Agile in non-information technology companies: a KONE case study with distributed teams

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International Business Management 2021
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MASTER'S THESIS	
Arcada	
Degree Programme:	International Business Management
Identification number:	
Author:	Daniele Fabiola Matsumoto da Silva
Title:	**Agile in non-information technology companies: a KONE case study with distributed teams**
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Commissioned by:	KONE

Abstract:

The Agile Mindset, principle, and frameworks have been gaining more popularity in industries outside the IT world because of its methodologies that encourage companies to put the customer in the center, experiment, and perform continuous improvement. Agile was initially encouraged for co-located teams. However, this is not realistic when big companies want to apply it across an entire organization. KONE is a Finnish market leader in the People Flow® business who manufactures elevators, escalators, automated doors, and digital services to improve the urban movement, with more than 60,000 employees globally. This study aimed to understand the practical learnings and benefits that KONE had gained when teams started to experiment with Agile in distributed teams. This study also highlights KONE's main challenges throughout this journey and some recommendations for companies adopting Agile with a distributed setup. The research provides some understanding of some of the popular Agile frameworks used in the market and what configures a distributed team. Additionally, it provides some pillars of leadership and culture as these are critical elements for when companies want to change their operating model, with some empirical evidence collected through interviews with nine KONE employees. The results point that, though a company can benefit by applying only some Agile tools and frameworks, the most relevant results and improvements come from when corporations go beyond them by incorporating Agile culture, value, and mindset in their daily lives. This shift requires dedication at all company levels, strong and trained leaders who know and understand the Agile core principles, and courageous employees who feel safe to experiment, fail, and learn while applying new ways of working.

Keywords:	Agile, Agile principles, distributed teams, virtual work, remote teams, servant leadership, Scrum, Kanban, culture, KONE
Number of pages:	92
Language:	English
Date of acceptance:	

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1 INTRODUCTION

This study seeks to understand how the Agile mindset, principles, and methodologies can better support distributed teams working in KONE, a non-information technology company, and if Agile can provide the aid the company needs to achieve its goals in a world that is more competitive and fluid than ever. Additionally, this research aims to understand what are the practical experiences and recommendations obtained by adopting an Agile mindset, principles, and methodologies inside some of the IT teams, more specifically when the rest of the company culture is not aligned with the Agile ways of working. Finally, having distributed teams using Agile also requires companies to adapt their organizational structure and ways of working, from how leaders behave to collaboration tools, and this study will further discuss this.

Even though Agile could be applied in different fields (e.g., human resources, research, and development, business development), the author will mainly focus this thesis on product and software development inside the IT area and its main collaborations with business, marketing, and research and development departments, since this is where she could observe the different experiences closer and acquire hands-on experience.

The researcher classifies KONE as a non-IT company because, although KONE has some business initiatives in the software development area (e.g., DX class elevators and the 24/7 Connected services), and an important part of the company belongs to the KTI team (KONE Innovation & Technology), the core business of this Finnish enterprise is still in the manufacturing and maintenance areas. As demonstrated below, in the Interim Report of June 2021, the KONE focuses the vast majority of its attention on the new equipment, modernization, and maintenance operations. The digital services sales are embedded into these core services:

