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Carita Ristelä

# POSSIBILITIES AND CHALLENGES OF VIRTUAL AGILE TEAMS IN A NORDIC ORGANIZATION

– Case study from insurance industry



MASTER'S THESIS | ABSTRACT

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Carita Ristelä

# POSSIBILITIES AND CHALLENGES OF VIRTUAL AGILE TEAMS IN A NORDIC ORGANIZATION

## - CASE STUDY FROM INSURANCE INDUSTRY

This Master's thesis is a case study about the possibilities and challenges of virtual agile teams in Company X. The purpose of this research is to examine how the Scrum Masters of virtual agile teams in the Company X have experienced working in 100% virtual setting and what kind of opportunities and challenges they see working remotely in virtual setting. Another aim is to find out how the virtual agile squads can develop their way of working going forward and flourish in the new more agile and virtual working life.

In this research, qualitative methods have been used to collect the empirical data. The data was collected through interviews in the case company with Scrum Masters and Agile Coaches. Collected data was analyzed by thematic analysis. Based on the literature review and the results of the interviews, the conclusion of challenges and possibilities of virtual agile teams was summarized in a traditional four-field SWOT analysis.

The squads and Scrum Masters in the researched company have experienced big changes in their lives in 2020. The different feelings experienced by the Scrum Masters are caused by Agile Transformation, working in 100% virtual setting, the general uncertainty of the world or the combination of all these. According to this research, the overall experiences of the Scrum Masters working in the virtual agile squads have been positive, but also suggestions for future improvements were found.

The results of this research form an overview what are the possibilities and challenges of virtual agile teams in Company X. The main challenges, which the researched company should try to mitigate are caused by totally missing face-to-face communication and shared resources. The solutions to these challenges are to arrange irregular face-to-face meetings when possible and to find suitable solution to each shared resource case. The possibilities and benefits of the virtual setting have been so remarkable that none of the Scrum Masters believed that they will go back to 100% in-office setup with their squads. That's why it's extremely important to develop virtual agile squads' ways of working and follow their well-being.

### KEYWORDS:

agile methods, Agile Transformation, communication, teamwork, virtual teams

Carita Ristelä

# KETTERIEN VIRTUAALITIIMIEN MAHDOLLISUUDET JA HAASTEET POHJOISMAISESSA ORGANISAATIOSSA

- Tapaustutkimus vakuutusosalta

Tämä opinnäytetyö on tapaustutkimus ketterien virtuaalitiimien mahdollisuuksista ja haasteista tutkitussa organisaatiossa. Tutkimuksen tarkoituksena on ottaa selvää miten virtuaalitiimien Scrum Masterit ovat kokeneet työskentelyn 100% virtuaalisessa ympäristössä ja millaisia mahdollisuuksia ja haasteita he näkevät virtuaalityöskentelyssä. Toinen tavoite on selvittää kuinka ketterät virtuaalitiimit voivat kehittää työtapojaan, jotta tiimit menestyisivät paremmin tulevaisuuden ketterämmässä ja virtuaalisemmassa työympäristössä.

Opinnäytteen empiirinen osuus suoritettiin kvalitatiivisena tutkimuksena. Teemahaastattelussa haastateltiin tutkitun organisaation Scrum Mastereita ja Agile Coacheja. Kirjallisuuskatsauksen ja haastatteluiden perusteella päätelmät ketterien virtuaalitiimien mahdollisuuksista ja haasteista tiivistettiin perinteiseen nelikenttä SWOT-analysiin.

Tutkitun organisaation squadit ja Scrum Masterit ovat vuoden 2020 aikana kokeneet suuria muutoksia. Organisaatiossa aloitettu Agile muutosmatka, tiimien siirtyminen koronaviruksen vuoksi 100% virtuaaliseen työympäristöön ja maailman yleinen epävarmuustila ovat aiheuttaneet Scrum Mastereissa erilaisia tunteita. Tutkimuksen mukaan Scrum Masterit ovat kokeneet virtuaalityöskentelyn pääasiassa positiivisena asiana, mutta tutkimuksessa löydettiin myös kehitysehdotuksia tulevaisuutta varten.

Tutkimuksen tulokset muodostavat yleiskuvan millaisia mahdollisuuksia ja haasteita ketterillä virtuaalitiimeillä on tutkitussa organisaatiossa. Eniten haasteita aiheuttavat kasvokkain työskentelyn totaalinen puuttuminen ja resurssien jakaminen muiden tiimien kanssa. Nämä ovat haasteita, joiden vaikutusta kohde organisaatiossa voidaan lieventää järjestämällä epäsäännöllisiä kasvokkain tapaamisia, kun ajat sen sallivat. Resurssien jakamiseen tulisi löytää kuhunkin tilanteeseen sopiva ratkaisu. Virtuaalisen työskentelyn mahdollisuudet ja hyödyt on koettu squadeissa niin suuriksi, että kukaan Scrum Mastereista ei usko enää palaavansa tiimiensä kanssa 100% toimistotyöskentelyyn. Siksi virtuaalitiimien työtapojen kehittäminen ja squadien hyvinvoinnin seuraaminen tutkitussa organisaatiossa on erityisen tärkeää.

## ASIASANAT:

ketterät menetelmät, ketterä muutosmatka, kommunikaatio, tiimityö, virtuaalitiimit, virtuaalityö

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## LIST OF ABBREVIATIONS AND TERMS

ACE	Agile Center of Excellence
AT	An organization-wide change journey in which all aspects of the organization are affected and agile practices and mindset is taken into use enabling the agile way of working.
Agile operating model	An agile operating model helps organizations create self-adjusting teams in every part of the business and to spread agile mindset.
BA	Business area
CSR	Case study research
COVID-19	Coronavirus disease 2019
CX	Customer Experience
Enablers	The supporting functions which are not organized into tribes.
F2F	Face-to-face
P&C	Property and casualty
PMG	Private Management Group
PO	Product Owner defines the Squad vision and has the mandate to prioritize the Squad backlog. Handles stakeholders and collects requirements and needs. Provides the Squad with an updated backlog to pull user stories from.
SM	Scrum master ensures understanding of agile methods in the Squad, facilitates agile ceremonies, and ensure they enable the Squad to increase value creation and effectiveness. Identifies blockers and removes them.
Squad	Agile team that consists of 6-10 dedicated individuals with autonomy, focus and the right combination of disciplines to deliver on a specific mission.
Squad member	Collectively responsible for the Squad delivery and target reach, pulls work into the Squad sprint plan.
SWOT	A qualitative method to analyze Strengths, Weaknesses, Opportunities and Threats of a certain topic.
Tribe	A group of Squads joint together by a common mission & objectives, responsible for delivering a part of the value from the value stream.

Value stream

A grouping of Squads, with an overall common purpose to deliver a clear value to one or several of the value receivers and to Company X.

WHO

World Health Organization

# 1 INTRODUCTION

## 1.1 Background of the thesis

The researched company is a Nordic insurance company, which operations are divided in four business areas: Private, Commercial, Industrial and Baltics. In 2019, the Private Management Group (PMG) decided to start Agile Transformation (AT) journey from Business Area (BA) Private. The goal was to speed up the development, to create clearer prioritization across units, to gain ability to respond rapidly to changing business environment, to increase employee engagement, to serve customers even better and to reach the BA's next business goals. These are all important goals, but in the main focus of the change journey are the people. According to Chamberlain and Zhao (2019), there is a strong link between employee satisfaction and customer satisfaction. Particularly in industries with close contact between workers and customers as insurance industry, the connection between happier workforce and company's ability to deliver better customer satisfaction is clear. Nordic knowledge and people are seen as the Company X's future competitive advantage. That's why the company is concentrating on improving the employee satisfaction and engagement in multiple ways. One important reason for Company X to start AT, was that agile ways of working are known for increasing employee motivation, engagement and satisfaction (Rigby & al. 2016). In June 2019, external experts were hired, and Agile Transformation Team was established to support the AT in Company X.

Agile has been referred as the new way of working. In fact, it's not that new way of working since the movement began many decades ago from software development and recently it has been spreading to all parts and all kinds of organizations. Agile way of working enables organizations to thrive in a world of rapid and unpredictable change. It enables agile teams and entire organizations to nimbly adapt, develop their products and services and to react changing technology and customer needs. (Denning 2018.)

Agile in this study is referred as a new way of working and thinking in Company X. Agile ways of working have been used for several years in different parts of the organization, but now Company X wants to get the full benefits of agile and become an agile organization. Agile organization is a network of small teams within a people-centered culture, which is based on continuous learning. It operates in fast decision cycles which



are enabled by technology and it is guided by a powerful common purpose to co-create value for all stakeholders. (Aghina & al. 2018.)

In the researched company, the new agile operating model is designed around customer value creation, employee engagement, transparency, adaptiveness and collaboration. Company X is following the three universal laws of agile by Denning (2018b). These are the characteristics which organizations which have embraced agile have usually in common. In this thesis, all the universal laws of agile are considered, but the focus is on the law of the small team and how the researched company can support virtual agile teams in meeting their objectives and become successful teams.

The three universal laws of the agile are as follows:

1. The law of the small team
2. The law of the customer
3. The law of the network

### **The law of the small team**

Agile practitioners share a mindset that daily work should be done in a small (3-9 people) autonomous cross-functional teams, which work in short cycles called sprints, on relatively small tasks and get continuous feedback from the customer or end user. Working in teams is not a new idea, but it was agile that figured it out how to create high-performance teams. (Denning 2016, 3-4).

In the researched company, agile teams are called squads according to the scrum methodology. The squads are gathered into tribes with a defined purpose. The squad consists of a Product Owner (PO), a Scrum master (SM) and Squad members with different competences needed to fulfil the squad's objectives. They consist of specialist with different competences and are said to be cross-functional. The squads are autonomous teams with a clear scope and objectives, which in Company X are aligned with the Private and tribe level goals. The aim is to have squad members 100% allocated to the squad work. Since squads in Company X are built in already existing organization, this is hard to arrange and in practice there are several shared resources. As the forming of the squads started, it was emphasized that co-location of the squads was highly recommended. After the Coronavirus disease 2019 (COVID-19) pandemic forced the squads to work 100% remotely, the results and wellbeing of the squads and squad members has been closely monitored. The results of these surveys have been so

positive that the virtual setting of the squads has not been a major issue since. Lately, the researched company has been focusing more on finding ways to support virtual squads. (Figure 1)

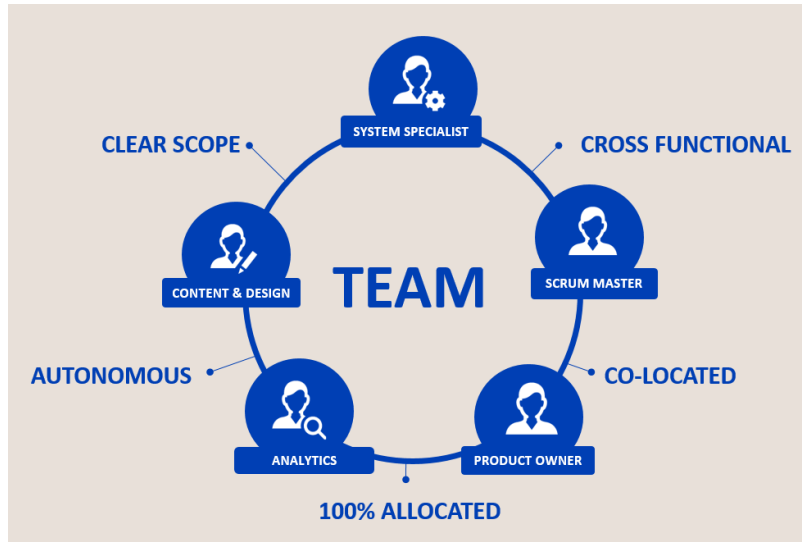


Figure 1: Short explanation of what is a squad (Company X's Agile awareness training material)

Product Owner (PO) = Is the business leader who defines the squad vision and handles stakeholders. PO is responsible for prioritizing the backlog (list of work tasks that need to be done).

Scrum master (SM) = Ensures that agile methods are fully exploited and strives for building a high performing squad.

Squad member = Brings expertise to the squad and is collectively responsible for the squad delivery and target reach. Squad members pull work into the squad's sprint plan.

