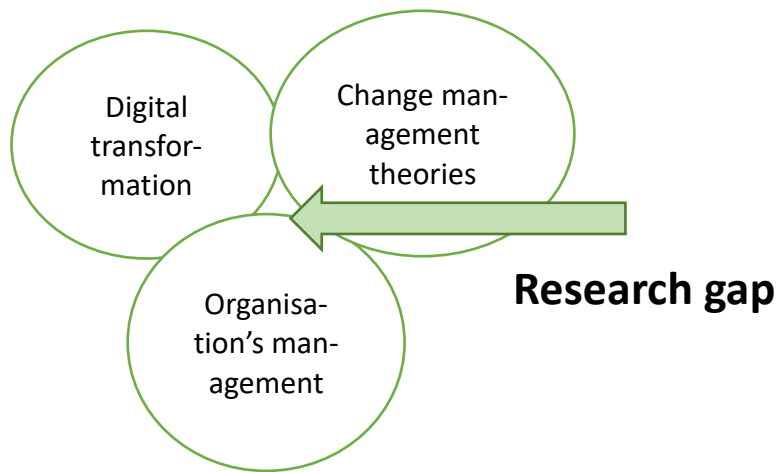
Figure 1. Research gap

The previous studies about the topic of managing digital transformation have mainly concentrated to the understanding of the concept and the challenges companies are facing regarding the digital transformation in a boarder perspective. The reasons why digital transformation activities fail and the required skills of the manager for the successful transformation are topics, that are studied. However, there is limited research about what is the management's actual process in the execution of digital transformation activities and how it is following the known theories in change management literature. Also, the employees experimental point of views about the management's

practises is not commonly researched topic. Especially the comparison of the execution of the digital transformation projects in the public- and private sectors in Finland is sparsely researched. The concept of change management is widely researched phenomenon, but the number of studies how the theories of change management indicate themselves in digital transformation process is limited.

1.3   Research problem and theoretical contribution

The research problem is the lack of information how the management of the company execute a successful digital transformation. The theoretical contribution of the research is to better understand how the general change management theories practically evident themselves in the digital transformation processes, how the employees experience the effects of different practises and in addition compare the differences between the processes in private- and public sectors. The results of the research give managers perspective for their work in the future and a possibility to reflect their own contribution. Based on the change management theories and the gathered data; it is developed a frame of references for the management of the company to help them lead the company through the digital transformation processes. The frame of references is based on the information gathered from the interviews of employees' experiences and manager's modes of operations. The researched effects help managers understand how their actions influence to the employees' experiences.

The purpose of the study can be expressed by the following:

Digital transformation in private- and public sector. *How can management improve the successful execution of the digital transformation process?*

In addition, the purpose of the study will be studied by researching the following research questions:

RQ 1: How does general change management theories in both sectors practically manifest themselves in the digital transformation processes?

The first research question of the study is to investigate how the known theories of the change management literature are epitomized in the work of managers', who are taking part of digital transformation projects in the companies. The intention is to better understand how close the actual implementation of the change management is to the general theories written about the topic or is there existing differences between the theories and actual implementation of the transformation processes. The aim is to research how the managers implement the change management process of the digital transformations in the companies. The mode of operations is exposing the way to find answer to the research question; by giving a foundation for the employees' experiences about the different processes.

RQ 2: How the employees experience the effect of different change management practises?

The purpose of the second research question is to investigate how the employees of the companies experiences the effects of the managers' change management practises. When studying the employees' experiences and perceptions to the management practises; the improvements for the digital transformation process can be analysed. The employees have the possibility to freely express themes and procedures, that help managers improve the result of the digital transformations.

RQ 3: How the digital transformation process differs in public and private sector organizations?

The third research question of this study is not only to understand how the digital transformation is executed in the companies, but also examine if there occur some specific differences between the organizations operating in public- and private sectors by building a confrontation between these two different sectors. The studying of the confrontation shows if the sector where company is operating, does have an effect to the process of digital transformation project among personnel of the company.
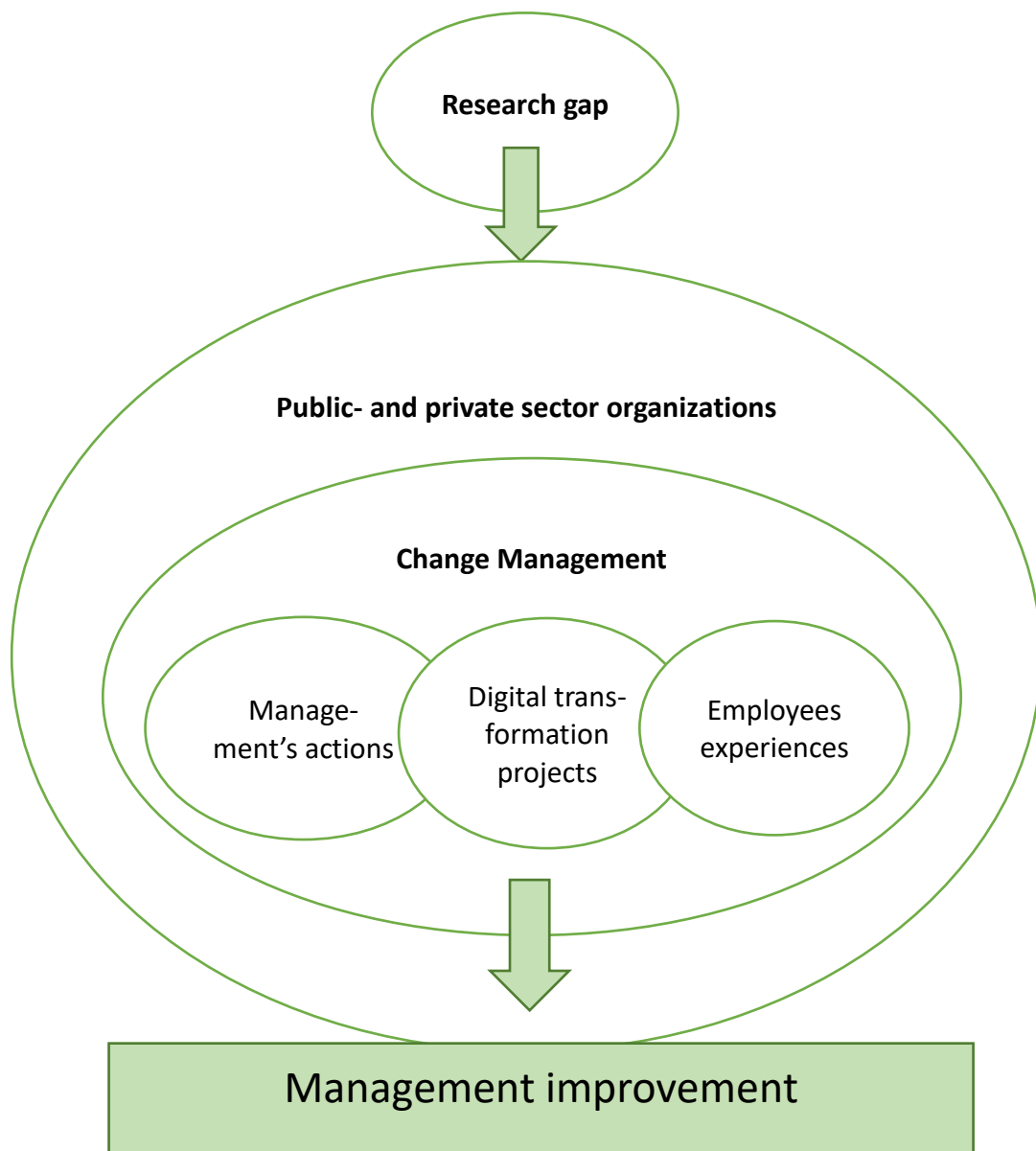
Figure 2. Link between the research question and objectives to the research gap

1.4   Delimitations of the study

Delimitations of the study are specific choices of the researcher and characteristics that arise from the limitations of the study by conscious exclusionary. This includes the choices of research objectives and questions, the choices of theoretical perspective, the

methodology, choice of participants for the interviews, research methodology and the theoretical framework. The choice of the research problem is the first delimiting action, that presents that there were also other related problems for possible research (Simon, M. K., & Goes, J. 2013).

The research question and the objectives were generated to narrow the research gap. If researching generally the management of the digital transformations, the sample of the research would have been too broad. The confrontation of the chosen public- and private sector organizations presents more available value for this research. The chosen organizations were tried to typify similar characteristics to ensure the most reliable confrontation of the chosen sectors. That is why in the case selections was important to keep the sizes of the organisations within the limits of large corporations. Delimitations of this study are the researched sample and the choice to conduct a qualitative study. The choice to conduct qualitative study to the quantitative or mixed approach, is justified because of the nature of the research. The effects of the employees would have been difficult to study with any quantitative approach.

The chosen change management theories are marked out only to the most used practises, which also makes the interview set-up restricted. The theoretical perspective had to be narrowed to chosen change management theory. The differences in variety of options would have been difficult to combine in this research. For the decision to concentrate to the chosen change management theories affected the availability of the literature and popularity of the models. Other relevant options would have been also available to utilize in the interview questions and creating the frame of references.

1.5   Thesis structure

First the thesis introduces the reader to the motivation for the study and discusses the concept of digital transformation. Furthermore, the results of former studies are presented and based on them, inspiration for the research is justified. In the next chapters,

the research gaps, research objectives and research question are presented and expounded. The theoretical part consists of two different streams: literature reviews of digital transformations in general and insight to the theories of change management. Literature review of digital transformation is divided to the sections of introduction, definitions and the challenges and success factors of digital transformations. The literature review of change management discusses about the introduction to the theme and analyse the change management models of the well-known authors on the field. The synthesis is following the literature review and combines the chosen streams together. Methodology is described after the theoretical part. In the methodology section the chosen research method is justified and the background for it is explained. Also, the data collection and analysing methods are explained more detailed in this chapter. The analysis presents the case study and includes the analysis of the interviews. Also, the research objectives are studied based on the results of the interviews as followed by findings chapter including improvement ideas. Finally, the summary and discussion consist of theoretical and managerial implications and ideas for future research as well as the limitations of this study.

Introduction

Literature review

- Digital Transformation

-Change Management

Research Methodology

Analysis

Content analysis

Cross-case analysis

Findings

- Indication of change management theories

- Improvement suggestions

Summary and Discussion
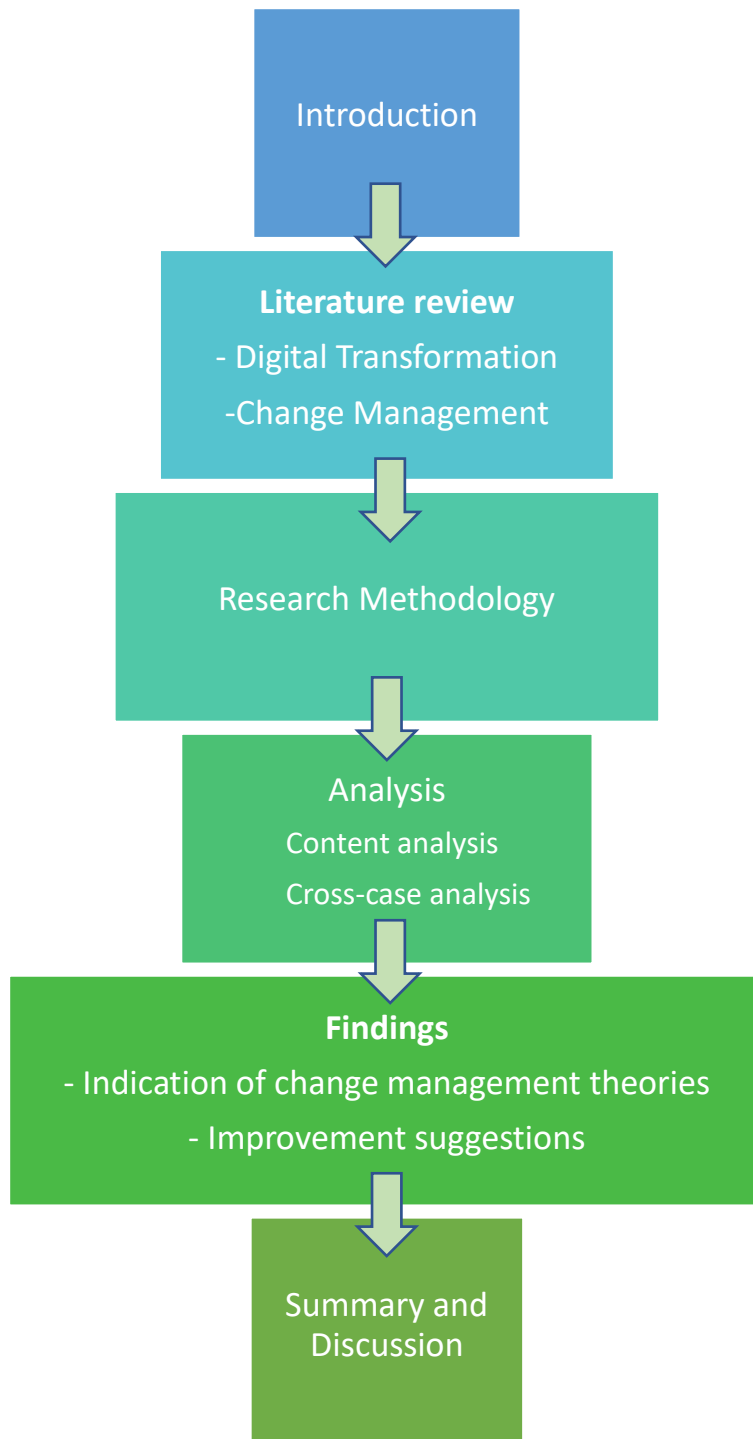
Figure 3. Thesis structure

2 Literature review

This chapter presents the theoretical background for the study. The topics discussed are the background of digital transformation and the challenges and success factors of the transformation processes. In addition, the chapter introduces the reader to the concept of change management, the main writers on the field and the most known theories regarding the change management realization. The literature review work as a basis for the frame of references and future interview questions.