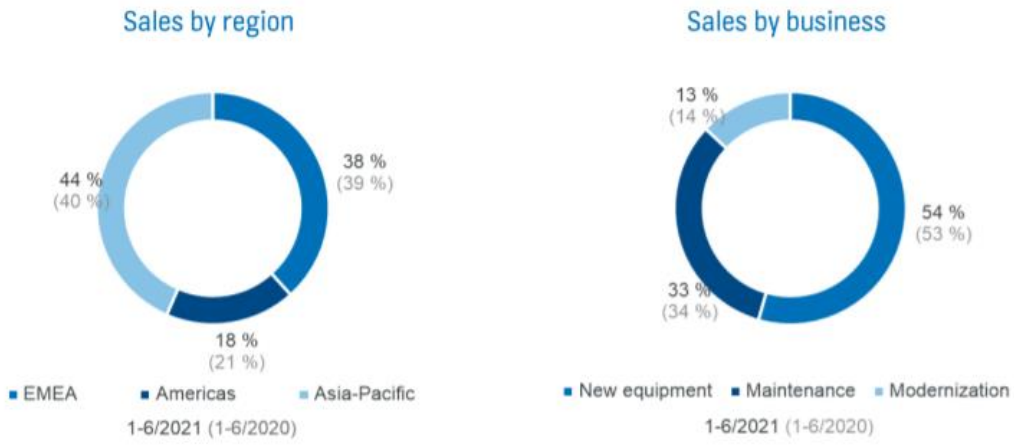

Figure 1. Graphs showing the global sales results in KONE from January to June of 2021. KONE Corporation,2021.

1.1 Background

Agile methodologies are not something new in the Information Technology (commonly known as IT) world, and its origins are possibly two. The first one is the article "The new new product development game" (Takeuchi and Nonaka, 1986). In this study, although the authors did not name the new process as "Agile," they already formulated processes and principles that are still the fundamentals of all Agile methodologies until today. The authors already raised the challenges faced by software companies – but not only restricted to the software development area since they mention other cases, including examples from 3M, a company which is specialized in a wide range of physical products – to thrive with customers that are demanding corporations in being increasingly more innovative and respond fast to changes. Also, it is mentioned in this text how this proposed new way of working could, quoting Takeuchi and Nonaka (1986 p.3), *"act as an agent of change for the larger organization,"* indicating that purely changing ways of working and labeling them with different names from the more traditional practices (e.g., the waterfall project management) would not be sufficient. The second possible beginning is the "Agile Manifesto" (Beck et al., 2001). The manifesto touches on the same issues appointed by Takeuchi and Nonaka's study. However, it was Ken Schwaber with Jeff Sutherland along with other fifteen contributors who, in 2001, used for the first time the Agile name to officially describe the proposals of this new way of working with software development.

Since then, the Agile methodology and its different frameworks have gained space in areas outside of IT. For example, the "How Agile Principles Built Trillion Dollar Companies" Forbes article (Denning, 2020) discusses if it is fair to affirm that the trillion-dollar companies Amazon, Apple, Microsoft were built on the pillars of the Agile principles. The text mentions seven points on why these companies are successful, and the first one argues on the customer obsession which surrounds Agile principles and how adopting Agile requires fundamental changes in different areas in a project and product development.

In 2019, KPMG conducted a Global Agile Survey where they listed all the frameworks mentioned by the participants:

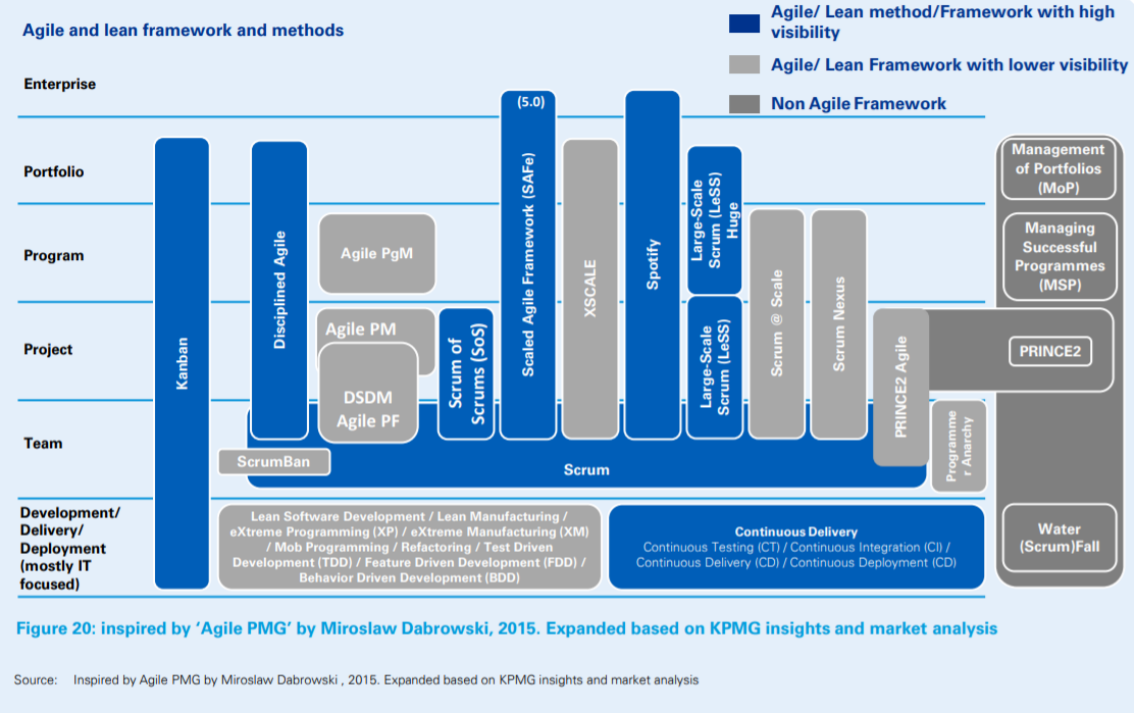

Figure 20: inspired by 'Agile PMG' by Miroslaw Dabrowski, 2015. Expanded based on KPMG insights and market analysis

Source: Inspired by Agile PMG by Miroslaw Dabrowski , 2015. Expanded based on KPMG insights and market analysis

Figure 2. KPMG Global Agile Survey, 2019.

As seen above, Kanban, Scrum, SAFe, LeSS are some of the most popular Agile frameworks used by some companies, and they all propose great changes from how team members do meetings to organizational core values challenges, and one particular proposed change which can be more outstanding is, because of its power to resonate in any department today: to deliver some type of value early and often to the customers continuously and incrementally (Beck et al., 2001). This will be more covered in the Literature Review part of this study. Moreover, some recent empirical studies (Rothman

and Kilby, 2019) have shown that more important than applying the Agile methodologies and frameworks by the book, the companies and projects should learn and embrace its principles and adapt the framework following the culture of the corporation, which can make its adoption more challenging, and this also will be further covered in this composition.

Finally, Agile has its ground rules built on face to face interactions (Beck et al., 2001), its dynamics are highly impacted when the company or project setups have distributed teams, and this is specifically relevant since 2020 when the entire world was impacted by the outbreak of the new coronavirus[1] and was forced to work remotely, regardless if the companies were ready for it or not.

1.2 Motivation for the research

Figure 3. Google trends graphic with the "Agile" term interest search, worldwide, from 2006 to 2021

Figure 4. Google trends graphic with the "Scrum" term in software development interest search worldwide, from 2006 to 2021

Business agility, improvements on product or project time to market, tech transformation, digital disruption: these keywords are not new in the business world, and still companies face immense challenges to keep themselves modern and ahead of their customer's needs,

especially when teams are located any and everywhere, still needing to collaborate to achieve a common goal.

In 2011, Forbes published a news article entitled: “Now every company is a software company” (Kirkpatrick), where it is discussed that the era where it made sense to separate traditional and technology industries was over, and companies that take excessive time in understanding this would have the risk of becoming obsolete.

I have worked my entire IT career (starting in 2007) in some format of distributed teams. It started with my job located in Sao Paulo, Brazil, and my role required me to interact daily with co-workers from a big, multi-national company, mainly based in the United States, but also with colleagues in Argentina, Mexico, Slovakia, China. This didn’t change for a while until I decided to move to Helsinki in 2016 and started working in KONE, a Finnish company and market leader in the elevator and escalator industry. Initially, in my new team, the majority of the members, more specifically software engineers, were co-located in the same office room working from Espoo, Finland, until it was decided on a corporate level that we should have more distributed ways of working and we started having developers who are now located in India.