Even though agile teams have been proven to be effective, they aren't automatically successful either. Agile teams need continuous support in implementing the agile methodology, using the agile tools and developing their teamwork. (Denning 2018.) Agile coaches are widely used in agile organizations to train agile teams and to ensure effective outcomes for the organization, because coaching has been found to be one of the most important success factors when going through AT. The goal of the Agile coach is to provide teams with right knowledge, tools and training so that they can use agile to its full potential. (Stray & al. 2020.) In Company X, four external consultants were hired as Agile coaches and they have been supporting the AT journey and the squads from

the beginning. In autumn 2020, two own employees and one external recruitment took up coaching roles as well and the Agile Center of Excellence (ACE) department is expected to grow as the AT journey proceeds.

### **The law of the customer**

The second characteristic of a typical agile organization is that it is obsessed with delivering value to its customers. The organizations have tried to put their customer as number one for quite a long time. Many bureaucratic organizations are doing their best to please their customers, but the limits and constraints of their internal systems and processes are slowing them down. In the agile organization customer focus has been lifted to another level. Everyone in the agile organization can see how their work is adding value to the customer and if it's not adding value to the customer, it should not be done. (Denning 2016, 5-6). In Company X, squads honor the "law of the customer" by focusing on getting fast feedback from the customers on everything that the squad delivers and the squads are encouraged to act on the received feedback. The feedback is collected either through analytics or talking to end customer to get a more holistic view. Secondly, customer needs or feedback guide the squads in the prioritizing process and influence decisions in backlog refinement and sprint planning. This can also manifest in that the squads say no to stakeholder requests that are not in line with what the customer actually wants or needs. The squads have been advised that all they do should add value to the customers, if it doesn't add value to our customers they should stop doing it.

### **The law of the network**

The third characteristic of an agile organization is that the organization is seen as interactive and transparent network of teams which are collaborating towards common goal and creating value to the customer. In the early years of the Agile movement, it was assumed that if you could get high-performance teams up and running, the whole organization would be "agile". It turned out not to be the truth. The full value of agile isn't reached if the rest of the organization is being run as top-down bureaucracy and focusing in cutting the costs to increase the current stock price. Making the whole organization agile is a tough challenge and it takes time to get all on board for the journey, but when the whole organization shares a common mindset and operates as a network of high-performing teams, the full benefit of agile can be reached. In agile organizations management recognizes that competence resides throughout the organization and innovations can be found anywhere. The communication between the agile teams flows

freely and the teams solve common problems together. The role of the top management is to set the direction to the organization. Agile teams are a network with a clear common goal, which grow, learn, adapt and create value to the customer together. (Denning 2016, 6.) In Company X, Supersprint Planning is a planning period where tribes and stakeholders set objectives and priorities for upcoming delivery period and determine what the squads can deliver. The planning period is all about talking with people and solving problems together. In addition to that, the squads are concentrating on involving the stakeholders to their daily work and inviting them to join the squad's daily ceremonies. The collaboration between the squads and the stakeholders is something that is constantly improved by working closely together and reducing internal silos and enabling the whole organization to be even more customer oriented. (Figure 2)

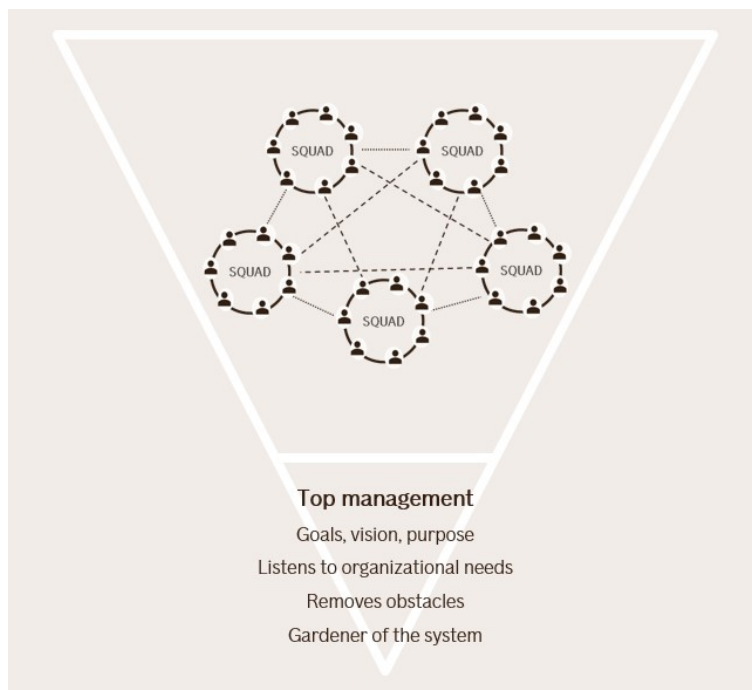


Figure 2: Organizational pyramid in an agile organization (Company X's Agile awareness training material)

AT is an organization-wide change journey, where agile practices and mindset is taken into use enabling the agile way of working. However, scaling up agile doesn't mean that every function needs to be organized in agile teams. Organizing all functions in tribes is often not the best option, but it's important to ensure that the functions which aren't organized in agile teams support the ones that do. (Rigby & al. 2018.) In Company X, taking the agile practices into use meant building a new agile operating model, which is based on providing value for the customers and partners via value streams. In practice,

this meant forming cross functional, value-providing agile teams called squads and gathering them into tribes with a defined purpose. The supporting functions which are not organized into tribes at this point are called enablers.

In the February 2020, the first agile tribe (tribe 1) consisting of nine squads was established. Six of the nine squads were collocated, since the general intention for Agile teams is that they should be collocated. The reasoning for the face-to-face (F2F) recommendation is that active and open communication, which enables shared team knowledge, is seen as the major contributor of the successful agile team (Moe & al. 2016). According to the Agile Manifesto, most efficient and effective way of conveying information to and within agile team is F2F conversation. However, there are other ways to communicate as well and lately many organizations have started to prefer virtual agile teams. Virtual teams (VTs) have members working from different physical location or in a different shift for example (Chhay & Kleiner 2013, 28). Agile teams, which in this study are called squads, are cross-functional groups of people which have competence, capabilities and mandate to deliver end-to-end on their mission to create value for the customer. The squad members are ideally fully dedicated to the squad and share the team objectives. The squad should be stable over time, meaning that the members doesn't come and go. (Denning 2016, 4). The main differences compared to the traditional bureaucratic team are that the agile team is autonomous, cross-functional and the members have much interaction with each other. (Figure 3). In this study virtual agile teams are called virtual squads. Most of the squads are working in virtual setting mainly because of the COVID-19 situation and others because they have members distributed in different physical locations.

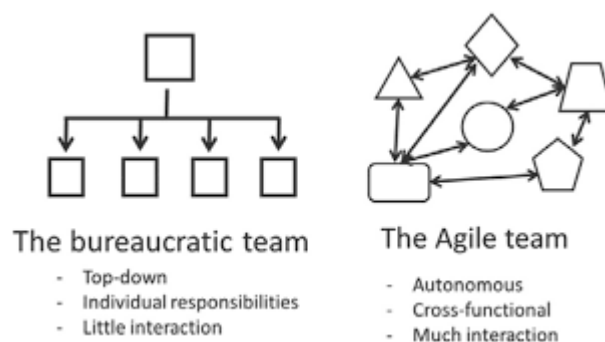


Figure 3: The bureaucratic team vs. the agile team (Denning 2016, 4).

In Company X, three of the nine squads in tribe 1 were virtual agile teams from the beginning because Company X is a Nordic company and some competences needed

for the squads are distributed in different countries or cities. Tribe 1 got to start their agile journey just before the lockdown caused by COVID-19 started, but it didn't take for long before all squads were forced to work remotely in 100% virtual setting. Tribes which were launched afterwards, got to start their agile journey in 100% virtual setting from the very beginning.

The researcher herself has been working in the Agile Transformation team to support the change journey from the beginning. The goal of the Transformation team together with the PMG is to ensure that the new agile way of working will be successful. To reach this goal, the Agile Transformation team must make sure that virtual agile teams have all the requirements to succeed, since it looks like our future will be more virtual regardless of how the COVID-19 situation develops. That's why it's important to research what are the possibilities and challenges of virtual agile teams in Company X and give some practical tips for the SMs and squads how to develop their virtual way of working.

## 1.2 Goals and research problem of thesis

The purpose of this thesis is to study how the SMs of the virtual agile teams in the Company X have experienced working in 100% virtual setting. What kind of opportunities and challenges the SMs and Agile coaches see working in virtual setting? Another aim is to find out how the SMs and the squads can develop their virtual way of working going forward and flourish in the new more agile and virtual working life.

The goals of the research are approached with the following research questions:

- How have the Scrum masters (SMs) experienced working in the agile squad in 100% virtual setting? What has worked well and what still needs to be improved?
- What do the SMs and Agile coaches see as the challenges and possibilities of virtual agile squads in Company X?
- How could sharing the experiences and learnings of the SMs and Agile coaches help other squads in Company X to succeed?

Based on the literature review and the results of the interviews, the conclusion of the challenges and possibilities of virtual agile teams in the researched company will be summarized in a traditional four-field SWOT analysis. By presenting the results of the SWOT analysis and finding answers to these research question, the summary and

conclusion of possibilities and challenges of virtual agile teams in the researched company will be presented. This research will benefit also AT team and SMs in the researched company and they will receive a separate summary of the results together with practical tips and tools collected from the interviews, how the SMs have supported their squads in the virtual setting.

### 1.3 The research methods used in the thesis

This thesis is a case study research (CSR), since it focuses on collecting experiences and learnings of virtual agile teams from the researched organization. A case study focuses on describing and understanding an individual case resulting in detailed and intensive information on the chosen case (Woodside 2010, 2).

In this research, qualitative methods have been used to collect the empirical data. This method was chosen because it ensures the closeness to the data and the subjective insider view that is needed to answer to the research questions. Qualitative research uses words, which are collected and analyzed in various ways, as source of information (Merriam & Tisdell 2015, 6). The data analysis method used in this thesis was thematic analysis.

The qualitative research technique used in this thesis is semi structured interview. In practice, 11 SMs and two Agile coaches were interviewed with beforehand prepared question form, however the questionnaire was only used as the base of the discussion and there was a possibility to ask some complementary questions if the researcher or the interviewees needed more information about some of the discussed topics. The SMs were interviewed one by one and Agile coaches in one group interview. Interviews are the most commonly used tool for collecting qualitative data. It is used when there is a need to understand something from the respondent's point of view. (Merriam & Tisdell 2015, 108.)

## 2 VIRTUAL AGILE TEAMS

### 2.1 Agile is a mindset

Iceberg picture (Figure 4) is often used, when describing what agile really is all about. The figure shows that agile is not only about implementing agile tools and practices, but it's more about the culture and mindset. The more visible part of the agile iceberg, which is easier and faster to change, is referred to as "doing agile". Tools and practices including the agile operating model are only the tip of the iceberg. The more invisible part, which includes agile principles and mindset is the one that makes the difference when the goal is to actually "be agile" and to reach all the benefits of agile. This part is harder and slower to change, because it means changing what is in people's heads. It's difficult and time consuming to change the way people are. (Powers 2016.) Focusing on changing the mindset is important since according to several researches, if the people are implementing every agile tool and process by the book but missing the agile mindset – not all benefits of agile ways of working will be reached. On the other hand, when people have an agile mindset, it's not so important which tools, processes and practices they use. In the end, it's the mindset that counts. (Denning 2018).

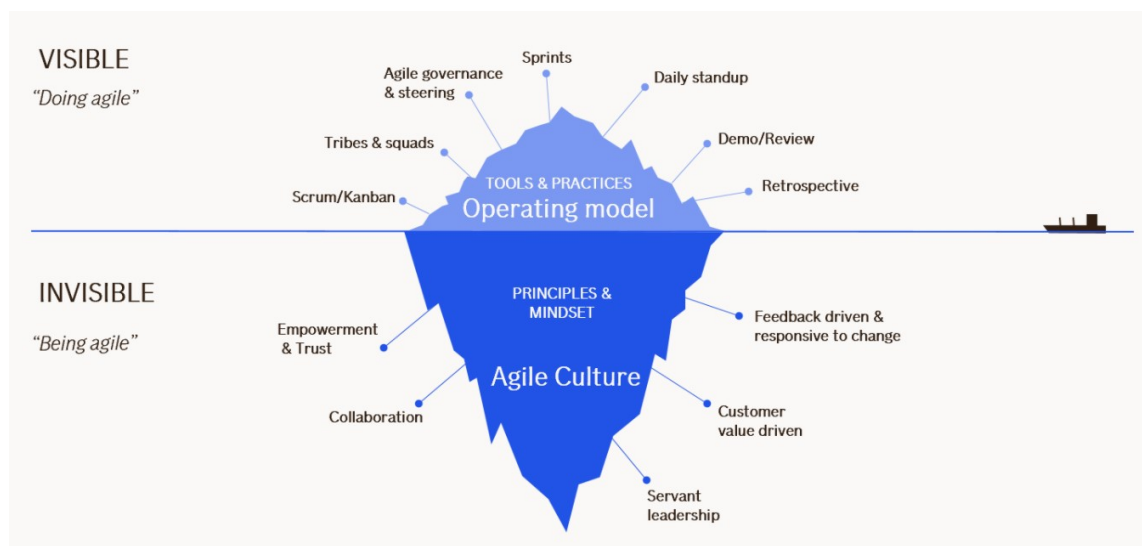


Figure 4: Agile iceberg (Company X Agile awareness training material)

Another important point is that agile tools and practices are not the best solution to all units of the company. Agile fits best for solving complex problems, which cannot be predicted in advance because the act of solving the problem changes the problem itself.