2.1 Digital transformation

2.1.1 Definitions

The below shown table presents the current definitions of the digital transformation.

Table 1. Current definitions

Mazzone (2014)	*"DT is the deliberate and ongoing digital evolution of a company, business model, idea process, or methodology, both strategically and tactically."*
Henriette, Feki & Boughzala (2016)	*"Digital transformation is a disruptive or incremental change process. It starts with the adoption and use of digital technologies, then evolving into an implicit holistic transformation of an organization, or deliberate to pursue value creation"*

Boueé, C and S Schaible (2015)	*"We understand DT as a consistent networking of all sectors of the economy and adjustment of the players to the new realities of the digital economy. Decisions in networked systems include data exchange and analysis, calculation and evaluation of options, as well as initiation of actions and the introduction of consequences."*
Wade (2015)	*"Digital Business Transformation is Organizational Change through the use of Digital Technologies and Business Models to Improve Performance"*
Westerman (2011)	*"The use of technology to radically improve performance or reach of enterprises"*
Kaplan (2010)	*"digital transformation can be understood as the changes that digital technology causes or influences in all aspects of human life"*

Based on the current definitions of digital transformation, it can be observed that the digital transformation is not about concentrating to the technology that is used. Digital transformation is more about the change towards new mindset and how the change process is managed inside the company to gain more competitive advantage. Digital transformation is an organizational change that is influenced by the new digital technology and in the modern world, companies are pushed and forced to the change by terms of the digital transformation. The digital transformation affects to all level of the companies and requires effective change management. It is also important to benchmark that the transformation process influences in every aspect of humans' lives. It is a phenomenon that cannot only be discussed in business context, it affects every individuals' actions worldwide.

Networking and human interaction are also aspects, that are changing along digital transformation. The companies' capabilities to adjust to the new ways of networking influence to the success of digital transformation. The ability to use technology to the improved performance is vital for companies' success in modern world. Because of the previous statements when talking about digital transformation the focus should be directed also to the concept of change management. Change is constant and people should be open for it, even though the resistance to the change is not rare. For businesses important aspect is also how to get the employees engaged and motivated to pursue the digital transformation as common goal and how to communicate the wanted direction to everyone in a way that it is understood equally where the company is heading and what is the individual's role in this process. The management of digital transformation plays important role when defining the topic. That is a reason why the theme of change management will be more discussed in the next chapters.

2.1.2 Introduction to digital transformation

The digital transformation is affecting every individual and it is hard to find any aspect in life where it does not have any effect. The digital transformation has led people to use information technology in more effective ways to create more value, but in more boarder view it manifests all the changes technology has brought to us. Starting from how we operate and interact with each other to the creation of wealth (Reddy & Reinartz, 2017). The digital transformation is a social phenomenon, cultural evolution and especially for the businesses' creation of a business model. It is integrating digital technology to all areas of business. However, the digital transformation cannot only be a business model for the companies, since it affects other areas, such as organizational structure, culture, workplaces and even ethics of the business as well (Henriette, Feki & Boughzala, 2016).

The digital transformation has been occurring in companies already decades, since the digital revolution in 1950's (Heilig, Schwarze, & Voß, 2017). It has been actively dis-

cussed topic today as it was also already in the late 1990s and again in mid 2000s (Auriga, 2016). However, for the company to remain competitive, the transformation process must continue still to this day. The development is fast; if a company could have been found on Fortune 500's[2] annually published list of US companies with the highest revenues fifty years ago, it could have been expected to also stay there the next sixty years. Hence, now the same expectancy for the company to stay on the same list is only fifteen to twenty years (Venkatraman, 2017; 6). Reasons for that can be found from the development of digital technologies and from companies' capabilities to keep up with the changes.

The first digitalization of the business processes started already 30 years ago. However, when considering digital transformation, the important aspect is not how the media has transformed. Important is to discover how the economic transactions and human interactions have transformed along the digital transformation (Press, 2015). Digital channels, as websites, were the first connections between the customer and companies. The development continued to the support of customer interactions and the leverage of digital data led to wide digital networks including processes and devices. Companies started to create new innovative digital ways of doing business and change their operating systems (Auriga, 2016). The below shown picture demonstrated few chosen milestones from the history of digitalization to explain the transformation of economic and human interaction.

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[2] The Fortune 500 is an annual list published by Fortune magazine. The list ranks 500 of the largest companies in the United States by their total revenue.
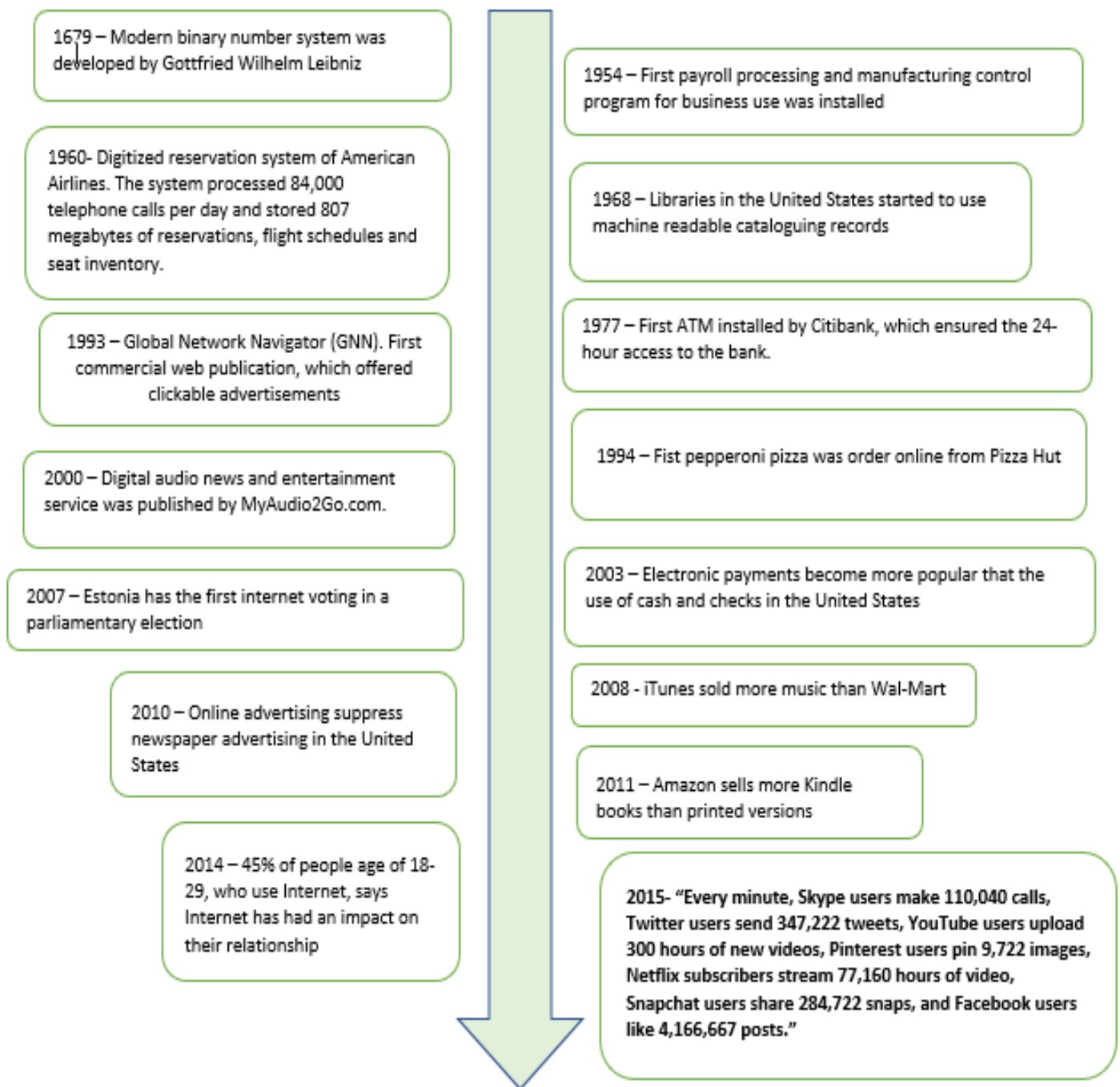
Figure 4. History of Digitalization (Adapted from Press, 2015).

On these days the digital transformation programs are mostly built on 3rd Platform technologies and solutions, including IoT, social technologies, robotics, 3D printing, mobile, big data and analytics. These initiatives have become the key development

drivers for many businesses (Auriga, 2016). Based on the study of Altimeter *The State of Digital Transformation 2019* report, the leading investments are continuing to be directed to Customer Experience (CX). However as observed in the same study in 2017, there is rising importance also towards employee experience and organizational culture (Altimeter 2019). Referring to Forrester and its 2017 digital business predictions, the budgets for digital transformation are going to increase and the focus will change from experiences to operations. Also, the breakage of the gap between web, mobile apps and offline engagement will happen. The one thing in common regarding the digital transformation in the future is change, which requires for companies' and individual's constant readiness and mindset for changing and developing digital world. Digital transformation is maturing and seen as enterprise-wide strategic priority and movement (Auriga, 2016). Even though the digital transformation has been happening already half a century, the process is only in the beginning and will shape the global economy in the coming years. The transformation renews industries in completely new ways and support the improvement. The future of every industry is digital and relying on old business strategies will not carry any company to the future (Venkatraman, 2017; 6).

One good example of the failure strategy to respond to the customers' demand can be found from the history of Kodak, that lost its market dominance because of lack of capability to response new customers' digital requirements. Kodak was already in its early stages an innovative company. They developed the world's first digital camera in 1975 and invested a lot for digital capabilities in the following decades. However, the company failed to do the needed adjustments in their organization and were not able to make tough choices to become able to adapt to new markets. Their competitor FujiFilm faced the same challenge of digitalization but was able to survive and change their organization structure. They managed to survive by combining their digital capabilities to the radical organizational change. *"FujiFilm cut its workforce, sold underperforming assets, and shifted investment into new areas such as high-end imaging machines, coatings for LCD displays, and cosmetics. The company combined existing strengths with new digital*

capabilities to build a highly modified organization able to compete in new markets."
Today, the company is worth more than it was in the heights of 2000." (Wade, 2015).