Parallelly with my change in personal and working lives, from my personal experience, Agile started to become more popular outside the software development world, and even before leaving Sao Paulo in 2015, in my previous workplace, we were going through a massive Agile transformation. Inside KONE, my team was one of the early adopters of using the Agile mindset, principles, and methodologies. The main reason why this was decided was that the project and some of its members did not want to continue to release only twice per year (following what the common calendar year release was), as many things could change in six months. We had a clear objective: continuously deliver features to our users (maintenance salespeople) as early as possible, and Agile suited our needs. It was not easy to start as an isolated project which was trying something different from what was considered normal in KONE, as this raised and continues to raise many questions and concerns with colleagues that do not understand the values that the Agile ways could bring. On the other hand, this initiative has also enlightened us in different ways of working as a team (distributed or not) to follow the company’s demands in reinventing itself.

Lastly, as previously mentioned, this thesis is being written during the years 2020 and 2021, where the world faced a pandemic situation with the novel virus covid-19 (Sheikh and Rabin, 2020), forcing many companies to accelerate their digital transformation since many employees were suddenly forced to work remotely, in a global action to avoid the fast spread of the new disease. As highlighted by Brower (Forbes, 2020), an Agile mindset can be the way to get through the covid crisis, and also when the new normal gets established, as quoting the article, *"it is especially valid because the world is no longer based on individual work and the Agile mindset embraces teams. Our current conditions require a calm response to complexity, and Agile empowers us to be our best in the face of uncertain times.*"

However, in the section of the Agile Manifesto (Beck et al., 2001) principles, it is said that "*The most efficient and effective method of conveying information to and within a development team is face-to-face conversation."* This led Agile teams to organically create ways of working that were shaped for co-located teams. Notwithstanding, in the covid era, sharing spaces with your colleagues was not only not recommended, but also seen as a risk to everybody's health[2], and this encouraged relevant people in the area to promote Agile as the best alternative for this situation as well. For example, Jeff Sutherland wrote an article in Scrum Inc. (2020), highlighting that *"Agile distributed teams can be as productive as collocated teams"* if aspects of communication and coordination are correctly taken care of. Furthermore, even though there is an increase in the academic research on Agile with distributed teams, and techniques on how to implement the methodology from a distance have been more extensively available, still technological and empirical advances happen at a faster pace than this research can follow.

In conclusion, this paper is the author's way to share with a broader audience what she had to learn by doing, with a package of materials, references, and cases that she wished she could have had access to when she started working more deeply with Agile distributed teams.

1.3 Research questions

According to Gil (2002), a research project needs to start with a clear definition of the research problems and questions. Based on the author's experience and observation on the adoption of Agile by big corporations, and how many difficulties were found by the author herself and her colleagues, it was defined that the objective of this research is to present empirical evidence and share experiences, learnings, and recommendations on when Agile ways of working are adopted by teams working in a company that does not have IT as their core business. The idea is to find answers for the research questions located below, based on the understanding of the dynamics of the company as of now (distributed teams that mostly use traditional waterfall methodology with a legacy of engineering-oriented mindset to develop and deploy projects and products), looking for better ways of collaborating to achieve its business goals, and how they are starting to use Agile for this.

Firstly, an overview of the Agile mindset and principles is covered with a synopsis of the that are most relevant Agile frameworks in the market and for KONE. Next, it is needed to understand what configures a distributed team, what its dynamics are, and why companies like KONE have them. Thereafter, the study will cover some aspects of leadership and multi-culture teams in an Agile distributed setup. Following this, through the perception of the selected group of KONE employees interviewed, an analysis of what are the highlighted key recommended changes required for KONE in adopting Agile as the new way of working, and if any benefits on its adoption can be perceived, taking the Agile mindset, principles, and methodologies as the main topics, but having the dynamics of distributed teams, leadership, and cultural diversity as parallel pillars. Finally, the aim is to identify constraints and opportunities in these areas.