For the complex problems there often are multiple right options and squads try to find the best option instead of the one correct solution (Powers 2017a.) The mindset part however is for everyone in an agile organization, no matter if one works in- or outside of the squad. The mindset focuses on delivering continuous value to customers. It embraces iterative approach, continuous learning, working in small teams and aims at organization wide agility as working in network (Denning 2018.)

Another way to describe agile and agile mindset is the agile onion (Figure 5). The onion model shows us that the mindset is the most powerful of the layers that make up agile. “Being agile” comes from the outer layers of the onion and “doing agile” from the inner layers of the onion. The larger the onion circle is, the more powerful it is. (Powers 2017a.)

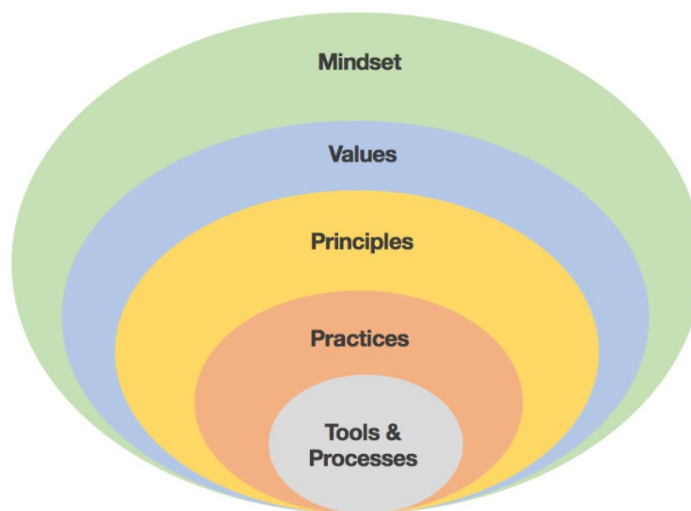


Figure 5: Agile onion (Powers 2017a)

The power of mindset has been studied by several researchers. One of the most famous personality, social psychology and developmental psychology researches is Carol Dweck. According to her studies, much of what is thought as a personality is growing out of individual's mindset. During some of the most challenging times of individual's life or in the middle of the turbulent change: it's the mindset that allows people to thrive. People's success is not only defined by their abilities and talent, but rather by their mindset. (Dweck 2017). That's why fostering agile mindset is so important in agile organizations and especially while the organization is making AT. Agile cannot be fully implemented within the assumptions of old bureaucratic management practice. That's why it's important that acquiring the agile mindset begins from the leaders. The role of the leader is to be a servant leader. Ultimately Agile is about acquiring a different mindset

and it's important to keep in mind that the results aren't achieved just by "doing Agile," but rather by "being Agile". (Denning 2016, 7).

## 2.2 Changing business environment challenges companies

In the beginning of the year 2020, most people expected this year to be like years before. Most of the investors were expecting the bull market to continue. The new Coronavirus discovered in China on December 2019 was not considered as a major risk to the world economy. Afterwards, we all know that COVID-19 has spread to all continents excluding Antarctica and it has been categorized as a pandemic by the World Health Organization (WHO). The COVID-19 pandemic is considered as the most critical global health disaster of the century and the greatest challenge that the humankind faced since the 2nd World War. This situation is seen as the largest threat to global economy since the financial emergency of 2008–2009. In addition, from becoming the greatest threat to global public health of the century, COVID-19 is being regarded as an indicator of inequity and shortage of social advancement. Lack of productivity and enormous expenditure for the treatment and rehabilitation of the COVID-19 victims and their families is causing troubles for the economy of many so-called powerful countries. (OECD Interim Economic Assessment 2020). The coronavirus disease has the potential to significantly slow down the economy not only of big countries like China, USA, or India but also of the world as a whole. It has already had a major impact e.g. in the healthcare, tourism, transportation and service sectors of several countries. (Chakraborty & Maity 2020.)

For a generation, we have been working and living in a world we believed was uncertain. Even before the pandemic, we could see that the world around us was changing due to e.g. globalization, deregulation, digitalization, the internet and increased complexity and uncertainty. This time era has been said to be the fourth industrial revolution, the technological revolution. The difference from the earlier industrial revolutions is that the pace of change in the business environment is exponential. (Mundra 2018, 4.) The COVID-19 pandemic, however, has changed our view of uncertainty because there is no reference case for the COVID-19 crisis in the near history. This crisis we are facing now is taking the uncertainty to the next level. We can use scenario-thinking in forecasting what might happen in the future and how the companies should react to the changes. Seeking different perspectives and identifying the most important uncertainties for the whole industry and the company might be helpful. (Goodman & al. 2020.) However, we

must accept that we can only make forecasts and we must accept that many things will not be the same after COVID-19 pandemic.

One important thing for companies to succeed during and after the pandemic, is to ensure that they can react to the changing business environment. Insurance companies among all other lines of business are trying to predict what are the threats and opportunities of the current situation. How to ensure that your company will succeed in the new world during and after Coronavirus pandemic? This is the question that Company X among all other insurance companies is currently wrestling with. One solution is building agility across functions and become more agile. Reacting to the changing business environment and consumer needs will have long-lasting benefits for the company. This means speeding up time to market for new customer experiences by rapidly testing and iterating and releasing innovations as minimum viable products (MVPs), rather than trying to make the products perfect before the release. (Diebner & al. 2020.) Agile working methods are generally known as ability to move quickly and easily. They are also said to be in their best in changing market environment, when problems are complex and solutions unknown. (Rigby & al. 2016.)

In addition to the changing business environment, also customers and employees are more demanding nowadays. 21<sup>st</sup> century customers are different in many ways: they choose e.g. to experience instead of transaction, social instead of individual and speed instead of price. That's why companies must put the customer first and offer experiences instead of just a product or service. (Mundra 2018, 10.) This phenomenon shows maybe even more in service business. Insurance providers are aware that their customers who insist on improvements in quality of service have many alternatives to choose from and they are ready to change the insurance provider if they are not satisfied. That's why it's extremely important for the insurance providers to create satisfied customer base with high retention rate. This can be ensured for example by concentrating on improving the quality of customer journeys, by studying and understanding various reasons for past customer satisfaction. (Siddiqui & Sharma 2010.) Organizations can learn a lot from the past, but during these special times it's important that companies adapt their customer experience (CX) in the time of coronavirus and search for new alternatives as well. COVID-19 has overwhelmed our lives around the world in a short period of time. It has raised a question what customer care really means and forced companies to rethink how to deliver experiences and service that meets their customers' new needs with empathy, care and concern. Four actions how companies can address quick customer needs and

prepare for the future are: focusing on care and connection; meeting customers where they are today; reimagining CX for a post-COVID-19 world; and building capabilities for a fast-changing environment. Care and connection are essential in crisis and the way organization treats their customers, employees and the broader community is likely to leave lasting memories in people's minds. (Diebner & al. 2020.)

Company X has been investing in improving the customer experience quite many years and results have been good. Lately they have realized that being customer-oriented is not enough to ensure company's future success, but nowadays the companies should be customer-obsessed. Time period after 2010 has been referred to as "The Age of the Customer", when empowered customers demand a new level of customer obsession. This means that being customer-centric is not enough, but the customer focus should be more important than any other strategy. A truly customer-obsessed company focuses its strategy, its energy, and its budget on processes that increase knowledge of and engagement with customers and prioritizes these over everything else. Company agility and speed in reacting to the changing customer expectations is essential for the company that aims to be customer obsessed. (Bernoff 2011.) In order to stay in top of their game companies should shorten their feedback loops from the customer and increase responsiveness to changing customer needs. (Mundra 2018, 10.)

If the customers have changed a lot, so have the employees and their expectations and needs. The amount of Millennials in the workforce is rising and is expected to be around 75% of the workforce by 2030 (Mundra 2018, 10). The generation on Millennials is a group of people who have been born approximately 1984 and after. This generation is known for being the most difficult generation to manage yet. (Tulgan 2016, 4.) According to Simon Sinek (Millennials in the Workplace), Millennials are accused to be entitled, narcissistic, self-interested, unfocused and lazy. When they are asked what they want from the workplace, they often answer: purpose, possibility to make an impact, free food and beanbags. But like all generations, Millennials have both strengths and weaknesses. The positive characteristics are said to be that Millennials tend to promote human welfare, they are strong multitaskers, they are often team-oriented and technologically adept. (Alsop 2009, 2.) Millennials have high-maintenance reputation, but still for those who know how to manage them correctly they are also seen as the most high-performing workforce in history. Millennials have high expectations of themselves, but also for their employers and leaders. They expect equality, authority and possibilities to have an impact on their work tasks (Tulgan 2016, 4-12.) Millennials don't often see their work

tasks as obligations, but more as possibilities to learn and develop themselves. They don't want to work in the office regularly from 8 to 4, but Millennials are more engaged if they can work where and when it fits for them. (Haapakoski & al. 2020, 150-151.) This means for companies that they need to build a culture that enables learning, is flexible, fosters collaboration, offers meaningful and engaging work tasks and empowers its people (Mundra 2018, 10). These are all characteristics that agile organizations are known for and that's why Millennials usually prosper in the agile organizations.

Employees have power over companies, and they are generally seen as the company's greatest resource. In an insurance industry, a key ingredient in any product or service is people. Individuals bring knowledge, ideas, and relationships that companies need to stay competitive. It's the same thing with employees as the customers that if they don't get what they want, they can go work for the next company. If you lose your talented employees, there's a big risk that your customers will follow the talent that creates quality content and relationships and leave your company behind as well. (Bernoff 2011).

### 2.3 Agile Transformation

Agile processes and concepts are proofed to drive rapid-paced, customer-focused innovation initiatives needed to survive in today's changing business environment. In many traditional organizations agile way of working is usually first adopted by digital innovation teams and spread to middle management operations and top-level leadership initiatives. After a while, this often leads to a need of undertaking a company-wide AT. For hierarchical organizations this means radical changes in power, attitudes, values, mindsets, ways of working and thinking and ways of interacting with different stakeholders. (Denning 2019.) Transformation requires changes throughout the organization, involving changes in roles, practices, tools and people's behaviors, mindsets, and responsibilities. The adoption is slow, and it can take up to several years especially in larger organizations due to more complex infrastructures, numerous legacy systems, mature organizational culture, and high amount of dependencies between actors, tasks, and goals. (Stray & al. 2020.) Some even say that AT is actually never done. It's a constant learning process, retrospection, experimentation and improvement. The business environment in which organizations are operating changes constantly, more quickly and unpredictably than ever like the COVID-19 pandemic has shown. The

goal of the companies is to become a learning organization and to be best of being better all the time. (Smart 2018.)

All organization-wide AT journeys should be both comprehensive and iterative. It's important to have a good plan how the transition touches strategy, structure, people, processes and technology, but it's good to keep in mind that not everything can be planned up front either. (Brosseau & al. 2019.) Each company is different, and each AT is unique. There is no one solution that fits for all, but there are best practices that have proven to work for many transformation journeys that can be followed. The best tip is to start from the 'Why' -message and focus on outcomes. (Smart 2018.) Simon Sinek the author of the "Start with why" (2009), states that motivation of the people begins with understanding the purpose of the change. People tend to be more willing to change and less likely to resist the change, if they can relate to the "why" message. That's why there should be a clear, well-communicated "why" of the need to change. According to the research, employees are most motivated by a purpose that's split equally across five forms of impact: society, the customer, the company, the team, and the individual. During organizational transformation, it's important to be clear on the vision, why the change is happening and what we want to achieve with it - needs to be communicated frequently on all levels. (Smart 2018.) In addition to why and what message agile values and principles must be communicated and thought throughout the organization, including the parts that do not organize into agile teams. (Rigby & al. 2018.)