Companies in every industry use new digital technology to analytics, social media and integrate it also to the more traditional ERP systems to alter internal processes, relationships to their customers and value propositions (Westerman, Bonnet, & Mcafee, 2014). The below shown figure demonstrates the different aspects where digital transformation influence inside the organizations. This includes customer experience, operational processes, and business model. All the three main areas are influenced by the company's digital capabilities.
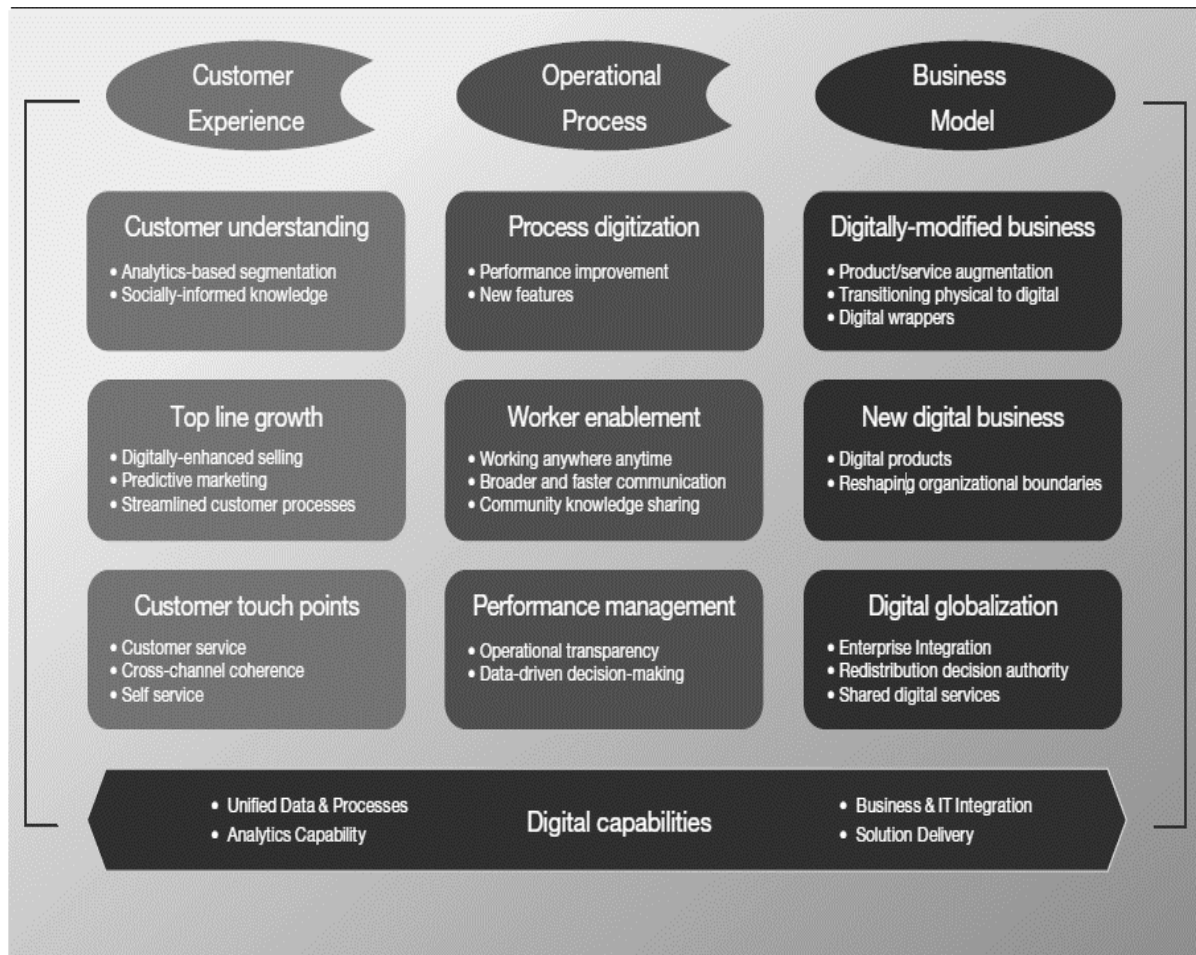
Figure 5. Building Blocks of the digital transformation (Westerman et al. 2011, p. 17)

2.1.2.1   Customer Experience

The three most important building blocks to digitally changing customer experience are customer understanding, top-line growth and customer touch points. The impact digital transformation has on customer experience is directly connected to the survival of an organization and to the profitability (Sahu, N., Deng, H., & Mollah, A., 2018). Digital world, the customers are experiencing, is transformed by digital disruptions. This includes extremely developing digital technologies, the explode of digital devices, various digital channels through the customer touch points and endlessly changing customer behaviour (Shrivastava, S., 2017).

To understand the customers, companies have begun to take advantage of the systems to understand different market segments and geographies. This goes from exploring of social media's different aspects, what makes customers pleased and what leads to dissatisfaction. Also, companies have learned to promote their brands effectively digitally. Especially in medical, real estate or financial services companies are building online communities that create loyalty with clients. Analytics capability has become an important building block to understand customers more in-depth. Analytics based underwriting and pricing as well as experiments to drive customer behaviour are used for improving the operations. For instance, a restaurant company can by analytics-based experiments test pricing and promotions in franchised stores. The product prices can be dynamically adjusted in response to weather, inventory levels, closing time and demand (Westerman, G., Bonnet, D., & McAfee, A., 2014).

Nowadays technology is also used to enhance sales conversations. Tablet-based presentations are popular form for sales pitches compared to the paper slides. Mobile tools are created to help salespeople in analytics-based planning. The better understanding of technology and the customers helps companies to transform their sales experiences. By integrating customers purchasing data, the companies can provide personalized customer service, sales or customized product packages (Westerman, G., Bonnet, D., & McAfee, A., 2014).

Digital initiatives can improve customer service radically. Organisations that are capable of utilize enormous un-structured data and databases by digital transformation can make enhanced decision and solutions for their customers (Sahu, N., Deng, H., & Mollah, A., 2018). The companies have nowadays possibilities to build multichannel communication with their customers by digital initiatives. Building of the multichannel services requires changes across the internal operational processes and customer experience. Many companies are also offering digital tools for self-service. These tools give the customer possibilities to save time and in the same time the company saves the money. Companies offers customer apps to increase customer touch points (Westerman, G., Bonnet, D., & McAfee, A., 2014).

2.1.2.2   Operational Processes

Even though the customer experiences are the most evident area of the transformation processes, also the internal operation process transformations provide the companies huge benefits. This includes process digitization, worker enablement and performance management. Automation of the processes can lead the workforce of the companies to mote strategic tasks. The repetitive efforts can be automated and for instance allows researchers to focus more on innovation and to be creative (Westerman, G., Bonnet, D., & McAfee, A., 2014). For opportunities to grow, companies are supported by new digital information and communication technologies (Loonam, J., Eaves, S., Kumar, V., & Parry, G., 2018).

The most notable transformation in the essence of individual's work has been in separating the work processes from the work locations. The possibilities to work from home few days a week have increased enormously, and after the corona crises, the number of it has become even higher. Also, the "removable" desks in offices are becoming more popular, and no one has any more personalized place to work. Employees can talk with whomever they want in the organization, without having a permanent sitting. The digital tools, that have been created to individualize work have also enabled knowledge sharing.

(Westerman, G., Bonnet, D., & McAfee, A., 2014). Digital transformation of work has been defined as flexible work arrangements, that means employees can work flexibly from whatever location any time they want (Costas 2013). Another concept is called as 'smart work'. That includes utilizing of digital transformations in work models, practices, leadership, and workforce. The goal is to work digitally in smarter ways (Jensen, T. B., 2018).

The digital transformations are also changing strategic decision-making processes. Transactional systems allow executives to have deeper insights into customers, products, and regions. The decisions are not made on assumptions, then rather on real data. The increased data volume and gives managers possibilities to compare things across sites or relocate manufacturing power (Westerman, G., Bonnet, D., & McAfee, A., 2014).

2.1.2.3   Business Models

Digital transformations affect also to how companies' functions work and interact with each other's. It is necessary for the companies to change how they do business and not only change the way how technology is done. Companies are finding ways to strengthen physical selling by using digital technologies to share content (Westerman, G., Bonnet, D., & McAfee, A., 2014). In the academic world the definition of a "business model" is debated to subject from simple statements to philosophical visions (Kotarba, M.2018).

An approach to react to the digitalization is to introduce digital products, that complement the traditional products. Companies have begun to change their business models to reshape the boundaries more digital. As an example, an airport authority can provide integrated multichannel experiences from airplane traffic information to the shopping promotions in duty-free (Westerman, G., Bonnet, D., & McAfee, A., 2014).

Digitalization has also increased companies global operations. The technology has enabled oraganizations to remain locally responsive even though allowing at the same time

companies to gain global synergies. These globally shared services reduce risk and increase efficiency. Global services can include for instance finance, HR and other core capabilities. This provides companies flexibility (Westerman, G., Bonnet, D., & McAfee, A., 2014).

2.1.3 Challenges and success factors of digital transformation

Based on the reviewed literature, following is identified four major phenomena that companies are facing in the modern digital transformation and how these themes impact on businesses. The selection of the following four phenomenon is based on the recent published publications and the author's consideration. The findings from the 2017 digital business global executive study and research project "Achieving Digital Maturity" written By Gerald C. Kane, Doug Palmer, Anh Nguyen Phillips, David Kiron, and Natasha Buckley are taken as the primary source for the selection of the topics. The chosen factors are verified with other relevant sources used in the theory section of this paper.
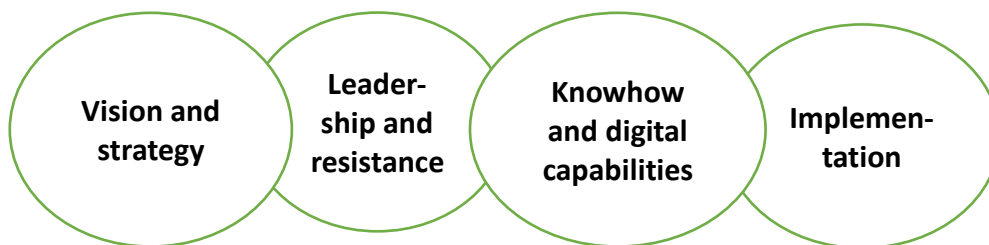
Figure 6. Influencing factors to digital transformations

First, the technology itself does not play a big role in the successful digital transformation. The essential success factor in many sources is stated to be having the right vision and strategy for the digital transformation process. Because the integration of digital technologies has an effect to the large number of businesses' different parts, the digital transformation strategy must be aligned with other corporate strategies. The transformation affects to the organizational structures as well as to the products, processes, and key

business operations. Companies must invent management practises to go through the complex transformations (Matt, Hess, & Benlian, 2015).

Because transformation process is challenging, for every company the vision and justification for it needs to be clear (Wade, 2015). Also, in the study of Hoberg, Krcmar, Oswald and Welz is stated that 80% of the respondents consider the digital transformation as an important aspect for the overall strategy of the business. Though, only 42% of the respondents replied that the companies they work for have established a vision for the digital transformation; and in addition, only 35% of the respondents have clearly defined digital transformation strategy for their company (Hoberg, Krcmar, Oswald, & Welz, 2015). Even though the topic is seen as highly important factor in the company's successful digital initiatives, the clear defining of it is lacking in many cases.

Second, unfortunately many times the changes among the employees evoke resistance and usually the need for the change and the effects of it can be poorly communicated inside the company. The study of J. Gilbert shows that 75% of change management programs fail because of the lack of sufficient employee support. That is why the change process should be embraced on all company levels (Gilbert, J. (2009). The challenge for the companies in their change process is how to minimize the resistance and make the digital transformation process well-grounded, smooth and clear for everyone in the company level. This includes strong leadership and communication to the employees to create the right culture for the change.

Third, even though the digital transformation would be one of the most important objectives of the company's strategic objectives, one of the challenges for the companies is to keep their workforce aware of the modern changes in technologies and capability to integrate the available technology into the organization's operations. The study of *Research Skills for Digital Transformation* in 2015 states that one of the critical resources for successful digital transformation is the tech-savviness of the employees and the management of the company (Hoberg, Krcmar, Oswald, & Welz, 2015). Hence, the constant

education and the knowhow inside the company is a challenge for many businesses when considering digital transformation. Also the capability to develop as fast as customers' expectations requires resources and unfortunately the slowly adapting companies cannot response to the customers' changing needs as rapidly as others. The best companies can combine new technological inventions to the strong leadership and turn it into transformation. This can be called digital maturity (Kane, Palmer, Phillips, Kiron, & Buckley, 2017).

"Digital maturity is, therefore, a continuous and ongoing process of adaptation to a changing digital landscape." (Kane, Palmer, Phillips, Kiron, & Buckley, 2017)

Overall, the challenges in digital transformation consider wide range of different areas in businesses. It is not only about mastering the new technologies; the challenges also include the utilization of the acquired data as well as the integration of technology to the existing operations. The change itself can be also seen as a challenge for the managers and every individual working for the company. For the management, digital transformation demands strong leadership and knowhow. Managers need to be aware of the current changes and the newest knowhow; strategy must be formed to maintain the competitiveness in the current markets.

2.2 Change management

2.2.1 Introduction to change management

"Effective corporate renewal starts at the bottom, through informal efforts to solve business problems." (Beer, M., Eisenstat, R. A., & Spector, B. 1993).

The managing of change is a difficult job to do and what makes it even tougher, is the fact that there is no simultaneous agreement about what influences the most to the transformation processes (Sirkin, H. L., Keenan, P., & Jackson, A, 2005). In most of the cases, businesses' goal is always the same. They want to make fundamental changes to

survive in a new, more competitive, and challenging market environment. No business cannot survive in a long term if it cannot reinvent itself. The managing of the change for the leader is also the most difficult aspect in their job, but at the same time most essential part of the work (Kotter,1995). Every manager has their own critical factors that influence to the transformation initiatives. Reasons for that are everyone's own viewpoints, that are based on personal experiences. (Sirkin, H. L., Keenan, P., & Jackson, A, 2005).

Change is also about learning and it is rare that any CEO knows how the organizational change is executed in a large organization in advance. The demands of the large organization are diverse. The new approach for the top-down hierarchy, is to participate the younger managers, who are working closer to the action, to the management of change. (Beer, M., Eisenstat, R. A., & Spector, B. 1993). Different ideas for the management of change have a lot to offer, but to concentrate to many priorities at the same time, spread resources. Executives also tend to concentrate on too many aspects and parts of an organization with different approaches at the same time; this usually is the reason for the turmoil that comes along with the change (Sirkin, H. L., Keenan, P., & Jackson, A, 2005).