Another important aspect of successful AT is the ownership and involvement of the leaders. It has been studied that progress towards business agility correlates positively with the level of leadership directing the Agile journey (Denning 2019.) Many successful transformations have been started by building top management team's understanding how agility will add value to the company and agreeing on the future vision and blueprint for the change journey. To build the top management's understanding and aspiration, nothing beats studying and visiting to companies that have undergone an AT. Even if each AT journey is unique, a lot can be learned from the experiences of other companies. The blueprint for the transformation process should be planned in iterative manner: start the transition plan with the MVP product and develop it in a fast pace. The blueprint should give enough direction for the organization to start testing the agile design, but the transformation team should be ready to tweak the plan and iterate as the journey proceeds. (Brosseau & al. 2019.)

In addition to the ownership of the agile journey, top management should act as role models for the desired behaviors. Leadership team should change their own behavior and let go from the old hierarchical leadership style and become servant leaders. (Smart 2018.) This means that top management should focus even more on providing the organization with clear direction, prioritizations and expectations, and spend less time in the details on "how". As a leader, one should take an enabler-perspective on how to support squads with what they need to be able to succeed, rather than telling them exactly what to do and how to do it. (Company X's Agile awareness training material.)

Onboarding the middle management to the transformation journey is extremely important. Their role is to be coaches, trainers and teachers for their teams. (Smart 2018.) This might be a hard task, since middle managers are usually the people whose work tasks such as planning projects, assigning tasks, documenting progress and evaluating employees get absorbed by new agile roles. It can be stressful for the midlevel managers to recognize that their work tasks will be redistributed and their job titles might be erased from the new organizational chart. Since many midlevel managers have lots of experience, knowledge and important skills for the company, one option is to offer them a position as a more hands-on contributors in agile teams. Another way is to give midlevel managers the support and training they need to become agile leaders. Since large organizations that go through the AT, typically have less positions for leaders than they had for conventional midlevel managers, some of the midlevel managers won't end up in agile leadership roles. However, some former middle managers might find it rewarding to work in nonleadership position and still earn manager-size salaries. Usually in agile organizations the high performers are high rewarded as well. Many former middle managers have found motivating roles in agile organizations, they just must understand the purpose of the AT and their role in the new organization. (De Smet & al. 2019.)

One thing that should be considered when starting AT journey is that it will take time to turn the traditional organization into agile. Changing the way of working is rather fast compared to changing the mindset of the people. It has been studied that normally big-bang transitions are harder than agile transitions that have more step by step approach. (Rigby & al. 2018.) It's a good idea to use pilots and start in areas that are naturally receptive. Normally, dips aren't as deep, the learning comes quicker and there's less risk. Proceeding too fast, when the organization isn't ready for the change the journey will most likely be more challenging, with more denial, frustration, and anger. (Smart 2018.) Many companies end up running multiple rounds of pilots before fully committing

to scaling up across bigger part of the organization. It might take one to two years, as leaders and the organization build familiarity with agility and prove to themselves that agile ways of working can bring value in their organization. (Brosseau & al. 2019.)

#### 2.4 Agile teams going virtual

Global virtual teams (GVTs) are groups within their own organization, which are identified by the organization and group members as being a team. They are responsible for making decisions important to the organization's strategy and putting them into action. GVTs use more technology-supported communication than F2F communication and members of the GVT work and live in different countries. (Pinjani & Palvia 2013, 144.) Virtual teams (VTs) are otherwise like GVTs but they don't necessarily have members split all over the globe in different time zones, but people might still work from different physical location or in a different shift for example (Chhay & Kleiner 2013, 28). In this study the time zone difference is not a major issue, since all the squads are working in Nordics and the time zone difference is maximum one hour. Some of the squads of this study started their agile journey before COVID-19 pandemic and they were able to meet couple of times F2F, but now all the squads are working more or less in 100% virtual setting.

VTs connect people across business units and they involve people from many functions, locations, disciplines, and culture. Virtual team members work quickly and effectively towards shared goals and this requires high levels of technological support. VTs allow organizations to improve efficiency and productivity, to find expert level knowledge fast inside and outside of the company and to provide the best practice information nearly instantaneously to the whole team. While VTs offer multiple benefits, they also create many challenges which organizations should be aware of. Challenges are mainly caused by distance and time zone differences, by language and cultural conflicts, by adoption and implementation of technology, by communication between the members, and by lack of trust and shared knowledge inside of the team. (Pinjani & Palvia 2013, 144.)

Communication and lack of knowledge sharing are known as the main challenges in the virtual agile teams (Alzoubi & al. 2015). That's why it's important to ensure that teams have all the needed technological tools available and there are no excuses to communicate something or to share some information with the squad members. The



right technology and virtual tools are the basic requirements for virtual agile teams to get started with effective collaboration. The teams should have tools which support at least conference calling, direct calling, text messages, chats, discussion forums and virtual team rooms. Nowadays, technology is working rather well for virtual teams and there are rather too many tools available than too few. That's why it's important that the teams make agreements which tool they use for which purpose. When the technology platforms are in place, they become enablers of the effective collaboration in virtual agile teams and bring greater efficiency. (Ferrazzi 2014.)

#### 2.4.1 Agile tools and teams supporting the virtual setup

According to the Agile Manifesto, the general intention for Agile Software Development teams is that they are collocated. The main reason for collocation recommendation is that it enables daily F2F interaction between stakeholders and ensures effective communication. (Fowler & Highsmith, 2001.) In addition to effective F2F communication, co-location is known for supporting quick trust building, simplifying problem solving and enabling fast-paced decision making (Brosseau & al. 2019). In reality, collocation of the teams can be hard or impossible to arrange especially in international companies which are going through AT, because the competences needed in each squad are often geographically distributed and because of the exceptional circumstances due to COVID-19 pandemic. Fortunately, a growing number of researches suggest that distributed agile teams can be as successful as collocated teams. It might require some extra effort and time, but it's possible. The answer to many of the challenges of distributed agile teams has been concentrating on supporting collaboration and communication in them. (Calefato & Ebert 2019.) In some cases, agile teams can even be a real source of competitive advantage in these special times, since they typically adapt well to periods of distribution and have an ability to adapt to fast-changing business priorities, disruptive technology and digitalization (Comella-Dorda & al. 2020).

Many organizations have decided to use agile methods as a response to changing business environment and changing customer expectations, because they are reactive with the goal of achieving rapid value and responsiveness to change. Agile methods are not answer to all challenges companies are facing, but they are proven to be a better fit in contexts with rapid marketplace, technology or environment changes. (Boehm & Turner 2003.)

According to a research by Handscomb & al. (2020), it seems that the more mature agile companies were much better to respond to change when the COVID-19 crisis hit than their peers. More mature agile companies were for example twice as fast to release new product or service than their nonagile competitors. In addition to that, the findings also show that within the company the agile business units were much more able to cope with transition to remote work than business units that had not yet gone through AT or were in the early phase of transformation. The agile teams have been able to continue their work almost seamlessly after the shock, without major setbacks in productivity. In contrast, many nonagile teams have struggled to transition, reprioritize their work, and be productive in the new remote setup. When the COVID-19 lockdown hit, even companies and teams that were not using agile practices before started to use some of them, so they could work effectively remotely. Several nonagile companies reported that they had added a set of structured events or ceremonies at the team level. This helped them to keep their pace, even if the priorities were changing rapidly and team members were no longer collocated. Some of the agile companies increased the frequency of their ceremonies and shortened their sprints to handle better the changing priorities. By doing these changes, the companies ensured better communication within teams and with the help of remote collaboration tools they were able to continue working together and offer regular social interactions to the team members. Some companies have even reallocated Agile coaches to nonagile teams to help them conduct effective agile ceremonies and more effectively collaborate with each other. (Handscomb & al. 2020.)

In addition to effective communication, one of the main reasons self-organizing and cross functional agile teams can continuously provide value for customers is iterative delivery process. Work is broken down into smaller parts and conducted in rapid, iterative cycles. The first release is MVP and after that customer value is added from iteration to iteration. (Rigby & al. 2016.) Because the work is done in an iterative fashion with continuous feedback from the users, the organization can constantly improve what it does and allow late changes to the product. Iterative delivery process starts with a product that is good and safe enough to be launched and after each iteration it's improved step by step. (figure 6). Sometimes these adaptive iterations can be done almost in real time. When teams work in synchronized rhythm in sprints, many teams can work together on large complex tasks in a coordinated fashion. This enables the hungered speed and adaptiveness to the development work. When Agile is done correctly, the teams are working within a business model in which the organization is continuously generating value for the organization as well as for the customers and partners. (Denning 2019, 4.)

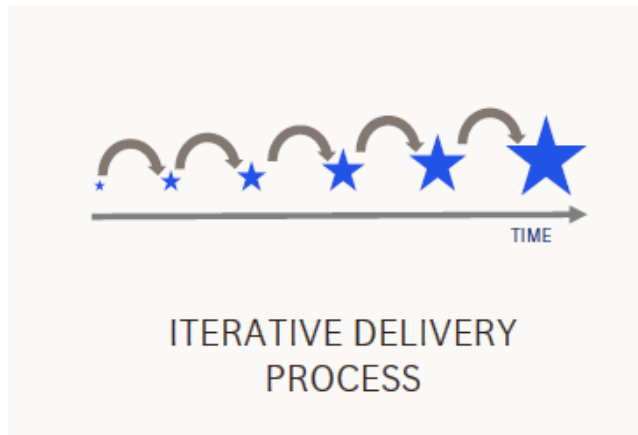


Figure 6: Iterative delivery process (Company X's Agile awareness training material)

#### 2.4.2 General characteristics of high-performing virtual agile teams

It all starts from the team composition. The team should not be too small or too big. The optimal number of members in a team is 6-10. Small team is more likely to end up in poorer decisions because of lack of diversity and the risk for slower decision making is bigger because of the lack of bandwidth. On the other hand, if the team is too big there is a high risk that sub-teams start to develop, and this might end up in divisive behavior inside of the team. Another risk with big team is that they don't make decisions together since there isn't time for everyone to be heard. (Keller & Meaney 2017.)

However, the success of a team is not guaranteed with right composition of people in a team. That's just the starting point and it's the building of team dynamics that show the true colors of a team. Even the greatest individuals don't make great team if they don't work together. (Keller & Meaney 2017.) According to Power's (2017b), any team dynamic consists of two parts: people and interactions inside the team and interactions and interference from outside of the team. The core of creating a high-performing team is to support the relationship inside of the team and reduce pressure from outside factors. The wall of trust and safety is the barrier around the team separating these two factors. (Powers 2017b.)

Perhaps the most important factor in creating successful virtual teams is building and maintaining trust and cohesion in the team. (Haapakoski & al. 2020, 65.) Good way to support the environment of trust and cohesion in a team is to ensure common direction, where there is a shared belief about what the company is striving toward and the role of

the team in getting there. Another important aspect is to ensure high-quality interaction, characterized by trust, open communication, and a willingness to embrace conflict. In virtual setting it's easy to avoid conflicts and talk only about the happy and positive things, but to improve the team performance all the constructive feedback is needed as well. The third way is to create a culture that supports strong sense of renewal, meaning an environment in which team members feel they can take risks, innovate, learn from outside ideas, and achieve something that matters. (Keller & Meaney 2017.)

According to the agile principles and values, as well as recent research articles, teamwork factors are critical in creating successful agile teams. However, teamwork does not arise automatically, but it requires much more than each team member doing its part of the work and making sure every piece of the puzzle is in place. Successful agile teams have a bigger sense of collective ownership, in which every member can replace another without major issues, and leadership is really shared. Moreover, the agile practices provide opportunities for team members to collaborate effectively with each member and enhance communication. (Freire & al. 2018.)

In virtual agile squads it's the SM who is responsible of building the teamwork in a squad. Of course, the motivation must come from the squad members themselves and Agile coaches are there to support the SMs in creating high-performing squads. According to Vilkmán (2016), the six cornerstones of the successful virtual leadership are: trust, respect, openness, functional rules, dialogue and cohesion. These cornerstones are important for the leaders, but for the squad members as well. They are important building blocks in all kinds of work communities and can be applied in building agile squads as well. There are many things that can be done to support building the high-performance teams, but one thing that can't be avoided is that building successful teams takes time. Usually we speak rather years than months depending on the the start setup of the team. (Powers 2017b.)