John Kotter highlights that the transformation cannot be characterized as an event, change is rather a process (Kotter,1995). Because nowadays change occurs continuously; the important job of the managers is ensuring that the advantages of organizational changes are communicated to those who execute it (Gilbert, J. (2009). Gilbert sees the role of the managers as change leaders, who have opportunities to breathe life to organizations. In the past especially the group of middle managers has been seen as a victim of organizational change, but now they are the group who leads the changes. (Gilbert, J. (2009).

Fundamental change is often resisted, and reason for that is the basic human nature. That is also an aspect for the managers, which makes the leading of a change incredibly difficult (Kotter, 1995). Resistance is normal and expected in the process of change;

but how the resistance among the group could be reduced or even partly eliminated. The main goal of change management is to help individuals, who are impacted by the change to make a winning transition, given what is necessary by the solution (Prosci,2019). The truth is that if the company fails to change, it is likely that the whole company fails. When implementing new systems, top management should proactively deal with the problem of resistance instead of tackling it reactively (Aladwani, A., 2001).

Top management sees change usually solely as strategic position; when most of the employees of the company focus to the change in the context of their own job description; how their life will change because of the organizational change from the point they wake up in the morning to the time they head back home from work and what actually happens in the time between these points. Traditionally the people at the top have the possibility to see the business from the birds-eye view and because of that they have the possibility to see what needs to be happen from a strategic perspective. Managers receive the strategic instructions from the top-management and then translate the directives to actual tactics, that are implemented then by the workers (Forbes,2017). However, in the context of change management the middle-level managers should have greater power in the process. Changes, that are initiated by middle managers usually gains a lot greater employee buy-in and support (Forbes,2017). The middle-managers are closest to the workforce and the changes also simultaneously affect to their own work as well. The middle managers have also direct vision what happens on the field.

2.2.2   The main writers in the field and their arguments

2.2.2.1   John Kotter's change model

"The fundamental purpose of management is to keep the current system functioning. The fundamental purpose of leadership is to produce useful change." -**John Kotter**

As a backbone of the frame of references is drawn upon John Kotter's change management model. John Kotter states that for the successful transformation, leaders must do eight things right; and more or less in the right order. The model is developed to guide the company through a successful implementation of the change and can be seen more as a tool for the top-management. Kotter has studied number of companies, identified the success factors, and combined them into a methodology. The basic idea of the model goes from the establishment of the urgency, through the short-term wins to the changing of the business culture. The first three steps are developed to create the right climate for the change. The steps from 4 to 6 are linking the change to the organization. The steps 7 and 8 aim to implement and stabilize the change (Kotter,1995). In this study it will be researched how the following steps are identified in the manager's work. The procedure can be seen in the below shown picture.

1
- **Establishing a sense of Urgency**
- Examining market and competitive realities
- Identifying and discussing crises, potential crises, or major opportunities

2
- **Forming a Powerful Guiding Coalition**
- Assembling a group with enough power to lead the change effort
- Encouraging the group to work together as a team

3
- **Creating a Vision**
- Creating a vision to help direct the change effort
- Developing strategies for achieving that vision

4
- **Communicating the Vision**
- Using every vehicle possible to communicate the new cision and strategies
- Teaching new behaviors by the example of the guiding coalition

5
- **Empowering Others to Act on the Vision**
- Getting rid of obstacles to change
- Changing those improvements

6
- **Planning for and Creating Short-Term Wins**
- Planning and creating visible performance improvements
- Recognizing and rewarding employees involved in the improvements

7
- Conso**lidating Improvements and Producing Still More Change**
- Using increased credibility to change systems, structures, and policies that don't fit the vision
- Hiring, promoting and developing employees who can iplement the vision

8
- **Institutionalizing New Approaches**
- Articulating the connections between the new behaviors and corporate success
- Developing the means to ensure leadership development and succession

Figure 7. Eight Steps to Transforming Your Organization (Kotter,1995)

The number of the cases Kotter has been studied have been very successful in their transformation process and some of the companies have been absolute failures in their transformation activities. Truth is that even the successful cases are messy and full of surprises. Every studied business has fallen somewhere in between the lower and higher end scale. One of the most general lesson, that was discovered, is that the change process is a sequence of phases, that usually needs significant amount of time. If the businesses are trying to skip the steps needed to be taken, it creates only an illusion of saving time and speed and the result is never satisfying. Another general lesson was discovered that critical mistakes can have damaging impact in any of the phases gone through. Because of the little experience in the organizational transformation, the most capable people tend to do at least one big mistake in the managing of transformation (Kotter,1995).

Kotter states that if less than 75% of the company's management are committed and convinced that there need to be taken actions to change current business, in the later process, serious problems can occur. The urgency rate for the change must be pumped up high enough, so that the transformation process can succeed. If the urgency rate is not high enough when the transformation process begins, organization is put on risk (Kotter,1995).

Executives also tend to underestimate employees' tendency to get out of their comfort zones. Management is eager to go forward and overestimates their success already from the beginning and lack patience with other people. What comes to the paralyzed management, it is often a sign that there are too many managers compared to the number of leaders. Change demand always leadership and the command of the management is to keep the system operating and minimizing risks. When the organization has a fresh new good leader, who sees the need for the change, the transformation process can be forecasted to start well. Teams without powerful leadership never achieve the power that is needed for the change. Even though the importance of a great leader is high in the process of change, in the most successful cases, the complete and powerful team behind also makes a huge difference. Company can fail in the

change process if the importance of the coalition is undervalued and there is no history of teamwork (Kotter,1995).

Another common reason for failed transformation is the lack of clear vision. There can be existing plenty of plans and directives, but without the vision, effort for the transformation can melt together with a number of confusing and incompatible projects and in a worst case lead the organization to the complete wrong direction or just keep business running in the same phase all over again. Management can have the sense of direction, but it is not useful if the direction is too blurry or complicated, also the communication of the wanted direction plays an important role. If the important individuals in the change process are inconsistent with their words, it has a destroying impact to the change process among all the stakeholders (Kotter,1995).

"A useful rule of thumb: 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." – John Kotter

Kotter also highlights that the more people are involved in the transformation process, the better is the outcome. But also, the removal of obstacles is required for the successful change. Sometimes the obstacle can be inside the employees' head and for the management, the challenge can be to convince the person that actual external obstacle does not exist. All this can happen, even though person would have understood the vision and would be eager to take part in the change process. In some cases, obstacle is part of not functioning organizational structure (Kotter,1995).

Real transformation always takes time and that is why it is important to set short-term goals and celebrate them. Without short-term wins, people tend to give up and start to resist the change if there are none shown evidence for progress. Manager's job is to clear performance improvements and reward employees. One catastrophic mistake is to declare victory too soon. Even though the short-term wins are celebrated repeatedly after years, the sinking of the changes to the company culture can take five to ten

years. New ways of doing are fragile and prone to regression. The final analysis, that Kotter studied, is that when the change is seen as "the way we do things around here," new behaviours are rooted to the corporate body. The changed features must be deep-rooted to the social standards and common values, otherwise when the pressure to the change is removed, everything is in danger to get back to normal (Kotter,1995).

2.2.2.2 Kurt Lewin's change model

"A change towards a higher level of group performance is frequently short-lived, after a "shot in the arm", group life soon returns to the previous level. This indicates that it does not suffice to define the objective of planned change in group performance as the reaching of a different level. Permanency of the new level, or permanency for a desired period, should be included in the objective." – Kurt Lewin
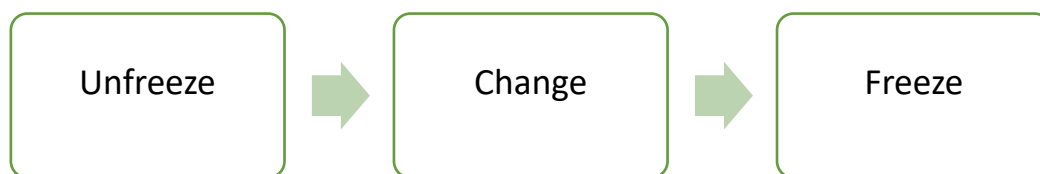
Figure 8. Kurt Lewin's change model

Kurt Lewin is the creator of the Unfreeze-Change-Freeze model, which was developed already 70 years ago. He is a physicist and social scientist, and his model is one of the cornerstones when understanding the organizational changes. The model is easy to understand, and the model is explained concretely as the melting and refreezing a block of ice (BEM,2017).

Kurt Lewin's model is based on the implementation of change when dealing with people. The model guides the manager how to get the people change. The model was developed already in 1947 and it includes three steps; Unfreeze, Change and Freeze. Lewin sees that change will be effective only if people are involved and motivated with it and wants to put it in practice. Even though it is argued that nowadays change is

constant, and Lewin's model might be outdated, the people have not changed in the same phase as the world. The three-step process is still valid when looking to change process within the employees (Rabidpi, 2014).

• *Unfreeze*

Lewin sees that before new behaviour is possible to learn, the old way of doing things must be unlearnt. After that the successful adoption of the new behaviour is possible. (Burnes 2004). "*To break open the shell of complacency and self-righteousness it is sometimes necessary to bring about an emotional stir up.*" (Kurt Lewin 1947) The discomforting of the status quo, training of anxiety and to create the psychological safety is the unfreezing process. If the psychological safety cannot be achieved, the new modes of operation cannot be accepted (Burnes 2004).

• *Change*

Unfreezing does not alone guarantee the successful change process. It creates the motivation to learn, but the direction is not set yet to the wanted direction. All the forces, that are related to change should be evaluated and taken to support the advancement to the more acceptable set of traits (Burnes 2004).

• *Freeze*

Freeze is the last phase of the model and is ensuring that the new way of behaviour is permanent way of doing things and not going back to the old traits. It should be made sure that the new traits are realistic, in tandem with people's personality and the surroundings of the learner. This avoids possible regression. In business environment the freezing phase requires changes also in organizational culture, standards, rules and practices (Burnes 2004).

2.2.2.3 McKinsey 7 S Model

The McKinsey 7S model was invented by Tom Peters and Robert Waterman in 1980s. The model consists of structure, strategy, systems, skills, style, staff and shared values. It is created to model internal changes in the organizations and the most commonly

used to enable organizational changes, support the implementation of new strategies, to identify the need of the change for different areas in the future and to facilitate mergers of organizations. Between the seven areas should be mutual understanding to have an effective functioning in an organization and the model is valid in all types of changes in organization. Later the model was divided into two different classes, called "Hard S" (Strategy, Structure and Systems) and 'Soft S' (Style, Staff, Skills and Shared Values) (Ravanfar, M. M. 2015). The model presents the crucial roles that are important in the change process of an organization by clearing an easy way for the fusion of organizations (Robert H. Waterman, Jr., Thomas J. Peters, and Julien R. Phillips, 1980). Commonly the following model is easy to understand, but applying it to the organization is harder, because the misunderstandings about what the elements should be like (Ravanfar, M. M. 2015). The following table summarizes the model elements' definitions and is adapted from the article *The McKinsey 7S model framework for e-learning system readiness assessment* written by Alshaher, A. A. F. (2013).

Table 2. The McKinsey 7S model framework definitions. (Alshaher, A. A. F. 2013)

Dimension	Definition
Strategy	Actions a company plans in response to changes in its external environment.
Structure	Basis of specialization and co-ordination influenced primarily by strategy, size, and diversity of organization.
Systems	Formal and informal procedures that support the strategy and structure.
Style / Culture	Consisting of two components as below: Organizational culture: the dominant values, beliefs, and norms which develop over time and become relatively enduring features of organizational life.

Management style: more a matter of what managers do than what they say; how do company managers spend their time; what are they focusing on.

Staff

The people/human resource management- processes used to develop managers, socialization processes, and ways of introducing young recruits to the company.

Skills

The distinctive competences- what the company does best.

Shared Values

Guiding concepts, fundamental ideas around which a business is built- must be simple, usually stated at abstract level, have great meaning inside the organization even though outsiders may not see or understand them.

3   Methodology

In the methodology chapter the chosen methodology and strategy for the research is presented. The strategy and method are justified and following that the case selection and data collection are presented. The topic section also presents the timetable of the interviews and further information about the data analyse method and the analysing process. In the end it is discussed the validity and reliability of the research.

3.1   Research strategy and method

The research method for this study is qualitative research method which is following theory-driven content analysis. Qualitative research method enables the researcher to conduct in-depth studies from the wide range of different topics. The other research methods have limitations, which can lead to the problems in a data collection. This can include for instance unavailability of sufficient data to research conditions in experiments. Qualitative research has become acceptable form of research in diverse academic and professional fields and can be rich and attractive research approach (Yin, R. K., 2015). In this study the qualitative research method was chosen to study how the management of the company can be improved in digital transformation projects to improve their processes. The objectives are based on manager's actions and employees' effects, which are difficult to analyse with any other method alternatives. For the possibility to get satisfying and relevant results, the interviews need to be conducted both from the manager's and employee's perspective. For the possibility to improve things, the point of views needs to be examined from both directions. In this study, the primary quality of the chosen companies was the distinction of public- and private sectors, the industry interviewees are working is not notable attribute in this research.

The objective of the study is also to find out how the common theories of change management are established in the manager's work in digital transformations; and simultaneously the theories work as basis for the content analysis and theme interviews. The

goal of a content-analysis is to examine communicative material systematically (Mayring, P. 2004). In this case, the content-analysis is theory driven because of the in advanced chosen themes, which the interviews are based on. Below is demonstrated the research strategy for the study.

Design
- Change management theories
- Digital transformation

Conduct
- Qualitative research method
- Semi-structured theme interviews based on change management theories

Analyse
- Theory-driven content analysis
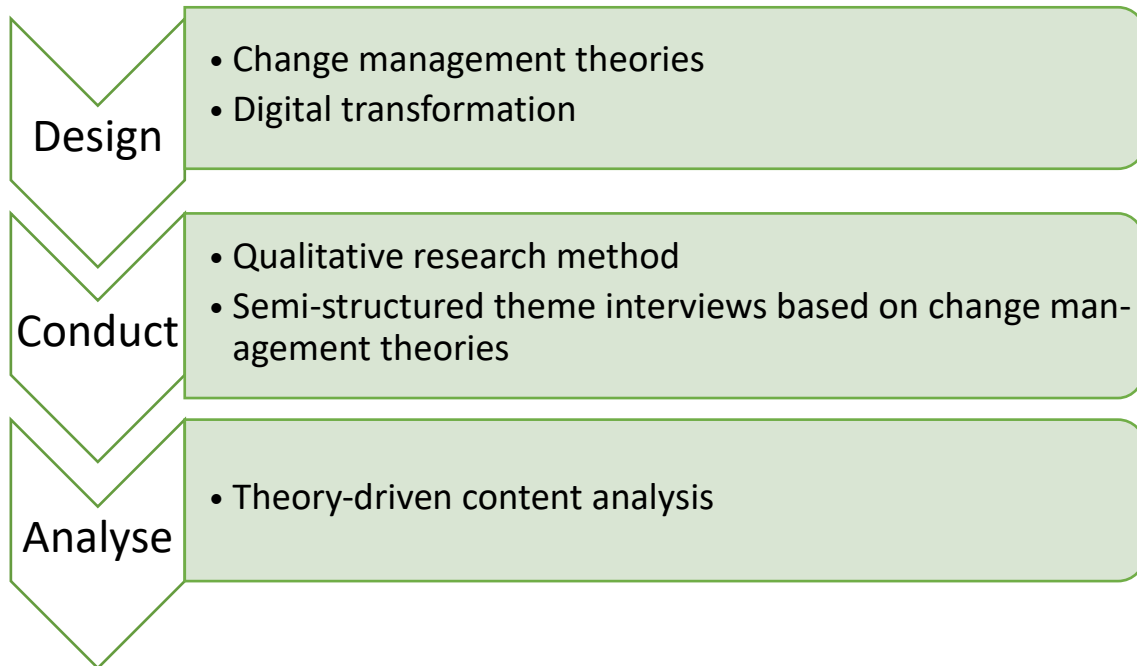
Figure 9. Research strategy

3.2   Case selection

The case study is the most adaptable of the variety of research designs. It allows the researcher to reserve the qualities of real-life events while investigating empirical experiences. In general, a case study is an experimental analysis which examines current occurrence within its real-life environment in which several sources of evidence are used (Yin, R.K, 1984: 23).

In this research the cases were selected based on the distinction between private- and public sectors. The researched companies from public sector were large organizations in education- and economic development industries. The researched companies in private sector include large international global corporations in manufacturing industry. The

more accurate information about the interviewed people and the companies where they are currently working is kept anonymous, because of the wishes of the interviewed people, and to the matter of fact that the exact details do not have significant influence on the researched topic.

All the chosen interviewed people were however working currently in large scale organizations, so the differences between the public- and private sector can be examined more accurately. However, the international operations of the researched companies in the private sectors does influence to the research results and comparison of the sectors, hence the public sector organizations are only operating in Finland.

3.3 Data collection: semi-structured theme interview

The interview method of the research to clarify the research objectives is to conduct a semi-structured theme interviews from four different personnel categories. Semi-structured interviews are used as data collection tool in qualitative research, and it is used as set off skills. The semi-structured interviews are used to understand why people act in certain ways by studying interviewed people experiences, attitudes, and perceptions. The data collection method is also used to develop or change different practices (Harvey-Jordan & Long, 2001). Semi-structured interviews provide a set of open-ended questions about the topic and provide opportunities for the interviewed people to cover the topic by them (Harvey-Jordan & Long, 2001). The process of conducting a semi-structured interview can be opened to following steps: literature review, interview schedule, selecting sample, arranging interviews, validity and reliability issues, pilot, conducting the interviews, transcription, data analysis, discussion, further research questions, report writing, publication and dissemination and personal reflections (Harvey-Jordan & Long, 2001).

In this research the personnel categories are divided into four different sections including managers in public- and private sectors and including employees from the same

chosen sectors. The interviews include samples from four different personnel catego-
ries, whose visions, and experiences are further analysed. The below shown picture
demonstrates the data-collection categories.
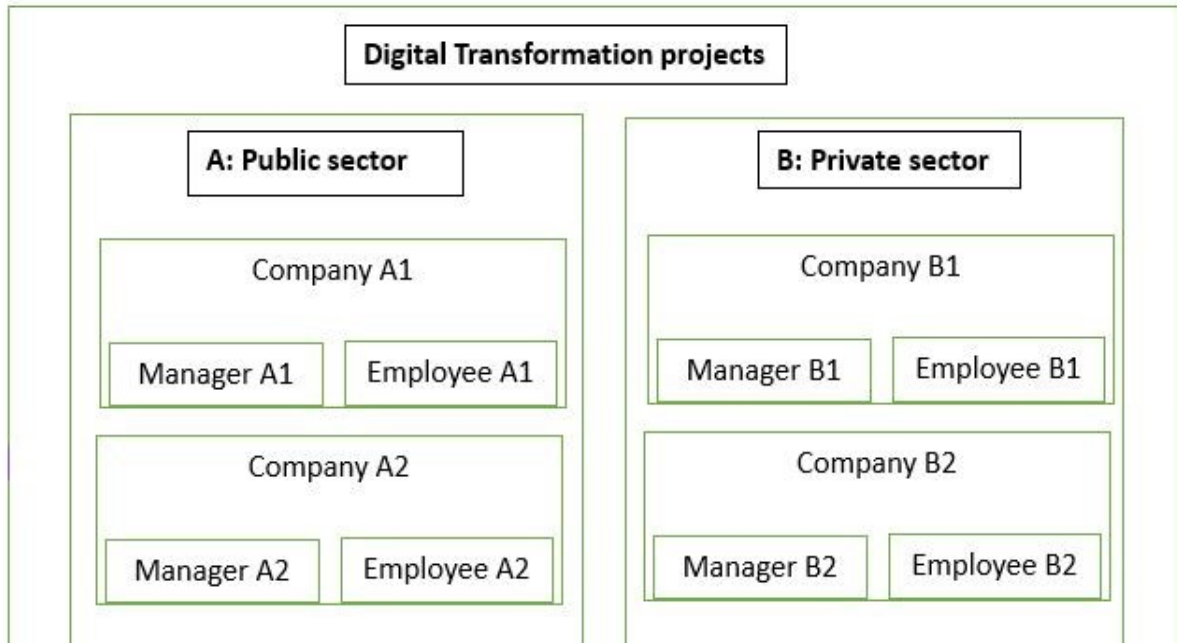
Figure 10. Data-collection categories

The themes for the interviews are based on John Kotter's change management model
and includes eight different categories. However, the interviewees were able to freely
express themselves and the course of the interview was not too bounded to the
themes. The chosen themes are presented in the following figure. The intension of the
chosen themes was to discover how the different areas are presenting themselves in
the manager's work and how the work around the themes could be improved from the
perspective of employees.
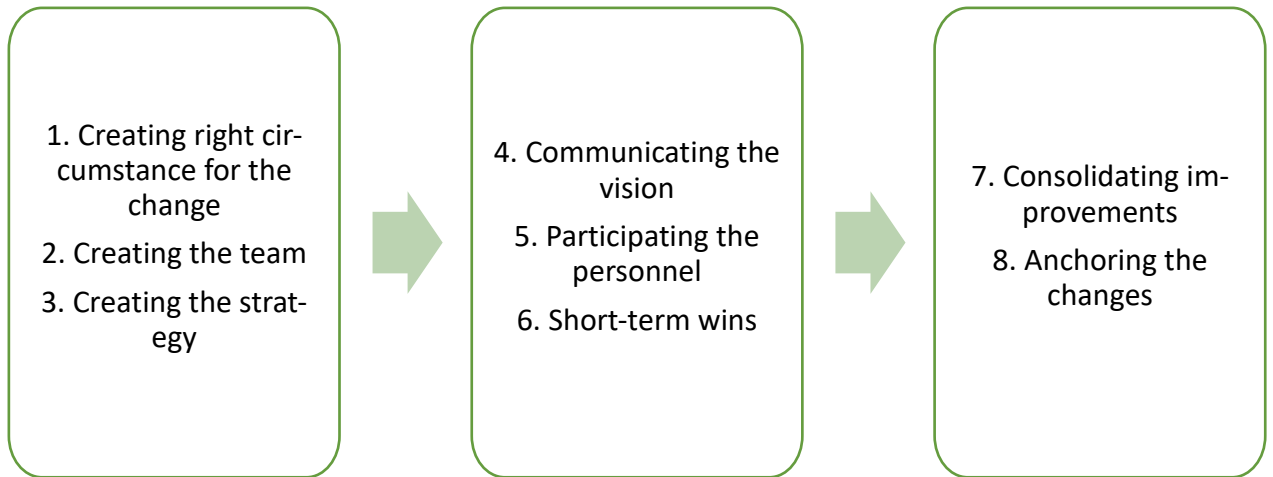
Figure 11. Theme categories of the interviews

In total eight interviews were conducted from four different organizations. The interviewees had been participated in digital transformation projects in their organization and from each organization was interviewed managers and their employees. The interviews were following the chosen themes; however, the nature of the interviews were conversational and other themes related to the topic were also discussed. The interviews were carried out via skype or teams-application and recorded with the smartphone. Afterwards the interviews were transcribed for the analysis. The more detailed information about the interviews is summarized in table 3.

Table 3. List of interviewees, time schedule and duration of interviews.

A: Public sector	Date of the interview	Duration of the interview
Manager A1	23.04.2020	30:12 min.
Employee A1	07.04.2020	31:01 min.
Manager A2	18.06.2020	24:51 min.
Employee A2	22.03.2020	11:19 min.
B: Private sector		
Manager B1	02.06.2020	22:57 min.
Employee B1	20.05.2020	19:10 min.

| Manager B2 | 12.10.2020 | 29:23 min. |
| Employee B2 | 08.09.2020 | 27:41 min. |

3.4   Data analysis: theory-driven content analysis

Content analysis can be defined as a technique that makes inferences by identifying characteristics of messages (Holsti 1969: 14.). Content analysis is not restricted only for textual analysis, but can be applied also to other areas, that are durable in nature (Stemler, 2000). Content analysis gives a researcher a possibility to go through large volume of data (GAO, 1996) and is a useful tool for describing and focusing on to individual, groups or institutions (Weber, 1990). Content analysis can be also used for examining trends and models in documents (Stemler 2000).

Krippendorff (1980) states that there are six questions that should be addressed in content analysis: 1) Which data are analysed? 2) How are they defined? 3) What is the population from which they are drawn? 4) What is the context relative to which the data are analysed? 5) What are the boundaries of the analysis? 6) What is the target of the inferences? (Stemler 2000.) All the described questions are answered by defining the analysed data to the targeted inferences in the process of this research.

In this research the content analysis is highly theory driven. The reason for this, is that from the content of the interviews is searched content categories according to the existing theory. Because the interview questions are comparably clear according to the theories for this research the content categories are obvious.

It is also important to acknowledge that the research question is in line with the methodology and that the methodology serves it. The validation of inferences demands various sources of information and for researcher it would be good to build validation anal-

ysis into the design of the research. Triangulation process credibility to the research findings when various data, methods and theories are used (Erlandson, Harris, Skipper, & Allen, 1993).