When talking about high-performing teams there is one word that always comes up: Trust. Trust means that there is no need to be prepared for the worst. The leader counts on the team members and doesn't get involved in everything they do. On the other hand, team members trust in the leader and in the team. Building trust happens gradually when people do what they promise, hold on the contracts, support each other and give each other room to succeed and fail. According to the studies building trust in virtual teams takes four times as much time as in traditional office setting. (Vilkmán 2016.)

Respect is another important cornerstone of creating successful teams, because without respect the collaboration in team doesn't work. Respect consist of small things in our ordinary workdays. It can be shown by greeting our colleagues and asking how they are doing, by saying thank you or by giving feedback, by listening and treating everyone equally. Sometimes respect is taken for granted, but it's often beneficial to take some time to reflect our own behavior and think how we treat other people and is our behavior respectful. (Vilkman 2016.)

Openness means transparency in all our actions: communication, collaboration and decision making. This means sending out messages to all relevant people and sharing information openly. It should be easy to disagree and talk about difficult topics with the team. Especially in agile teams it's essential that the information flows openly in all ways and squad members get to make decisions on things that concern their work. In an agile organization transparency is one of the main values. Functional rules are good way to support collaboration in a team and it might be useful to go them through when moving to virtual setting. These rules don't have to be written, but it's good to discuss with the team members how different situations are handled in the team. It's important that these rules are made by the team and not by the leader. (Vilkman 2016.)

Dialogue is the cornerstone of the successful virtual team that brings all other cornerstones together. It's not just informing and communicating, but something more. Continuous dialogue happens between at least two team members. It's sharing of thoughts, knowledge, experiences and feelings. Ensuring that this happens especially in virtual teams is essential. The last cornerstone is cohesion. It's important for building the team spirit, which directly effects on wellbeing at work and work results. When the team doesn't have a chance to meet face-to-face, it's extremely important to build a team identity. (Vilkman 2016.)

#### 2.4.3 Agile coaches are supporting Agile organizations

In this thesis, we see an Agile coach as a person that coaches agile teams and organizations. The main goal of an Agile coach is to increase teams' capabilities to reach higher levels of accomplishment. It is many ways similar to the goal of a regular team coach. In addition, the main tasks of an Agile coach are to support stakeholders and managers to understand and apply agile methods and facilitate and monitor effective implementation of agile throughout the whole organization. However, in practice many

Agile coaches are confused about their roles, tasks, and responsibilities and Agile coaches are often referred to as team coaches, but in reality they do a lot more. They play an important role in AT and in addition to supporting the squads they also guide managers, collaborate with HR department, and even motivate customers to work in agile ways. (Stray & al. 2020.) Organizations have found Agile coaches useful in different phases of their agile journey from preparation to adjustment phase. It has been proven that while development team members, managers and customers are adapting to their new roles and agile practices, having access to an Agile coach is helpful. The coaches help the team members to be familiar with the agile practices in practical manner and support them in the change. (Parizi et al. 2014.) In addition to that Agile coaches are improving decision-making, commitment, product quality, team accountability and teamwork in the squads. It has also been shown that teams supported by a coach improve the ability to track project progress and increase the clarity of team objectives more than teams without such support. There are also signs that the benefits of hiring an Agile coach when implementing agile methods exceeds the financial cost and hiring an Agile coach is actually financially profitable. (Stray & al. 2020.) Organizations have experienced multiple benefits of having Agile coaches working on more than just a team level. During the special circumstances caused by COVID-19 pandemic many companies have found Agile coaches useful for supporting the virtual agile squads and even helping nonagile teams to collaborate more effectively with each other (Handscorn & al. 2020).

## 2.5 Agile Transformation in Company X

In June 2019, external agile experts were hired, and Agile Transformation team was established to support the AT in Company X. Agile Transformation team consists of four different workstreams with different work tasks: Transformation, Agile governance, Launch and Communication & mindset. The researcher herself is part of the Communication & Mindset workstream.

The transformation journey started with thorough research of successful and unsuccessful AT journeys in different organizations. Agile isn't something one can copy from another company. However, examples from others' success and failures can be helpful when trying to understand how agile will work for your company. These success stories were also used when motivating the leaders and showing what kind of results

other companies have achieved with agile ways of working. The planning of the agile operating model together with the external experts was started in parallel, since Company X's organizational structure is rather complicated and many dependencies had to be considered when making the first version of the new operating model. The first draft of the operating model which is based on creating customer value, was sketched together with several leaders, specialists and external consultants. It was the MVP version of the operating model and it has been developed along the transformation journey.

During the past years, different agile working methods have been adopted by many teams in Company X, but there has not been a systematic organization-wide agile operating model. Previous experience and knowledge of agile ways of working can be both threat and opportunity for the successful organization wide AT, since squads may already have found agile ways of working which fit for their team, but may not be the best option for the whole organization. This means that rather mature agile teams may have to make some compromises in their way of working for common good. On the other hand, these people who already have experience of agile ways of working can help their colleagues in finding effective agile tools and practices. Company X wanted to get the full benefit of agile way of working and that's why agile operating model was created, and the agile practices were implemented organization wide as Rigby & al. (2016) proposed in their research.

The planning phase, before the launch of tribe 1 took several months due to large amount of complexity. Even though, agile working methods stress fast releases and the first version of the operating model will not be the final one, making AT is better to plan properly like it was done in Company X. During the planning phase leaders received agile awareness training and the whole organization was introduced to agile mindset. Not all employees will work in tribes and squads but all of them will work in an agile organization and understanding the agile mindset is essential for successful Agile Transformation. That's why embedding the agile mindset in the whole organization was started in rather early phase.

The first tribe was launched in February 2020 before COVID-19 lockdown. Before the launch each tribe member received necessary training to get their agile journey started. Most of the learnings will happen when building the squad and learning-by-doing, since all the squads are unique and there is no one correct agile way of working that fits for all squads. POs and SMs received three-day long training for their roles and all the Squad

members participated in the Ramp-up week to get all the needed support to start their journey. The main event of the Ramp-up week was the Kick-off where all Tribe Members got together to get to know each other a bit better, to learn more about the different squads in the tribe and to confirm the tribe mission and the tribe objectives. For tribe 1 the Kick-off was arranged in Stockholm office where the whole tribe 1 got to meet F2F. Rest of the trainings were arranged F2F to each squad in different offices around the Nordics. This made the starting set up for tribe 1 a bit different than for the rest of the four tribes, since they had to start their agile journey in 100% virtual setting. The nine squads of the tribe 1, of which six were collocated and three distributed, were encouraged to work as much F2F as possible, since that was the advisable way for agile teams and especially when the teams were in building phase. The squads got to work in F2F setting about two sprints and after that all squads were forced to work in 100% virtual setting.

Tribe 2 was launched in May and tribe 3 in June. The launches of the tribes were arranged back-to-back to ensure enough support from Agile Transformation team and Agile coaches for both tribes. Before the launch, all the Tribe Members received necessary training in virtual setting and even the Kick-off was arranged in Teams meeting. The launch of the tribes 2 and 3 was arranged in 100% virtual setting and they have not seen each other F2F as a tribe at all. Tribe 4 was launched in September in virtual setting as well.

As for today, four tribes have been launched and there is still one tribe to be launched in the beginning of 2021. In parallel of launching the tribes, Company X has continuously developed its own agile way of working and governing. The hearth of the Agile way of working is Supersprint Planning period, which enables alignment across the organization. The main event of the planning period, Big Room Planning, brings hundreds of people around the organization together to finalize the delivery plans of the tribes for the next delivery period. Aligned planning period enables all the tribes and their stakeholders to follow the same planning cycle and to create transparent delivery plans for the tribes. This way everybody knows what the main focus areas of next delivery periods are. The first ever Supersprint Planning in Company X was organized in the Autumn 2020. The goal is to have the fifth tribe up and running before the next Supersprint Planning period and to have even broader involvement and collaboration with tribes, teams not working in tribes and other stakeholders. After all the planned tribes have been launched, there will be more time and resources to develop the Company X's



agile way of working even further and concentrate more in being agile instead of just doing agile.

## 2.6 Agile coaches in Company X

Company X has been using external Agile coaches to support the AT journey from spring 2019. There has been 3-5 consultants working with the transformation from planning phase to implementing. The external experts have been a great help especially in the planning phase, because they have wide experience in turning complicated hierarchical companies to agile organizations. Since four out of the planned five tribes are now up and running, the coaches have lately been concentrating more on supporting the squads and leaders. In autumn 2020, the Company X hired three own Agile coaches and the Agile coaching team is expected to grow as the journey continues. The consultants and organizations own Agile coaches are now working sometime in parallel, but the meaning is that in some point Company X can continue the journey with their own Agile coach team.

In Company X, the role of the Agile coach is to inspire, teach and be a mentor for teams and leaders. The Agile coach provides knowledge and guides the organization in the agile values, principles, frameworks and governance. The Agile coach will observe and give feedback, suggest things to try and test. In practice this means challenging people out of their comfort zone to try new ways of working and thinking. In these special circumstances, Agile coaches have also tried to support squads with adjusting to the virtual setting. But because of the transformation situation, the resources for supporting the virtual agile squads have not been optimal.

## 3 METHODOLOGY AND DATA COLLECTION

### 3.1 Methodology

The purpose of this thesis was to examine how the SMs of virtual agile squads in the researched company have experienced working in 100% virtual setting during the special circumstances caused by COVID-19 pandemic. The empirical data was collected by interviewing 11 SMs from different tribes and 2 Agile coaches. The goal was to research what kind of opportunities and challenges the SMs and Agile coaches see in virtual setting for agile squads in the researched company. The aim was to find out how the experiences and learnings of SMs and Agile coaches could benefit squads in the future and help their squads to flourish in the new more agile and remote working life.

The goals of the research are approached with the following research questions:

- How have the Scrum masters (SMs) experienced working in the agile squad in 100% virtual setting? What has worked well and what still needs to be improved?
- What do the SMs and Agile coaches see as the challenges and possibilities of virtual agile squads in Company X?
- How could sharing the experiences and learnings of the SMs and Agile coaches help other squads in Company X to succeed?

This thesis is a CSR, which focused on collecting concrete experiences and learnings of virtual agile teams in the researched company via interviews. The purpose was to research the possibilities and challenges of virtual agile teams and find ways to help the squads to improve their virtual ways of working. Case study is an approach to research which is often used in business administration, since many research topics are closely related to one particular organization from clearly defined perspective as in this research. This approach is often used, when the goal is to understand one phenomenon as deeply as possible. The results of the case studies are not generic, and they should be analyzed case-by-case. However, considering the results in more general level in some cases might be beneficial and the results of a case study can verify the results of more general studies. (Saaranen-Kauppinen & Puusniekka 2006).

In this research, qualitative methods have been used to collect the empirical data. This method was chosen because the emphasis of the research is to achieve rich and deep

understanding of challenges and possibilities of virtual agile teams in the researched company. Qualitative methods ensure the closeness to the data and the subjective insider view that is needed to get the answers to the research questions. Qualitative research uses words, that are collected and analyzed in various ways, as source of information (Merriam & Tisdell 2015, 6).

Reliability and validity of the study are extremely important in quantitative research, but the same kind of evaluation of the reliability and validity in qualitative research cannot be done. However, in qualitative research it's important to consider if the findings of the study can be considered reliable and whether the data collected represents true picture of the studied phenomenon and can be seen as valid. The findings of the study can be considered reliable if someone repeats the study and obtains the same results. Validity on the other hand is concerned with the extent to which the research findings accurately represent what is happening in the situation. (Saaranen-Kauppinen & Puusniekka 2006). In this thesis the reliability and validity was ensured by carefully planning the interview questions, choosing the correct sample set and size of the target group, creating safe environment in the interviews and emphasizing that the results of the survey are based on the experiences and learnings of people and not in facts.