3.5   Validity and reliability

The case study is not limited only for one type of data. Qualitative data and quantitative data may be both relevant and be acquired from different data collection techniques. Case study can be a combination of different techniques and the more the data relies on different kind of techniques, the more reliable it can be (Yin, R. K. 2004: 99-100). Case study's validity can be tested in four different ways. These include construct validity, internal validity, external validity, and reliability. Construct validity can be ensured for instance using a variety of sources of evidence (Yin 2014: 45 – 48). In this research the enough number of interviewees, who have significant amount of experience in performing digital transformation projects was ensured. Also, an external expertise was used to review the gathered data was correct. Internal validity is an approach, where is tried to explain how one event led to another (Yin 2014: 45 – 48). In this case the internal validity is a purpose to explain how the actions of the managers influence to the effects in employees. External validity is analysing the problem, whether the research findings can be generally applicable. In this research the amount of interviewed people should be higher to give it more generalizable status. However, compared to single case study, this research is more valid of its nature. Reliability of the research denote that the procedures of the study are documented in a proper manner and can be easily found in research (Yin 2014: 45-48). In this study all the interviews, theoretical background and analysis of the interviews are well documented. Transparency and reliability are in that matter ensured.

4   Analysis

The following chapter presents analyses of the interview results of each personnel category as content analysis and the description of the case. Furthermore, is presented as cross-case analyses the differences in public- and private sectors concerning the process of digital transformations and analysed differences between the employees and managers perspectives.

4.1   Within-Case description and analysis

All the eight interviewed people have been taken part in multiple digital transformation projects during their career. The interviewed employees have been participating in the project teams as end users of the new programmes and the managers as guiding their teams through the new processes. These include for instance the introduction of new ERP- and financial management systems. The new programme launches, the interviewed people have been participating, varied from large international programme unifying projects to the more local projects inside the Finnish organization.

Both public organizations were operating locally in Finland, when the researched private organizations had operations internationally, that influenced to the transformation projects. The connecting factor for each organization was the size of the company, even though the public organizations were operating locally, and the private organizations have international operations.

The findings of the interviewed personnel categories present the aspects people had experienced during the transformation processes in their careers. The interviews results are presented in Table 4 as the form of content analysis and further analysed as textual form.

Table 4. Content analysis

	Public Sector Employees	Public Sector Managers	Private Sector Employees	Private Sector Managers
1. Establish a sense of urgency.	*A1:"First management informs changes generally and later in smaller teams things are gone through better".* *A2:"The change starts from the needs of the own team, but unfortunately the information of the changes happens too late".*	*A1:"If the employees agree with the benefits, they are more motivated to participate the projects".* *A2:"Involvement from the beginning gives a feeling that the change is needed"*	*B1: "The reasons for the change should be informed clearly and why the change is made."* *B2:"Information is important to share, the ignorance is scary."*	*B1:"Main duty is to plan time and resources for the projects".* *B2: "The project should be able to sell to employees and participate the users"*
2. Form a powerful guiding coalition	*A1:"if only managers are participating the projects, the practice is missing".* *A2:"If the change affects the whole organization, one member of each team should be participated".*	*A1:"Participation is voluntary and is formed by the core user group".* *A2: "The creation of the guiding teams can be seen very multidimensional entity. Different people should participate"*	*B1: "Diverse people should participate and workshops with people with different abilities."* *B2:"End-users should be participated, they know best what to do and what to develop"*	*B1:"Acknowledge earlier competence and have the employee participate big changes earlier".* *B2: "The supervisors of the teams know their people. They should choose the right people for the project"*
3. Create a vision and strategy	*A1:"We don't have any chance to participate this".* *A2:"If an employee would have a change to participte*	*A1:"I'm not participating to the creation of the strategy, the information about the new projects come with short notice".*	*B1:"Should be concrete and inform what is the teams motivation in the strategy."*	*B1:"I haven't been participated, Comissions come from the management."*

	the creation, the involvement would be much higher".	*A2:"Every project's strategy should be in-line with overall strategy. It is important to know the present and how to develop to agile and flexible".*	*B2:"Information of the strategy would influence to the motivation."*	*B2: "I'm not participating in the creation of the strategies."*
4. Communicate the vision	*A1:"The information is shared through various different channels".* *A2:"The management informes the whole organization about the changes".*	*A1:"If possible, the communication always face-to-face".* *A2: "It is important that the communication is honest, clear and consistent."*	*B1:"If the answers for the questions are not get, it doesn't create trust and feeling of safety".* *B2: "Things are informed by emails and mostly said what should be done".*	*B1: "The more you inform the less speculation."* *B2: "Communication is important already in the beginning of the project, especially regarding the resources."*
5. Empowering others to act on the vision	*A1:"In larger scale we don't have any possibilities to affect the decisions".* *A2:"I wish every aspect and problem would be noticed already in the beginning of the project and not in the end".*	*A1:"Ensure that employee know that their opinions are acknowledged and involve everyone daily somehow".* *A2:"Involve people to the testing phase and ask questions what should be changed".*	*B1:"Outside consultant creates trust. Different perspectives should be acknowledged early".* *B2: "I have had a chance to influence things in my own teams' projects and my opinions are acknowledged."*	*B1: "Changes are big and employees are given changes to ask questions. This has been working well."* *B2: "Constant communication about the progress is important."*
6. Create short-term wins	*A1:"Projects are usually long and needs time and also intermediate stages".* *A2:"Regular meetings are very important".*	*A1:"Every meeting has a theme and the solutions for the problems are followed".* *A2:"Projcets should be cut to the small pieces, too big steps*	*B1: "It would be good to inform about the achievements and failures honestly".* *B2: " I see these as important steps, if something is not*	*B1:"Good motivation, noticed improvement for the operations".* *B2: "I haven't paid that much attention to the intermediate*

		are bad for the projects and they tend to forget".	*working it can be noticed early enough".*	*stage. The results can be seen in the end."*
7. Consolidate gains and produce more change	A1:"Managers can express the resistance to the changes in a same way as employees". A2:"The attitude of the manager has huge influence to the project proceeding. If manager is not interested, the team is following".	A1:"Resistance is usually happening because employees don't have proper knowledge for the usage". A2: "We need resistance; it is important to dare to criticize and question new operating models".	B1:"Maintain conversations about the projects. Manager has an important role to remind why the project is done". B2:"Managers have power to influence and bring up the benefits of the project, it would be important."	B1:"I try to acknowledge worries and answer to them and tackle the false rumours". B2: "Training is organized right before the launching, too early trainings will be forgotten."
8. Institutionalise new approaches in the culture	A1:"The training and attitude have huge influence how the changes are going to be rooted". A2:"Training is a must. The resources and time must be well adjusted to the change".	A1:"Comes along the using of the new programmes. Necessity is a good incentive". A2:"Ensure enough time, resources and knowledge for the changes and deal the problems the changes bring".	B1: "Have enough time, proper training, after the launch as well". B2:"The training of the other teams new programmes have not been that effective. But training helps a lot."	B1:"Important to provide support and help, good training and equipment. B2: "Training is organized properly, good materials and no one is left alone."

4.1.1   Public sector analysis

4.1.1.1   Employees in the public sectors

The interview findings show that in general, in the public sector organizations, the employees are very well informed about the new digital changes. The changes are usually massive, so the employees are mostly informed well beforehand. Some differences were found regarding the timing of the information. Interviewees expressed that sometimes the information regarding the establishment of the new digital changes was announced too late. Also, the interviewed people agreed, that it is very important that from each department, the change is affecting, is participated people to the development projects. Sometimes already in the beginning of the projects, it has not been clear to which each department the change is affecting. Because of that, mistakes are happening and in the end of the projects is noticed how the new digital change affects more peoples' jobs than in the first place it was expected. Commonly agreed, when employees had a chance to participate the digital transformation projects, the employees felt, that they had a possibility to influence to the outcomes.

In general, the strategies and visions regarding the digital transformations were not enough commonly shared with the employees. In the large public organisations, the strategies are decided far away in the executive board. The smaller departments are mostly doing what is said and have no influence or are not informed about the strategies in detail. The other interviewed employee did not feel any necessity to get more information regarding the strategies and vision for the change. The other interviewed person stated that in their organization, each team's ideas are brought to the management board before the development of the strategies. Employee also felt that this has been a successful way of doing things.

Interviewed employees agreed that regular meetings during the process of change are important, so that people know what is happening. The manager has great impact to the

motivation of the employees, and it was commonly agreed that the managers should also be able to consider all the negative arguments and find solutions for them. Listening and conversations were pointed out to be the important abilities for the managers.

Interesting point was that the resistance towards the changes can appear also from the side of managers. In public organisations, new programmes force the managers to learn more new things and make work by themselves. Difference to the earlier is, that before massive digitalization managers were able to delegate a lot of routine processes to employees, now the managers are the only ones themselves who can do the certain processes and that increases the amount of their work. Delegation was not possible anymore. It was seen to be a reason of new digital programmes, for instance, managers are now responsible of the handling of their own travel expenses.

Both interviewees pointed out training and education to be as important factors for anchoring the changes. Time and resources should be also measured accordingly to the changes, and everyone should accept the change. Employee should get an attitude, that new programmes are their tools for work. For elderly employees it had been even difficult to trust that the information is saved if it is not written on the paper anymore.

4.1.1.2   Managers in the public sectors

The managers felt that important aspects in order to create right circumstances among the employees in the beginning of the digital changes are; to take the whole group into account from the start and justify properly the benefits of the change. All the new and improving possibilities of the change to the employees' daily work should be brought out, because then people tend to be more ready to start working towards the change. Managers also felt that if the top management just inform about the change and does not have any justifications or possibilities to affect or ask questions; the change process is going already from the beginning on a wrong track. However, in the public organiza-

tions this type of line of action is occurring, because the institutions are bigger. Employ-ees should also get a feeling that change is necessary to be able to stay along in the continuous development of the world.

Regarding the creation of the teams, both managers agreed that the participation to the development of the new programmes should be partly compulsory for every affected employee at some point. There should be a phase were the employees test the new programme through his own work. The users learn to use the programme during the change process, and it makes the start of the new change quicker. In the guiding team is important that there are people from different departments and different personalities, empaths but also straight forward working people.

The creation of the strategy and people who are part of that is highly dependent of the organization. Even though both researched institutions are public sector organizations; the managers possibilities to be part of strategy creation varied. The other interviewed manager was able to influence to the overall strategy of the organization and felt that it was very important that also the digital transformations were in line with the overall strategy of the organization. Everything should go hand in hand.

The communication of the vision of the change should be executed face to face and with the language that everyone understands. The interviewed manager brought up that sometimes the projects have been communicated to the employees using difficult terms and complicated presentations, but then the connection to the change and concrete af-fect to the employees' work has been lost among the employees. The communication should be clear and simple, and reiteration is important. Right information also prevents resistance and employees should have a chance to ask questions.

If there would be enough resources, managers would like to participate every affected employee to the development process. However, if the participation is not possible, the opinions of the workforce was brought up in another way. The managers agreed that it

is not enough just to tell everyone how things are going to be done, employees' comments and feedback must be taken in to account from the beginning of the process. It is important to get employees testing the new digital programme at the testing point, and also give employees a chance to find solutions to the problems, if they occur. At this point, the ICT people are not the ones who decide what is done. Both managers also agreed that the projects should be cut into small parts and present the progress every second week. If the steps are too big, there is a danger that project will be forgotten.

In the process of anchoring the changes, it was agreed that new working procedures should be brought into use immediately. There is always resistance, but it should be taken into account and utilized. Communication and information are key aspects in the rooting of new ways to work. Resistance can be seen also occurring because of the incompetence, that is why training is highly important to start immediately. If the problems occurs because of the technical problems, it is much difficult to motivate the employees to start to use new digital programmes. It is important to make sure technicality works before introducing the programme to the end users. Some people also feel that it is hard to resign the old, for instance using of the paper. For some people it takes time to trust the new ways of doing things.

The changes need time, resources, and competence. It is important to be able to handle the challenges changes bring and consider the well-being at work. Also, the top management's approach to the changes is important, more possibilities to affect should be given to the employees.

4.1.2 Private sector analysis

4.1.2.1   Employees in the private sectors

Both employees agreed that communication is very important already from the beginning of the change. The background for the change and why it is needed is important to justify. The cost savings were not considered to be enough reasons for the digital change,

employees wanted to have the understanding why and how much work the change requires individually. The change project should be sold with internal justifications. However, when the change was affecting only partly to the department where employee is working the communication was considered to be bad. The resistance was said to be less, if the communication would be better and honest. Also intranet was not considered to be enough for the information channel for the changes, the information should be brought to the team level by the immediate superior.

Employees agreed that the more different people are participating the transformation project, the better. The more people participate the change process, more needs and perspectives are occurring. One employee gave an example when there was not considered all the affected departments in the organization where the change will affect, it caused major problems to the whole organization. That means losing money. It was also understood that the participation of the whole personnel is a resource question, however it was seen very important.

It was stated important that the strategy for the transformation has been informed in a concrete way and link the employees as a part of the whole strategy of the company and change. Employees felt important that it is explained what the company achieve with the change and that it is reviewed from different angles. This affects to the whole operation of the company. The interviewed employees' opinions differed about how the strategy was informed in their organization. Both agreed it is highly important, but only in the other company was paid extra attention that the strategy is informed also in the employee level. More information would raise the motivation of the employees. In the company where was paid more information to the strategy information was organized Q&A occasions, where employees were able to raise questions and get answers to the not known things.

In the other interviewed organization were used outside consultants to research the operations and initiating changes. This was seen as a positive thing, because it was considered to inspire trust and giving a feeling that everyone takes the change seriously. It also presents an outside perspective for the change. Both employees had a feeling that they have had a possibility to be part of the change processes and be able to influence to the transformation. Their opinions have been taken into consideration properly. However, if the transformation was only partly affecting their departments, the influencing opportunities have not been enough, and they didn't feel like being listened enough.

The short-term reviews were seen very important for the change process. The communication in this phase should be also as honest as possible. Other employee also highlighted that if there was a lot of failures on the way already, it strengthens the understanding that the change is not good. This should be also taken seriously and consider wisely about the future of the project. Managers were seen also in a very important role in the last phases of the transformation projects. Managers should remind why we make the change when the employees start to be tired. Also admit that some peoples' job will become more difficult after the change. There are always some problems on the way and they cannot be preventable.

Piece by piece the introduction and training should succeed. There should be enough time to instil the changes and guarantee the training in the future as well. Other interviewed highlighted that there should be two separate trainings, one before the start and the other after the new digital transformation has been launched and used. There can always be found more new functions how the employee's job could be done better. The need for the development should be left for the end-users.

4.1.2.2   Managers in the private sectors

The difficulties in the beginnings of the digital transformation were seen the utilization of the time and planning of the resources. The business itself could be so busy, that there is hard to find time among employees for participating new digital change projects. It

was agreed that the more different people participate the project from the beginning the less resistance occurs. Also, the younger generation was seen easier to adapt the changes from the beginning.

The interviewed managers are both been able to choose their teams for the change projects. It was important because the managers know the employees they work with. The criteria for participating the projects have been the previous experience of the employee and their current work. The employee must have time for the new project beside the normal work. Either of the interviewed managers have not been able to be part of creating the strategy of the transformation. The commission comes from the top management.

Both managers agreed about the importance of the communication already in the beginning of the transformation. Weekly meetings and more intimate discussing with the core crew was seen important. In the other organization was organized time for the whole personnel to ask questions about the new changes and given answers to the questions. This was seen to be working very well. The short-term wins were also seen to motivate the employees on the way and are used as to communicate people about better and smoother operations due to the change in the future.

Trainings are important in every change, and they should be organized right before the launching. If the training is held too early, the things tend to be forgotten. Quality training material and tools should be organized. Managers are taking all the worries seriously and giving enough support. In the other organization was created an own Teams-space for the project where all the information was available for everyone, including the project plan. Close tracking was organized, so that it was ensured that everyone do their part of the job.

4.2   Cross-Case Analyses

4.2.1   Public- and private sector

The different phenomenon of the public- and private sectors were analysed based on the interview results both from the employees' and managers' perspectives. The below shown Figure 12 presents the main aspects, that affects the digital transformation projects in these two sectors.

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┌──────────────┐      ┌────────────────────┐      ┌──────────────┐
│              │      │       Size         │      │              │
│ Public sector│ ◄──► │  Company Culture   │ ◄──► │Private sector│
│organisations │      │ Social connections │      │organisations │
│              │      │     Resources      │      │              │
└──────────────┘      └────────────────────┘      └──────────────┘
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Figure 12. Aspects in public- and private sectors, that affects differences in the digital transformation projects.

In general, public sectors are often larger institutions and that already affects to the process of digital transformation projects. Based on the research findings it was discovered that the differences of the digital transformation projects where not found from the job of the managers. The working procedures of the interviewed managers did not differ from each other based on the sector where they were operating. The differences that influenced to the process of digital transformations were connected to the sizes of the organisation, the different culture between institutions, social connections and resources.

Compared to the private sector it could be noticed that the attitude inside the public organization and among the employees is "we done how it is said to be done". The employees and their managers seemed not to have that many possibilities to affect to the given rules concerning the new digital transformation activities. The employees are acknowledging it and understood that when the new programmes are affecting different units extensively, the things must be done as it is told. The mechanisms in public-sector are larger and can cover different institutions all around the country. Although the researched private organizations were also large corporations, the employees felt to have better influence on the transformation projects in the private sector organisations.

It was also noticed that social connections were influencing to the project work more on private sector. The participation to the projects and people who had previous experiment were chosen more often to the change projects and the work in own teams were seen more restricted within the private organizations. In private sector it could be observed that things are done closer in own teams and information is not that well shared within the whole organization. The information could get stuck to one team, even though the change affects other parts of the organization as well. Changes in public sector can be seen more communal and all personnel is participated better. Reason for this can be found from the organisation structure, when public organisations are more familiar with working as large institutions and projects are usually large. Experience in communication is achieved throughout the organisation.

Reasons for the participation difference and the flow of the information could be also justified because private sector organizations attitude is more concentrated to the business itself. The employees might not have time to participate and get to know the transformation projects beside their normal daily job. If the business is busy, the energy must be directed there where it is needed. In private sector, the project participation is considered to be more resource question and the project working takes much time off from the daily tasks. In public sector organizations the pressure might not be as hard as in

private sector and employees have more time and chances to participate the development of new digital changes.

4.2.2 Managers and employees

The perspectives towards digital transformation projects between the managers and employees were surprisingly similar. Both interviewed groups agreed widely how the communication, team building, and consolidation should be organized in the transformation projects. Reason for this could be seen, that the interviewed managers were all working very closely to their employees and were aware of their daily practices. The analyse could be different if the interviewed manager of the transformation projects would have been outside consultant or only working as an administrative position.

The managers as well as employees agreed how the project team should be organized. The involvement and "selling" of the project were seen important from the point of view of managers. The Employees were more concentrated how and when the information of the changes were made. However, the managers did highlight the communication and information throughout the whole project. As well the quality of the information; that it is clear, honest and consistent.

One notable difference between the employees and managers were, that employees were more aware of the issues, that can happen, if all the affected areas the project is affecting, are not noticed already from the beginning of the project. Employees thought this very problematic and causing issues in the whole organization. Reason for this can be found, how strongly the digital changes affect to the employees' everyday life, when the managers work is not as much influenced. Even the small changes in employees daily work and unnoticed issues in digital transformation projects can affect widely to the daily procedures.

Both studied groups gave value to the proper training and the managers did give importance to the available and proper support. However, the managers did also have an

insight to the problem with time and resources. Employees did not mentioned any noticed towards these issues.

5   Findings

The findings chapter presents how the change management theories are indicated in the work of managers and the improvement suggestions for the managers. Lastly, the chapter presents the synthesis chapter, where the frame of references is presented based on the interview findings.

5.1   Indication of change management theories

In general managers were aware of the John Kotter's theory of the change management and for the most part have been paid attention to all aspects the change management model presents. The managers were informed beforehand that the interview questions were based on the theories of change management and acknowledged that they were familiar with the theories. The following table presents, based on the interviews with the managers of digital transformation projects, how different aspects of John Kotter's change management model are existing in their modes of operations. The scale differs from no existing to somewhat existing and existing measures. The results are concluded from the interview results and presented in the following Table 5.

Table 5. Indications of change management aspects in digital transformation projects

Eight Steps To Transform Your Organisation	No existing	Somewhat existing	Existing
1. Establish a sense of urgency.		X	
2. Form a powerful guiding coalition			X
3. Create a vision and strategy	X	(x)	

4. Communicate the vision		X	
5. Empowering others to act on the vision		X	
6. Create short-term wins			X
7. Consolidate gains and produce more change			X
8. Institutionalise new approaches in the culture			X

To start the change, it is important that the whole organization is ready to want it. It was discovered that for the managers it was familiar to talk with their employees and listen to them, but the connection between the strategy and communication of the actual need for the change was missing. Reason for this could be found from the limited possibilities of the managers to influence to the overall strategy of the interviewed organisations. The urgency of the change and communication of it could be improved better.

The forming of the project teams was handled generally well within the managers. They were able to influence and choose the most suitable people to work with and managers were aware that the team should be diverse and include people from every affected

department of the organization. However, the managers did not have generally possibilities to affect to the creation of vision and strategy for the company nor the project itself. The managers, who lead the digital transformation projects could have more influence to the general strategy formulation of the organizations. In the interviews it was discovered that poor communication and lack of involving people from different departments, led to the situations were the digital transformation project had eventually effect more people than it was first discovered. This can lead to financial problems and changes during the project, that can be very costly. Clear vision and communication of it is important and could be improved. To some extent communication was well organized, but the content of it could need more attention. Clear vision helps people understand why they are doing something, and they see clearly what is the purpose to achieve. Determining values and that they are in-line with everything what is done is one of the key points and could be improved.

Managers were however seeing communication very important and preferred face-to-face communication with the employees. Also giving the open possibilities to ask questions was generally given for everyone involved and managers were considered this important.

The resistance to the change was generally understood and taken into consideration in the work of the managers. They found the resistance to some extent very important, and all the negative aspects were important to take into consideration. Also, individual guidance and training to avoid the resistance was seen important aspect. In one of the organisations was also hired outside consultation to improve the digital change process, which is seen empowering aspect for the whole working group. The proper communication during the project was also well connected to short-term wins. Managers felt that it was important to communicate the employees the development of the project.

As John Kotter argues, many transformation projects fails, because the success is defined too early. The managers did understand and highlighted the importance of proper training and guidance throughout the project. The programmes should be technically ready before launching and that training should be start immediately with the employees. The anchoring and institutionalisation of the changes were well acknowledged among the managers work.

Based on the interview results, Kotter's change management model can be seen very dynamic compared to the real-life projects. The gap between the top management, the managers and employees can prevent the smooth flow of the procedures in the bigger organizations. John Kotter's model could be more agile tool in smaller organizations where the structures are smaller. It was noticed that in the interviewed organizations same people are not able to influence all the aspects the Kotter's model requires. This includes for instance that all the managers had surprisingly little possibilities to affect to the strategy formulation of the companies. Although new digital programmes they are implementing are important aspects of the company and should be in line with every other operation. The international aspects made it also difficult to compare the chosen theories to the actual processes.

It was noticed that Kurt Lewin's model of the change was not seen to be aware in the work of the managers. Managers were more interested in physical doing and procedures than influencing to the mindset of the employees. The idea that changes begin from the change of the individual person was not come into sight in the interviews. The transformation projects were taken as set of phases and the human aspect was not so obvious. Managers were interested in the worries and were treating the employees empathically but the idea of influencing to the actual mindset of the employees was not manifested in the interviews.

Based on the manager's interview results, it can be observed that the McKinsey's 7 S Model is more useful for the top management. The managers who are guiding the digital

transformation processes, do not have the same perspective to the company's organisational structure as the top-management. As it was earlier mentioned, the managers had surprisingly little possibilities to influence to the overall strategy of the company. That is a reason why the theory cannot be notable in the manager's work in this research.

5.2   Improvement suggestions

The synthesis of the analysed interviews are presented as improvement suggestions for the designing a digital transformation project. The following Figure 13 presents the six suggestions for the management improvement based on the interview results. The suggestions are further analysed.

1. Participation of best resources of each department

2. In-line strategy to support the company goals

3. Organizing workshops to engage the employees

4. Testing and correcting the critical errors to avoid resistance

5. Timely training and individualising

6. Back-up and sticking to the plan

Figure 13. Improvement suggestions

1. **Participation of best resources of each department**

All the interviewees agreed that it is important to participate each person from different department, that is affected by the digital transformation. It is important to notice where the changes are influencing in the organization. The best resources of the company must be tied to change projects and teams must have all levels of organization represented. This is very important in larger projects. For example, in new ERP projects that is affecting everyone's operations.

2. **In-line strategy to support the company goals**

The strategy of the change project should be derived from the business or operational strategy and the change must support the goals of the company. The strategy and entity of the change is created by analysing the business objectives and determining the support they need with digital systems. Through the definition of business goals, processes can be described at the level that operational activities support the goals of the company. It is important that the organization is marching in the same direction. Without this, there is no certainty that the operating models that are devised by the employees will support the company's strategy.

3. **Organizing workshops to engage the employees**

In workshops, employee representatives would be instructed to "invent" new, more streamlined operating processes. The workshop leader should have the tools and the ability to work together to define the processes that support business objectives. Workshop members commit to new designs because they feel as part of the project as the designs are invented by themselves. This should be used also enhancing to engage other staff. Once the new operating models are outlined, they should be piloted in real life, led by workshop members. The manual implementation of new operational processes in the production environment shows the shortcomings and shows the staff how the models work.