### 3.2 Data collection method

In this research, the primary data was collected via semi-structured interviews: one question form was prepared for 11 SMs and another question form for two Agile coaches in the researched company. The purpose of the interview of the SMs was to collect information how the SMs have experienced the 100% virtual setting, what do they see as the challenges and possibilities of virtual agile teams and how could these experiences and learnings be useful for other squads in the researched company. The purpose of the interview of the Agile coaches was to get their perspective on these same topics and to get their thoughts how the virtual agile teams could be developed in the researched company going forward. The question forms were used as the base of the discussions, but it was allowed to bring up new ideas and topics before, during and after the interviews as well. The question form was sent out to the interviewees in beforehand, so they had a chance to prepare for the interview and write down their own notes. The interviews were carried out virtually via Teams one by one to SMs and as a group interview to Agile coaches. The video was on in all the interviews, except in one due to

technical challenges. All the interviews were recorded which ensured that the interviewer could concentrate more on listening during the interviews and she could re-listen the recording when analyzing the answers. In addition to the recording the interviewer wrote down her own notes and some of the interviewees sent in their notes after the interview as well. One of the last interviewees sent in her notes in beforehand and that was really useful, since the interviewer could concentrate on asking amplifying questions already during the interview. For the rest of the interviewees the amplifying questions were sent via Teams chat afterwards. The survey was in English, but Finnish speaking interviewees had possibility to answer in Finnish as well.

The interviews of the SMs were completed between the November 25<sup>th</sup> and the December 3<sup>rd</sup>, 2020 via Teams. 30 minutes time slot was reserved for each interview and the reserved time was exceeded if needed. The interviews were done one-by-one to ensure that responses were not affected by other respondents' answers and more and deeper information could be shared. The diversity of the target group was carefully considered in SM's interviews to ensure that the sample is as representative as possible. Out of the 11 respondents one was from Denmark, three were from Finland, four from Norway and three from Sweden. The 11 interviewed SMs were deliberately chosen from all four existing tribes, because some squads have been working in the new agile setup since February 2020 and others since September 2020. It was also important to consider that before COVID-19 lockdown some of the squads have been collocated and others distributed because of the Nordic scope. Some squads have more experience on virtual ways of working than others and this might influence the SM's experience of the 100% virtual setting. Therefore, it was important to consider that the sample is representative. This ensures that the result of the survey can be seen reliable and representing a comprehensive view of total experiences of the SMs in the researched company.

The interview of the Agile coaches was conducted on November 25<sup>th</sup>, 2020 as a group interview via Teams. One-hour slot was reserved for the interview. The reasoning behind group interview was that these two interviewed coaches have been working closely together since the AT journey started in the researched company in September 2019. This close teamwork and collaboration of the interviewees ensured that they could easily complement each other's answers during the interview, since they knew each other well and were able to express their feelings and thoughts freely.

### 3.3 Data analysis method

The data analysis method used in this thesis was thematic analysis. It's a good approach to research when the goal is to find out something about people's views, opinions, knowledge, experiences or values from a set of qualitative data. The purpose is to examine collected data by rearranging the data under different themes, trying to find similarities and differences from the data and finding the relevant information for the research. In thematic analysis the researcher has lots of flexibility in analyzing the data and the results are subjective. The interpretations rely on the researcher's judgement and that's why it's important to ensure that the researcher is not picking up on things that are not there and pays close attention to the data. (Saaranen-Kauppinen & Puusniekka 2006).

The analyzed primary data was the notes of the interviews written by the researcher. The notes were partly written during the interviews and they were completed by the researcher afterwards by listening to the recordings of the interviews and sending complementary questions to some of the interviewees. After the notes were completed it was time for the familiarization phase. The goal was to generally go through the data, get familiar with it and to create the final notes for the actual analysis. After the final notes were ready it was time to start coding the data. By this we mean highlighting all the relevant and potentially interesting comments from the final notes. After all the interesting comments were highlighted, it was time to arrange the data according to different themes and identifying which one of them could bring extra value to this research. The process of analyzing the data and writing the results was interesting, time-consuming and demanding.

Based on the literature review and the results of the interviews, the conclusion of challenges and possibilities of virtual agile teams was summarized in a traditional four-field SWOT analysis (Figure 7.) The SWOT is a four-field analysis which presents existing strengths and weaknesses, and potential opportunities and threats. The internal factors can be either strengths or weaknesses. Strengths are the features which help the organization to reach its goals and weaknesses are the features which are either slowing the organization down or totally blocking the organization in reaching its goals. Opportunities and threats are external factors which have remarkable influence on whether the organization can reach its goals or not. Opportunities can be for example

new technical developments or changing environment and threats are some external factors which are slowing the organizations in reaching its goals. (Meristö & al. 2007).

	Positive	Negative
Internal factors	<b>Strengths</b>	<b>Weaknesses</b>
External factors	<b>Opportunities</b>	<b>Threats</b>

Figure 7: SWOT analysis

## 4 RESULTS OF THE INTERVIEWS

### 4.1 Interviews of the Scrum masters

For this research, 11 SMs from different parts of the researched organization were interviewed via Teams. The purpose of the first two questions was to gather some background information about the respondents and their squads. How long have they been working together, how well do they know each other and how often they have seen each other F2F before and after the special circumstances caused by COVID-19 pandemic. This background information is important for analyzing the results, since these past experiences affect the way people feel and experience both AT and working in 100% virtual setting.

The results for these background questions were as variable as anticipated. Six out of 11 respondents have started to work in their squad in February 2020, one in March 2020, two in May 2020, one in June 2020 and one in September 2020. All the squads are somewhat new teams since agile squads are cross functional teams. It means that all the needed competences have been collected into a squad with defined scope from different teams. However, in most of the squads at least some of the squad members have been working together before moving to agile setup. Two of the squads are a combination of old teams, which is a bit different background compared to the rest of the squads. A bit surprising finding was that out of the 11 squads only one was truly collocated before the COVID-19 lockdown. Rest of the squads were either Nordically distributed or at least one of the squad members was in different office. Seven out of 11 SMs told that before COVID-19 lockdown they met at least once a week F2F with their squad, because of the recommendation of the Agile coaches. Four out of 11 SMs told that they had not met their squad F2F before or after the pandemic.

**Question 1: How have the Scrum masters (SMs) experienced working in the agile squad in 100% virtual setting? What has worked well and what still needs to be improved?**

According to the interviews, the experiences of the SMs working in the virtual agile squads have been mainly positive. The major themes leading to positive feelings which were mentioned by the SMs were: practicality, flexibility, efficiency, transparency and equality. Only two of the 11 respondents mentioned that working in virtual setting feels

challenging for them. Rest of the SMs felt quite happy with working in the virtual agile squad at the moment, however most of them mentioned that at least part of the squad members are missing the social aspect of meeting their colleagues F2F every now and then. Even nine out of 11 SMs said that virtual agile way of working works well for their squad at the moment, all of them agreed that 100% virtual setting feels sometimes exhausting. The themes which arouse negative feelings among the respondents were: lack of social interactions, difficulties in building teamwork and spirit in virtual setting and engaging and motivation people was felt harder. According to the SMs it takes more energy and effort to arrange social gatherings in virtual setting and they don't feel the same as F2F meetings.

Answers to question how you feel about working remotely with your squad included:

“Virtual setting works well for us. It feels more equal, because everyone is working from home office and no one meets each other F2F.”

“We are used to working remotely and part of the squad would anyways be distributed. This 100% virtual way of working feels democratic and equal: everyone has the same tools and are in the same line.”

“It feels like something is lacking from the social perspective. It would be nice to see each other at least every week or every other week. Everybody is eager to come back to the office and meet each other F2F.”

“I think that working in different locations is ok, but totally missing the F2F communication is the challenging part.”

“I have felt 100% remote setting challenging. However, some squad members have been happy to work remotely. We have different personalities in our squad and remote work seems to work better for some than others.”

According to the experiences of the SMs many things are working for their virtual agile teams, but on the other hand there are lot of things to be improve as well. All the SMs were aware that they are still rather unexperienced squads and it takes time for people to seamlessly work together and to build a successful agile team. The results for this question were more divided and some things which work for one squad now, need to be improved in other squad. The themes which were often mentioned as things that work well for the squads now were: agile ceremonies, virtual tools, sprints and teamwork. All



the SMs mentioned that regular virtual agile ceremonies are working well for their squad and most of the them were happy with their virtual tools. Sprints and teamwork were themes on which the SMs were not unanimous. Most of the SMs were satisfied with working in two weeks sprints and many of them mentioned that planning the sprints works well for their squad. On the other hand, some SMs found pulling suitable amount of work in the sprints challenging and one SM was missing the old three weeks sprint rhythm which they had before. Teamwork was also a theme which worked really well in some squads and for other squads the virtual setting was creating more challenges in building the team spirit.

The themes which were mentioned most often by SMs as things to be improved were: social interactions, collaboration with the stakeholders, feedback, meetings and teamwork. The social aspect as mentioned before was something that needs to be improved according to all SMs. Rest of the themes divided more opinions but were mentioned as things to be improved by several SMs. Collaboration with the stakeholders was raised as something that needs to be improved in many discussions, however this is mainly due to the new agile setup and not the virtual setting. According to the SMs, collaborating with the stakeholders via virtual tools works mainly well, but the challenge is to get to know new people virtually. Feedback was also a theme which was mentioned by many SMs. Positive feedback seems to work well in all the squads, but the challenge is to become better in giving constructive feedback in virtual setting. Four out of the 11 respondents said that their squads are struggling with too many meetings. These are both squad's agile ceremonies and other meetings which are colliding and causing stressful situation for some squads.

Answers to questions what has worked well and what still needs to be improved included:

“We are no longer limited to different locations and it feels like we are extremely effective. Our squad is doing good in health checks and the results are good.”

“Clear two-week cycles are working well. Sprints and all agile ceremonies help us to know what's going on and what will happen in next two weeks.”

“Forced remote setting has encouraged us to use virtual tools and we have become good in using them. I feel like this was a nice little push towards more virtual way of working.”

“We must become better in giving constructive feedback. I miss the chats with my colleagues. It feels like we are more distant than when working F2F. The social part needs to be improved.”

“We need to involve our stakeholders better in our ceremonies and in our sprints. This is something that should be done no matter where we work at.”

Some squads and SMs are missing the F2F setting more than others, but still all of the SMs agreed that they don't see a need to return to the 100% F2F setting in the future. Most likely all of the squads will work in some kind of hybrid model in the future.

### **Question 2: What do the SMs see as the challenges and possibilities of virtual agile squads in Company X?**

The SMs are seeing lots of both challenges and possibilities in virtual agile squads in the researched company. Some of the challenges and possibilities are seen more because of the agile setup and others because of virtual setting. The main themes which were discussed when talking about the challenges were: lack of F2F communication, shared resources, less unformal social interactions, getting to know people in virtual setting, engaging and motivating people and individuals increased responsibility. Out of these themes, lack of F2F communication, shared resources and less unformal social interactions were something that SMs were most worried about. Getting to know people in virtual setting is seen as challenging and more time consuming than in the F2F setting. This is slowing down the squad's which are based on the effective teamwork. SMs were also worried about the individuals increased responsibility in virtual setting.

Answers to the question about the challenges of virtual agile squads included:

“Lack of social F2F contact is exhausting. There is a risk that some might feel lonely and loose the feeling of belonging to a team more easily in virtual setting.”

“It's more difficult to build team in virtual setting and it feels like our squad could be tighter if we could meet F2F. Motivating and engaging people is hard via virtual tools.”

“In virtual setting, we are lacking the energy of F2F meetings. Missing the body language is sometimes challenging and all-day video meetings are exhausting.”

“It has been hard to get started as a new team in virtual setting. Getting to know people is slower than in F2F setting and we have too many shared resources.”

“It feels like people in our squad are quite tired of working 100% from home. People are not that good in taking breaks and they are multitasking.”

The main themes which were discussed when talking about possibilities of virtual agile squads in the researched company were: flexibility, effectiveness, virtual tools, Nordic knowledge and savings in time and money. Flexibility and effectiveness were seen as the clearest possibilities of virtual agile squads and they were mentioned by all the SMs. People are pleased to travel less and save some time and money. All squads feel that they are more effective in virtual setting but concentrating too much on the efficiency can turn into a challenge. Using more virtual tools and finding the correct ones to different tasks is seen as a possibility for the squads. Virtual setting and using of virtual tools enable also better Nordic collaboration and more efficient use of Nordic knowledge.

Answers to the question about the possibilities of virtual agile squads included:

“Efficiency and flexibility are clear opportunities in virtual setup. Virtual setting enables to gather big group together without travelling. Location limits are disappearing in virtual setting.”

“Flexibility and choosing the work hours and combining the free time is easier. We save a lot of money from travelling expenses, less air travel leads to environmental benefits as well.”

“Virtual tools enable transparency and effective collaboration in the squads. In some work tasks Nordic knowledge can be used more than before and in the virtual setting all work tasks that our squad is doing can now be done virtually anywhere in Sweden.”