4. Testing and correcting the critical errors to avoid resistance

It can be also observed that it is important that milestones are assigned to the project. These are short-term monitoring points, and they can be critical steps in a project. In other words, milestone is a stage that has been reached and after succeeding in this the project can be continued. For instance, if the system has been tested and critical errors have been corrected. Not earlier than this, it is possible to move on to general training. It is a good idea to inform the whole personnel about these steps in accordance with the communication strategy. Piloting new operating models effectively reduces resistance to change. When the pilot group gets the work done in a more streamlined way and with better rewards, the speeches fade away. This will make it easier to incorporate new digital tools.

5. Timely training and individualising

Timely training and perceiving the significance of each task as a whole is important in the end of the projects. For each employee it means "what I do and what it means in the whole process". The functionality of the new system and the competence of the personnel must be ensured by performing testing by the personnel. Tests must be documented well. An absolute prerequisite for commissioning is a serious pre-testing, that goes through the processes with existing and real material. It should be assessed whether there are errors that prevent production in use. If this occurs, it is important that the mistakes are repaired before the begin. If there are errors in the system that prevent production use in the beginning, it will undermine confidence in the new system in every level. Losing confidence in the beginning can cause a big delay in deploying the system. In addition, there should be enough support staff for taking care of employees learning. Quick help gives the employee a sense of security and there is no temptation to go back to the old models.

6. Back-up and sticking to the plan

It is important to acquire qualified resources for the projects and their cyclical work-load prepared for backup people. Visible support for the project from management and supervisors. A manager's derogatory speech can change the priority of a project in his or her organization immediately. The project manager has a big role to play. The project manager must be prepared to patch up re-resources, because being a boss alone is not possible. The project manager implements everything that others do not do. Resources carry out the project alongside their own work, in which case attention must be paid to the quality of the work in addition to the schedule. During the project, often "hunger grows while eating" and that is why an approved project should be implemented as specified and no additions should be made to it. The additions make it easy to create an "forever project". Additional needs that come during the project should be recorded and made a further development project and the new project should have its own organization: A steering group that can only make changes to the approved project plan including schedule, money and content.

5.3   Synthesis

The following picture of the frame of references gather the findings from the interviews. In the picture is presented what actions the managers should make during each phase of the digital transformation project. Each action is justified with the effects employees are experiencing or benefits for the project due to the action. The frame is filled based on the data gathered from the interviews and presents the most important actions managers should be considered during the digital transformation processes. Moreover, the frame presents the effects employees are experiencing due to the management practices. The frame of references can be used in every case, apart from if the interviewed people are working in a public- or private owned organizations and will help managers to understand better the effects of their doings during the project. In the following frame of references is utilized the Kurt Lewin's and John Kotter's change models.

Unfreeze	→	Change	→	Freeze
1. Creating right circumstance for the change 2. Creating the team 3. Creating the strategy		4. Communicating the vision 5. Participating the personnel 6. Short-term wins		7. Consolidating improvements 8. Anchoring the changes
Actions 1.Make clear everyone knows the reasons behind the change. 2. Participate at least one person from each affected department. 3.Be aware of the overall strategy of the company and that the project is in line with that.		**Actions** 4. Organize regular group meetings. 5. Organize workshops on the way. 6. Make sure everything works after each milestone.		**Actions** 7. Support everyone according to resources 8. Organize proper training for everyone.
Effects 1. Motivation increases. 2. More knowledge to be shared in each team. 3. Changes can affect more aspects than was first thought.		**Effects** 4. No hidden information, employee knows where we are going. 5. Employee feels being part of the change. 6. Notices from different perspectives.		**Effects** 7. Reduces resistance among the group. 8. What is familiar, does not scare.

Figure 14. The Frame of References

6   Summary and discussion

The last chapter presents the main theoretical and managerial implications and suggestions for the future research. Also, the limitations of the study are shortly presented in the final chapter.

6.1   Theoretical implications

The research presents an insight to the perceptions and thoughts employees and managers are experiencing in a lifetime of digital transformation project. As a theoretical contribution, the analysis of the change management theories incidences provides new theoretical implications.

Based on the current definitions of digital transformation and the research findings, it can be observed that digital transformation is about the change towards new mindset and how the change process is managed inside the company to gain more competitive advantage. Based on the interviews, the ability to manage the employees who start using the new technology is an important key focus point. The resistant always emerge itself, but the handling of the attitudes and providing right circumstances among the workplace decreases the negative feelings towards the changes.

As the previous research consists of variety of models for the change management the subject is very complex. This research aims through the change model theories to give a better understanding how the change projects in digital transformation could be improved. For this the theoretical framework was created from the John Kotter's eight step model and other relevant theories are analysed against real business situations to explain how the people work with the changes.

The findings align with previous studies in a way that managers work follows the existing guidance in the literature. In the work of managers cannot be observed any remarkable errors. However, the failures in the transformation processes could be directed more to

the lack of communication and a communication strategy in the whole organization. The importance of the communication strategy in the change process could be a recommendation also for the future research.

6.2   Managerial implications

For the managers, the researched topic provides an understanding how the actions they make before, during and after a digital transformation process affects their employees who are influenced by the digital change. The researched data presents information how the employees would prefer the project developing and what aspects would be important to considered on the way. The fact how management sees the changes in strategic terms and how the employees are seeing changes as transformation of their daily work procedures is an interesting confrontation to solve. Sometimes they do not walk hand in hand with each other's and the research results give the managers better understanding how to make the changes more effective.

The new digital solutions should support the existing business and its processes. Changes should emerge from the needs of existing operative and businesses' actions. It is also important that the necessity of the change is justified for instance because of the pressure of the environment or stakeholders, changing environment or increasing business. Changes should not be made because of fun or someone's impulse. Change allows the company to ensure their existence in the future and management must clearly state that it is behind the change project.

As it was discovered in the literature review, no industry is safe from the digital transformation and that is why it is considered to be number one risk for the businesses worldwide. Even though some industries are more stable and rooted to their old operation models, the change towards more digital operations can happen suddenly. Managers should be prepared and ready for the transformation process and practice their skills for the future. Also, the training of the employees to tolerate change and knowhow for doing that is important, because every change starts from the people. As according to the

Kurt Lewin the people must change in order to make the change and managers have an important influence to that.

If all the affected department of the transformation had not been considered before the start of the project, it makes the change very costly. For the managers it would be important to find all the affected areas before starting the transformation process. This can be one reason for the unsuccessful digital transformation projects and why they have not been profitable in larger scale. Neither the cost savings were not considered to be enough reasons for the digital change, employees wanted to have the understanding why and how much work the change requires individually. These are important factors that managers need to be aware of when guiding a successful digital transformation project.

Especially ERP system projects are long in time and it would be good for the managers to also define a communication strategy for longer change projects. It defines e.g., communication tools, communication cycle and specific means and channels for different organizational levels, as well as multi-directional information flow.

When organizations are pursuing digital maturity, the managers play a big role in the picture. Even though it is important that the people in charge are technically savvy and are aware of all the latest technology and what it enables; the managers have big influence to the people who are using the new technology and how successful the new outcome is. As the result of the study presents, the employees consider manager's role significant in the process of digital change.

The capabilities companies used few years ago, are not necessarily relevant few years later anymore. That is why to train the employees for new digital changes is constantly happening phenomenon. The younger generation is already more familiar to the use of new technology, but also it was noticed in the research, how older generation still have difficulties to understand the changes towards new technology. However, the companies

should be continuing to improve their ability to respond to the changes and the agility in the technological changing world; and simultaneously preparing their workforce to adapt these changes as well as possible. As pointed out from the interviews, the resistance can appear also among the management of the company.

6.3   Suggestions for future research

This small-scale research about the management of digital transformation presents a narrow introduction to the topic and introduces the major effects employees and the managers are facing regarding the topic. The topic of the digital transformation is complex and needs further research to explain more precisely the management of the phenomenon in the companies. Even though the digital transformation has been happening already decades, the changes in technology makes the transformation process also constantly changing.

Because of the high level of complexity in change management and digital transformation it was impossible to cover all aspects of the study. It is recommended to also study how other change management theories are notable in the managers work, and not concentrate only to the theories that were chosen in this research. The future studies could be more concentrated to the top-management input and effects to the digital transformation projects and continue the research to this direction. In the digital transformation projects the influence of the top-managements work to the other management's job and effects to the employees has not been researched.

Also, a relevant topic to study in the future research is how the digital changes can be maintained and kept as permanent situation in businesses. Because unfortunately, many changes fall back to old channels after a period. However, in some cases, the change is so irresistible that going back is not an option anymore. For that situation leads the completely change of the markets and customers' demands. For the future research suggestion is also proposed to study about the communication plan in the organizations, that are going through digital transformations. In this research it was discovered that such

communication plan is needed. In the future the content of it both private- and public organizations could be researched.

6.4 Limitations of the study

Limitations are topics, that arise in a study and are not in researcher's control. The limitations affect to the result and the extensity of the study. Every study has limitations and future studies can doubt any conclusion of the study. The limitations are for instance the accessibility to only certain interviewed people in organizations, data or documents. The future studies have a possibility to cover these limitations. Limitations in qualitative study are related to validity and reliability. In the context of case studies, the generality of the results is always unclear. The case study studies a person, organization or group and cannot be reflected to any similar case. For the case studies, additional research is always needed to verify the findings to some other similar alternative. (Simon, M. K., & Goes, J. (2013).

Because of the limited research access, the research suffers from number of limitations. The number of researched companies and the data was gathered without any distinctions to other relevant alternatives. That is why the generalisation to public- and private sectors in Finland cannot be generalized. Also the acquirements of the interviewees to talk about all the researched topics was limited. The possibility to also interview the topmanagement of the chosen organizations would have extensively increased the significance of the study. However, the interviewees had a possibility to express themselves freely, without too restricted questions.

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Appendices

Appendix 1. Interview questions for the employees

Kysymykset työntekijöille:

1. **Oikean olosuhteen luominen muutokselle.**

   Onko esimiehesi viestinyt digitaalisten muutosten välttämättömyydestä työntekijöille? Kuinka? Mitä kehitettävää informoinnissa olisi?

2. **Tiimien muodostaminen.**

   Kokoaako esimies tiimit digitaalisiin muutosprojekteihin? Mitä asioita tulisi mielestäsi huomioida tiimin muodostamisessa? Kuinka nämä asiat vaikuttavat työhösi?

3. **Strategian luominen.**

   Kuinka strategia on informoitu? Miten informoitu visio ja strategia digitaaliselle muutokselle vaikuttaa kokemuksiisi muutoksen aloittamiselle?

4. **Muutosvision viestiminen**.

   Kuinka muutosvision viestiminen työntekijöille toteutetaan? Ja miten viestimistyyli on mielestäsi onnistunut?

5. **Henkilöstön osallistaminen.**

   Kuinka koet pääseväsi osallistumaan digitaalisen muutoksen toteutukseen? Kuinka mielipiteitäsi huomioidaan?

6. **Lyhyen aikavälin onnistumiset.**

   Miten koet lyhyen aikavälin onnistumisien vaikuttavan muutoksen läpikäynnissä? Kuinka suuri merkitys välietappien onnistumisilla on muutoksen edistymisessä?

7. **Muutosten vakiinnuttamiset yhteisössä.**

   Kuinka koet esimiehen vaikutuksen merkityksen muutosten vastustukseen työyhteisössä? Positiivisia/ negatiivisia kokemuksia?

8. **Muutosten juurruttamiset.**

   Kuinka digitaaliset muutokset tulisi juurruttaa työyhteisössä?

   Muita mieleen jäänneitä (hyviä tai huonoja) kokemuksia muutosprosessien aikana?

Appendix 2. Interview questions for the managers

Kysymykset esimiehille:

1. **Oikean olosuhteen luominen muutokselle.**

   Kuinka luot työntekijöiden keskuudessa oikean olosuhteen digitaalisen muutoksen kiireellisyydelle ja välttämättömyydelle?

2. **Tiimien muodostaminen.**

   Oletko osallisena tiimien muodostamisessa muutosprojekteissa? Kuinka muodostat oikean ohjaavan tiimin?

3. **Strategian luominen.**

   Oletko mukana strategian luomisessa muutosprojekteissa? Kuinka laaditte vision ja strategian digitaaliselle muutokselle?

4. **Muutosvision viestiminen**.

   Kuinka digitaalisen muutosvision viestiminen muille työntekijöille toteutetaan?

5. **Henkilöstön osallistaminen.**

   Kuinka henkilöstön osallistaminen muutoksen aikana on toteutettu?

6. **Lyhyen aikavälin onnistumiset.**

   Kuinka varmistat lyhyen aikavälin onnistumisia?

7. **Muutosten vakiinnuttamiset yhteisössä.**

   Kuinka muutokset vakiinnutetaan yhteisössä ja vastustus muutosta kohtaan ratkaistaan?

8. **Muutosten juurruttamiset.**

   Kuinka digitaaliset muutokset juurrutetaan työyhteisössä?

9. **Muita tärkeitä huomioita ja kokemuksia muutosprojektien läpiviemisestä?**