“Virtual agile setup is efficient. The whole squad has easy access to all the relevant information. The working environment is quieter than in the office and it's easy to concentrate.”

“Virtual agile way of working is efficient. Less time for travelling and less interruptions during the day. Working from home office is easier to combine to free time and family setting.”

**Question 3: How could sharing the experiences and learnings of the SMs help other squads in Company X to succeed?**

The SMs were asked to share some tips and tools which they have found useful in their squads. These tips and tools will be shared with all of the SMs in the researched company, so they can try out if some of these would work for their squad. In the results only the most often mentioned tips and tools will be presented, but the SMs will get the uncut version of the list. The most often mentioned tips and tools were: arrange informal 30 minutes catch-up meetings with the squad, make team agreement, celebrate success together, have fun together, take breaks together, use video when possible, try to meet each other in smaller teams if possible, involve everyone to the discussions and encourage everyone to share their thoughts and feelings.

The SMs were also asked if they have a need for extra support in their squads. This information might be beneficial for Agile Transformation team and other squads as well to help the squads to succeed. Seven out of the 11 SM's said that they feel that they get enough support from the Agile coaches and the organization in general. However, four out of the 11 SMs said that they would need more support especially in virtual ways of working and even more support with agile ways of working would be highly appreciated.

#### 4.2 Interviews of the Agile coaches

The purpose of interviewing the Agile coaches was to get their perspective of the challenges and possibilities of virtual agile teams in the researched company. How have they experienced moving to 100% virtual setting and if they could give some tips and tools how to help the squads to succeed in the virtual agile setting.

Both interviewed Agile coaches are external consultants and located in Stockholm. One of the coaches has been working in the researched company since June 2019 and another one of them joined in October 2019. Both coaches have been working with the AT journey of the researched company from the planning phase. The coaches have been supporting all the squads when they were launched. These two coaches have arranged trainings for all the squad members and after the launch they have supported some of

the squads. These two coaches have not been working with all the squads after the launch, since more Agile coaches have been hired to ensure proper support for all the squads. But these two coaches were chosen to this interview, because they have the longest and widest experience with the SMs.

**Question 1: How have the Scrum masters (SMs) experienced working in the agile squad in 100% virtual setting? What has worked well and what still needs to be improved?**

The discussion with the Agile coaches concentrated more on the possibilities and challenges of virtual agile squads and what could be done to support the squads even better. According to the coaches the feelings of the SMs working in virtual agile squads depend strongly on how they have reacted to the change. The squads and SMs are different and big changes in ways of working have raised different kinds of feelings. Some of the feelings are due to the new agile way of working, others due to the long period of 100% virtual setting, the general uncertainty in the world or the combination of all these. Overall, the coaches thought that virtual agile squads are working surprisingly well. One thing that coaches emphasized was that the tribe, which was launched in February 2019, had in their opinion the best starting point to their agile journey and 100% virtual setting, since they had a chance to meet each other F2F a couple of times before COVID-19 lockdown. The coaches felt like they had also better start point with the SMs who they could meet F2F before all the squads were forced to work in 100% virtual setting.

The comments of Agile coaches included:

“How the squads are doing strongly depends on which squad you are looking at, since all the squads are different. What works for one squad doesn’t necessarily work for other.”

“Overall, the squads and SMs are progressing really well and have learned the basics of the agile mindset. They are starting to coach each other a bit more.”

## **Question 2: What do the Agile coaches see as the challenges and possibilities of virtual agile squads in Company X?**

The interview of the Agile coaches gave the agile experts point of view of the challenges and possibilities of virtual agile squads in the researched company. Their opinions are based more on theory and previous experiences than solely in this single case. This gives different and wider perspective of the challenges and possibilities of the squads and deepens the thesis. The main themes which arouse when talking about the challenges were: lack of F2F communication, getting to know people in virtual setting takes more time, approaching managers is harder in virtual setting, building trust and engaging people is harder. The main challenge according to the coaches is the lack of F2F communication and how it affects to building of the teams now and wellbeing of the people in the long run. The opinions of the Agile coaches about the challenges were similar with SMs, but they also raised one new challenge: communication with the managers in virtual setting might be harder than in F2F meetings.

The main themes which were discussed when talking about the possibilities of virtual agile squads in the researched company were: equality of the team members, virtual Nordic meetings, autonomous teams and transparency. The coaches agreed with SMs that equality of the team members can be a possibility for the virtual agile squads. People are facing the same challenges and none of the squad members are left out because of the physical location. The coaches also said that virtual way of working can make many work tasks easier and virtual agile ceremonies were great way to support squads in the virtual setting. The possibilities which were mentioned by the coaches were like the ones mentioned by the SMs, but one new topic that was raised up by the coaches was autonomous teams.

The comments about challenges and possibilities included:

“Lacking the F2F communication is a major problem. Squad members don’t get to know each other in virtual setting as fast as in F2F setting.”

“Autonomous teams make the decision making and problem solving faster. The squads can solve the problems in their virtual daily meetings.”

“It’s easier to arrange meetings in virtual setting, but hopefully the management sees the value of F2F meetings in the future and the squads will have a change to meet each other at least 2-3 times a year.”

**Question 3: How could sharing the experiences and learnings of the SMs and Agile coaches help other squads in Company X to succeed?**

According to the coaches, sharing the experiences and learnings of the SMs is extremely important. It will help the squads to solve their future challenges and give some ideas how to improve their way of working. The squads are being creative how to work via virtual tools and those different ideas might be useful for their colleagues. SM forums are a place where they get to know each other and share their ideas. Agile coaches share their knowledge with the SMs as well, but since all the squads are different, the SMs know best what works for their squad.

## 5 SUMMARY AND CONCLUSIONS

### 5.1 The experiences of the SMs working in the virtual agile squad

The squads and SMs in the researched company have lately experienced big changes in their lives. The different feelings experienced by the SMs can be caused by AT, 100% virtual setting, the general uncertainty of the world or the combination of all these. According to this research, the overall experiences of the SMs working in the virtual agile squads were positive. It looks like most of the squads have found suitable agile and virtual tools for them and they are on the right track with their agile mindset journey. As presented by Powers (2016), it's rather easy to start to use agile tools and do agile, but the slower and harder part is to change the mindset and actually be agile. The findings of this research support this statement. SMs seem to be pleased with the agile tools and practices and how they are working in the virtual setting. On the other hand, it looks like there is still lot to improve in the agile mindset part both in and outside of the squads. The 100% virtual setting caused by COVID-19 lockdown has created some extra challenges to the SMs on their AT journey, but overall working in virtual agile squads is going surprisingly well.

The factors which the SMs appreciated the most in the new virtual agile way of working were practicality, flexibility, efficiency, transparency and equality. All the SMs felt that their teams are more efficient in the virtual setting than when working F2F in the office. The findings of this research confirm the statement by Pinjani & Palvia (2013), that VTs improve the efficiency of the companies at least in the short run. However, being too effective can have downsides as well and it's extremely important that squads take time for different kinds of social meetings as well. The equality, practicality and flexibility factors of virtual setting are so notable that people don't most likely want to go back to 100% office setting. All the SMs said that they miss seeing people F2F, but not working in-office in daily bases.

Only two out of the 11 SMs said that working in virtual setting has felt challenging, but all the SMs agreed that 100% virtual setting feels sometimes exhausting. The main reasons for these negative feelings were lack of social interactions, difficulties in collaboration with the stakeholders, difficulties in giving constructive feedback in virtual setting, too many meetings and challenges to build teamwork in virtual setting. As Calefato & Ebert



(2019) suggests, making the virtual agile teams to work requires some extra effort and time, especially in the researched company where the AT is still in an early phase. Concentrating more on supporting the collaboration and communication in the squads, will be the answer to many of these factors which are now causing negative feelings among the SMs. In these special circumstances, it's important that squads take time for social interactions and take care of each other. Fortunately, this was mentioned by almost all SMs in the interviews. This research supports Haapakoski & al. (2020) suggestion that maintaining trust and cohesion in a team is one of the most important factors in creating successful virtual teams. The SMs who felt that their squads are working really well in virtual setting said that they have strong team spirit and they can count on each other. On the other hand, many SMs said that building teamwork is lot more challenging in virtual setting than F2F in office.

According to this research, all the SMs hope to work in some kind of hybrid version of virtual office and physical office setup in the future. The benefits of the virtual setting have been so remarkable that none of the SMs believed that they will go back to 100% in-office setup with their squads. Most likely collocated squads will end up seeing each other F2F more often than Nordic distributed squads, but all the squads hope to be able to see each other at least few times a year.

## 5.2 Possibilities and challenges of virtual agile squads

This research has investigated the possibilities and challenges of virtual agile squads in the researched company. According to the interviews of the SMs, most of the challenges are caused by totally missing F2F communication. However, unlike Fowler & Highsmith (2001), this research doesn't see a need to organize daily F2F meetings for agile teams. The virtual daily meetings have helped the squads to reduce the negative feelings caused by the lack of the F2F meetings and none of the SMs see a need to have daily F2F meetings with their squads in the future. Even the Agile coaches agreed that agile teams can be successful without seeing each other every day. This doesn't mean that lack of F2F meetings isn't still a challenge for the virtual agile squads in the researched company, but it's a challenge which can be mitigated by effective virtual communication and by irregular F2F meetings when the times allow. The SMs are continuously finding ways to improve their squad's virtual agile ways of working and encouraging people to use video when possible. It's good to remember that most of these squads are still in

early building stages. The findings of this research support the idea of Powers (2017b), that many things can be done to support building the high-performance virtual teams, but one thing that can't be avoided is that building successful teams takes time. The squads in the researched company have been working together from two to 10 months and according to Powers (2017b), it will rather take years than months to build successful virtual teams.

Another issue which has been raised in this research as a major challenge for the squads is shared resources. Shared resources are people who have work tasks in other squads or outside of the squad in addition to squad's work tasks. As proposed by Powers (2017b), this might cause some challenges both in team building and team performance, since not all squad members can concentrate fully on the squad. Solving the shared resource challenge is one of the main pain points in the researched company which has been raised to the de-blocking forum, which solves blockers or challenges caused by the new agile way of working. The challenge of shared resources is not actually caused by the virtual setting or the new agile way of working, but it's more a challenge which the researched company had before AT and which continues to be a challenge. De-blocking group together with the squads has tried different options to solve this challenge. One of the SMs told that they have now ended up having their shared resources in the squad every other sprint. This way these shared resources can concentrate on the tasks of one squad at a time and the squad knows when these resources are available for them and when not. So far, this way of solving the problem has worked well for this one specific squad, but squads and their scopes are different and not all can use the same solution for their shared resource challenge. Another SM told that for their squad the only option was to hire one new person, because sharing the resource was not working and the whole squad was suffering from the situation. Some of the SMs mentioned that in some cases, T-shaping or broadening the skill set of the other squad members can be a solution. T-shaping is supported by the Agile coaches as well, since learning new skills outside of the squad member's knowledge area is known to be motivating and it makes the squads less fragile.

According to this research virtual agile teams in the researched company have lots of possibilities. The results of this research support the idea by Calefato & Ebert (2019), that distributed agile teams can be as successful as collocated teams and in some situations even more successful. As presented by Ferrazzi (2014), the prerequisite for virtual teams is that they have the right technology and virtual tools available. According

to this research the virtual tools, which are available in the researched company, are mainly working well for the squads and the squad members have actually become as experts of several virtual tools. When the technology is working the virtual squads can concentrate on other relevant matters in building successful virtual teams.

The main themes which were discussed when talking with SMs about possibilities of virtual agile squads in the researched company were: flexibility, effectiveness, virtual tools, Nordic knowledge and savings in time and money. As proposed by Freire & al. (2018) the agile practices in the researched company seem to provide opportunities for team members to collaborate effectively with each member and enhance communication even in the virtual setting. According to the SMs regular agile ceremonies have been an important part of building and maintaining the team spirit in the squads during these exceptional times. As presented by Handscomb & al. (2020), agile ceremonies have been perceived beneficial in virtual setting for many companies. Even some nonagile teams have found the agile ceremonies helpful in collaborating more effectively with each other in the virtual setting. One possibility for the researched company could be to introduce the agile ceremonies to other virtual teams in the company as well. This could help to increasing the overall understanding of the agile mindset in the organization, which is essential for successful AT and at the same time help the nonagile virtual teams to improve their virtual communication. As proposed by Comella-Dorda (2020), agile teams and agile tools can turn into a real source of competitive advantage in these special times in the researched company, since they typically adapt well to periods of distribution and have an ability to adapt to fast-changing business priorities, disruptive technology and digitalization.

According to this research flexibility in work hours and less time and money for traveling are seen as possibilities of virtual agile squads in the researched company. These benefits have been reached mainly because of the virtual setting, but together with agile ways of working as proposed by Rigby & al. (2016), they will increase employee motivation, engagement and satisfaction. This is one of the main goals of the AT journey in the researched company and that's why emphasizing these strengths is important. Another positive reflection by many SMs was that 100% virtual setting feels more equal and democratic than the old setting. Before the lockdown some of the squad members were in the same office and met each other in daily bases, while others were in other offices and didn't have a possibility to meet their squad members F2F. This created

easily more silos inside of the squad and some squad members felt more outsiders since they were missing all the daily chats. In the virtual setting all are in the same line.

### 5.3 SWOT analysis

Based on the literature review and the results of the interviews, the conclusion of the challenges and possibilities of virtual agile teams in the researched company was summarized in a traditional four-field SWOT analysis. (Figure 8). Some of the factors are considered as strengths, weaknesses, opportunities or threats more because of the agile setup and others more because of the virtual setting.

<b>Positive</b>	<b>Negative</b>
<p style="text-align: center;"><b>Strengths</b></p> <ul style="list-style-type: none"> <li>• Autonomous teams</li> <li>• Efficiency</li> <li>• Equality of the squad members</li> <li>• Existing virtual tools</li> <li>• Flexibility</li> <li>• Less traveling – environmental benefits</li> <li>• Positive attitude of the Scrum masters</li> <li>• Transparency</li> <li>• Virtual agile ceremonies</li> </ul>	<p style="text-align: center;"><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>• Difficulties in building team spirit</li> <li>• Engaging and motivating people in virtual setting</li> <li>• Lack of F2F communication</li> <li>• Lack of unformal social interaction</li> <li>• Technology dependency</li> <li>• Shared resources</li> </ul>
<p style="text-align: center;"><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• Arranging big virtual meetings online</li> <li>• More efficient use of Nordic knowledge</li> <li>• Network of teams</li> <li>• New virtual tools</li> <li>• Sharing knowledge via virtual tools</li> <li>• Teamwork</li> </ul>	<p style="text-align: center;"><b>Threats</b></p> <ul style="list-style-type: none"> <li>• Bad network</li> <li>• Individuals increased responsibility</li> <li>• Lack of constructive feedback</li> <li>• Social isolation - loneliness</li> <li>• Stakeholders low agile awareness</li> <li>• Too many meetings</li> </ul>

Figure 8: SWOT analysis of virtual agile teams in the researched company

According to the interviews and literature review the researcher has recognized several strengths of virtual agile teams in the researched company. These are the factors which the researched company should try to strengthen and utilize. The strengths which are mainly due to the new agile setup are: autonomous teams, transparency and virtual agile ceremonies. Autonomous teams called squads were lifted up as possibilities by the Agile coaches, because squads consist of all the needed people to make fast, high-quality decisions. The interviewed SMs agreed with Vilkmán (2016), that squads enable fast

problem solving and they have positive effect on the employee satisfaction and motivation, because people get to make decisions on things that concern their own work. However, some of the squads in the researched company seem to be more empowered and autonomous than others. Even this factor is now listed as a strength in this analysis, in the reality the researched company should try to ensure that all the squads feel as autonomous as possible. There will always be some dependencies to other squads and stakeholders but ensuring that people feel as empowered as possible will have positive impact on the virtual agile squads and that way to the whole organization. Transparency is another factor which is seen as a strength in the researched company. As stated by Vilkmán (2016), transparency is one of the main values of the agile organization and it was emphasized by the interviewed Agile coaches and SMs as well. SMs who were satisfied with the virtual agile way of working mentioned that transparency is working well in their squads and it's creating trust in- and outside of the squads. Several SMs mentioned in the interviews that transparency in virtual setting is really important and using virtual tools in their sprint planning is something that they will definitely continue in the future, since it creates better visibility of the backlog and roadmap to the squad and their stakeholders. According to this research, overall virtual agile ceremonies are helping teams in the virtual setting and regular meetings are supporting the team spirit. It looks like many squads have been able to build trust in the virtual setting, even though according to Vilkmán (2016), it takes four times as much time to build trust in virtual teams than in traditional office setting. The squads in this research have been working together for different periods of times and for some squads there are still more work to done in building trust than for others.

One important recognized strength was the positive attitude of the SMs. They are the people who are ensuring that agile methods are fully exploited in the squads and striving to build a high performing team. Even though the leadership in agile squads is shared as suggested by Freire & al. (2018), the role of the SM is important in motivating the squad members. According to Vilkmán (2016), the six cornerstones of the successful virtual leadership are: trust, respect, openness, functional rules, dialogue and cohesion. There is of course always room for improvements, but according to this research these factors seem to be in good level among the interviewed SMs. This is seen as a strength since squads are more likely to succeed if the SMs have a positive attitude and full trust in the new agile way of working. This same positive attitude can be seen from the results of this research towards the virtual setting as well. Some squads and SMs are missing the F2F setting more than others, but all the SMs agreed that they don't see a need to

return to the 100% F2F setting in the future. The benefits of the virtual setting are so remarkable that most likely all the squads will work in some kind of hybrid model in the future.

The strengths which are mainly due to the virtual setting are: efficiency, equality of the squad members, existing virtual tools, flexibility and less traveling which leads to environmental benefits. According to Pinjani & Palvia (2013), VTs allow organizations to improve efficiency and profitability and the results of this study support this statement. According to the SMs the virtual meetings are more efficient. People are more often in time and meetings can be arranged back-to-back because there is no need to reserve time for moving from one meeting room to another. Independent work tasks and work tasks which require more concentration are done quicker at the home office, because the remote work environment is often quieter than the open office. SMs could mention many reasons why virtual agile teams are more efficient, but on the other hand they were aware that being too efficient can turn into a weakness. Equality of the squad members was seen as a major strength in agile virtual squads by the SMs. Before the COVID-19 lockdown other squad members were more likely to be left out from many things because of their physical location, but after all squad members were forced to work remotely, they were all on the same line. This is a clear benefit of the 100% virtual setting, but this can be seen as a threat in the future because not all will continue to work in 100% virtual setting and then inequality will arise. The existing virtual tools are working well for the squads and the SMs said that they have found correct tools for correct purposes. One of the SMs said that pandemic has forced us to be superusers of our virtual tools. The special circumstances were the push the squads needed to start using more virtual tools and to improve their virtual way of working. Another recognized strength by the SMs is the reduced need to travel, which leads to financial savings and environmental benefits. Less traveling time means also increased free time for many employees.

The recognized opportunities which the research company should try to turn to strengths are big online meetings, more efficient use of Nordic knowledge, network of teams, new virtual tools and and sharing knowledge via virtual tools. Because of the prevailing conditions, the researched company arranged the first ever Bigroom planning online. It's a meeting where all squads and their stakeholders come together to make delivery plans for the upcoming Supersprint. The meeting gathered over 500 people around the organization together and the feedback from the participants was really positive. This proves that online meetings can be good opportunity for big meetings even after the

COVID-19 pandemic. As Denning (2016) suggests also this research supports the idea that agile teams should create a network with a clear common goal, which grow, learn, adapt and create value to the customer together. This is a clear opportunity which the researched company should try to turn into a strength by supporting the collaboration of agile teams. Virtual setting enables the researched company to utilize the existing Nordic knowledge even better. As proposed by Pinjani & Palvia (2013), virtual agile teams in the researched company provide an opportunity to find expert level knowledge fast inside of the company. According to this research, location limits in the researched company are disappearing in the virtual setting and some work tasks can now be done anywhere in the Nordics.

The recognized weaknesses of the virtual agile teams, which the researched company should try to mitigate as well as possible are: difficulties in building team spirit, engaging and motivating people in virtual setting, lack of F2F meetings, lack of social interaction, technology dependency and shared resources. In addition to the technology dependency aspect, these weaknesses are mainly caused by lack of F2F communication and problems caused by shared resources. The SMs try to mitigate the lack of F2F meetings by developing virtual communication, encouraging people to use video in the meetings, and by sharing tips how to engage and motivate people in virtual setting. SMs agreed with the idea proposed by Vilkmann (2016) that functional rules have been useful for squads especially in virtual setting. Most of the SM's mentioned that they have together with their squads discussed and agreed how different situations should be handled in the team and this has been very beneficial for them. The SMs are trying to come up with different kinds of ways to support their squads in virtual setting before the times allow us to arrange irregular F2F meetings again.

The recognized threats which the research company should try to avoid are bad network, lack of constructive feedback, individuals increased responsibility, social isolation, stakeholder's low agile awareness and too many meetings. According to this research bad network is sometimes stopping squad members to share their video in the meetings and this seems to be a challenge at least for squads who have not been working together so long. However, the SMs also mentioned that bad network is often used as an excuse not to put the video on and many squads have agreed that they at least start the meeting with all the videos on. This research confirmed the statement of Keller & Meaney (2017) that in virtual setting it's easy to avoid conflicts and talk only about the happy and positive things, but to improve the team performance all the constructive feedback is needed as

well. Many SMs mentioned about this challenge in their squads and there are trying to tackle this problem by leading by example and giving constructive feedback to their squad members. According to this research, flexibility is seen as a strength in virtual agile setting, but on the other hand the increased individual's responsibility was mentioned as a threat by several SMs. For some people it's challenging to take breaks and that's why SMs are encouraged to arrange weekly walk and talk meetings with their squads. This research supports the thought by Denning (2016), that to get the full benefit of agile the whole organization has to become agile. Stakeholders low agile awareness is a clear a threat in the researched company, but on the other hand the company is still in early stage of the Agile journey and changing the mindset of the stakeholders will take time.

The feeling of too many meetings is a threat which is caused by both agile setup and virtual setting. The SMs recognized that it's a lot easier to book online meetings, because there is no need to worry about the location of the invited people. As Handscomb & al. (2020) suggests, offering regular social interactions to the team members is extremely important in virtual setting and ensuring good communication via regular meetings is beneficial for the virtual teams. Agile coaches agreed that SMs should be careful with reducing the agile ceremonies, but rather concentrate on making the meetings more beneficial for all the participants. According to the SMs who mentioned about too many meetings, the main problem was not the agile ceremonies, but all the other colliding meetings and the easiness to call a meeting in virtual setting. Here the solution could be that squad members try to participate only to meetings which are beneficial to them and try not to participate in all meetings if it's not necessary for them.

Investigating the experiences and learnings of the SMs and Agile coaches and collecting the SWOT analysis of the virtual agile teams in the researched company has been beneficial for the AT project and for the company in general. It's extremely important that companies listen and take care of their employees in these special times and ensure that their employees who are their biggest asset are satisfied and doing well. In an agile organization, it's even more important to take care of the agile teams, since they are the hearth of the agile organization. The summary of the results of this research will be published to the Agile Transformation team and SMs of the researched company. The summary includes list of practical tips and tools collected from the interviews, how the SMs have supported their squads in the virtual setting. These tips and tools can be freely used by other SMs in the company. However, each squad is unique and there is no



single formula for successful virtual agile team but sharing the experiences might be helpful for some SMs and even raise new ideas how they could improve their virtual way of working. The most important message to the researched company is to continue supporting and following the process of their virtual agile teams and even consider introducing the agile ceremonies to nonagile virtual teams.

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## Appendix – survey questions

### Questions for the Scrum masters

1. Tell me about the background of your squad? (How long have you been working together? How well do you know each other?)
2. How often do you see each other face to face? (before and after COVID-19 pandemic)
3. How do you feel about working remotely with your squad?
4. What agile tools & practices have you and your squad found helpful?
5. What has worked well for your squad in virtual setting?
6. What still needs to be improved in virtual setting?
7. What do you see as opportunities of working in virtual setting?
8. What do you see as the challenges of working in virtual setting?
9. How have you improved your squads remote work experience? or what could be done to improve your remote work experience?
10. Anything else you want to add or comment.

### Questions for the Agile coaches

1. How long have you been working with the squads? How are they progressing in their journey?
2. How have you experienced the virtual setting of the squads?
3. What do you see as opportunities of agile teams working in virtual setting in Company X?
4. What do you see as challenges of agile teams working in virtual setting in Company X?
5. How can we best solve these challenges?
6. How have you as an Agile coach supported our remote agile squads in both doing and being agile?
7. What could we do more to support our remote agile squads?
8. Anything else you would like to comment or add.