The research questions are presented as the following:

- What are the benefits and challenges of using Agile concepts with distributed teams in KONE?
- What are the recommendations, from a practical point of view, of using the Agile mindset, principles, and methodologies in KONE with distributed teams?

Qualitative research, with semi-structured interviews, was the selected method for data collection for this thesis. According to Gil (2008), interviews are the best method to collect valuable data when a researcher is trying to understand aspects of social life and human behavior. This information can still be evaluated and quantified by measuring patterns in answers, emphasis on affirmations, and the voice tone utilized during the interview. Having semi-structured questions will enable the patterns to be collected, organized, and analyzed since the set of initial questions are the same for all participants, regardless of their job roles or teams. Additionally, as mentioned by Gil (2008), semi-structured interviews can help the author to have less cause to favor one opinion or another and can support interviewees to have more freedom to express their ideas.

The plan for the interview was to approach nine interviewees: five leaders in the organization and four Agile doers, all KONE internal employees. All the leaders have direct reports in the company. Both Agile leaders and doers have some level of experience in working with Agile and distributed teams inside of KONE, and some have experiences outside of the company. More details on how this selection was made and the criteria for the people to be interviewed will be covered in Chapter 3.

In addition to the qualitative research, a considerable amount of data relevant for this research was collected from scientific articles, other Master's thesis on the fields covered in this work, and business magazines that are respected in their areas. It is imperative to consult adequate material to create the foundations of the literature framework. Additionally, this helps to understand what has been already published and discussed regarding the themes of Agile and distributed teams (Gil, 2008).

1.4 Structure of the thesis

The thesis was created having the following six main chapters:

Introduction: the first chapter opens the thesis, where the motivations and reasoning behind the selection of this theme are presented from personal, academic, and work perspectives. It is also mentioned that 2020 is the year where the world started to face a pandemic situation with covid-19, which might have impacted not only this thesis but all of the ways of working approached in this research. Secondly, the research questions are

presented with a brief overview of the methodology chosen. Finally, the chapter closes with the thesis's basic structure.

Key concepts, literature review, and theoretical framework: in the second chapter, distributed teams and the Agile mindset, principles, and methodologies are covered in detail, with a focus to understand in both subchapters about some leadership and culture aspects.

Methodology: the third chapter details the explanation of the methodology used, with the qualitative research as a foundation and semi-structured interviews with nine people. The set of questions is also presented with a precise explanation of why they were selected. Also, in this chapter, it is made clear the criteria for the selection of the people interviewed.

Results: empirical data which was collected from the interviews is presented, showing the pattern of the answers, which builds the foundation for the discussions in the next chapter. Some quotations are used to summarize the idea of the patterns found. This section covers the summary of the results structured in benefits, challenges, and recommendations.

Discussion: this chapter discusses whether the author could find answers to the research questions in the light of the theory presented earlier in the study and the business implications of the findings

Limitations of this research and conclusion: this closes this work with a summary of the main findings of this research. Additionally, flaws to this work and indications of further research that can be done in the future are presented in this chapter.

2 LITERATURE REVIEW: AGILE AND DISTRIBUTED TEAMS

For the author to be able to start answering the questions asked in this research, the literature review needs to be based on the understanding of two big parts. Firstly, what is Agile, and why companies, specifically the ones who do not have software development as their core business, are using this methodology. It is needed to cover what the most famous frameworks say about the ways of working, especially in the scaled format, considering that KONE is a big company, and what recommended setups the teams

should have according to specialized books and articles on this theme. Scrum is going to be the main focus, as it is the most popular Agile framework worldwide and in KONE. The graph extracted below from the 15th State of Agile Report (Digital.ai, 2021) shows the wide adoption of Scrum among the participants of the survey with 4 182 responses.

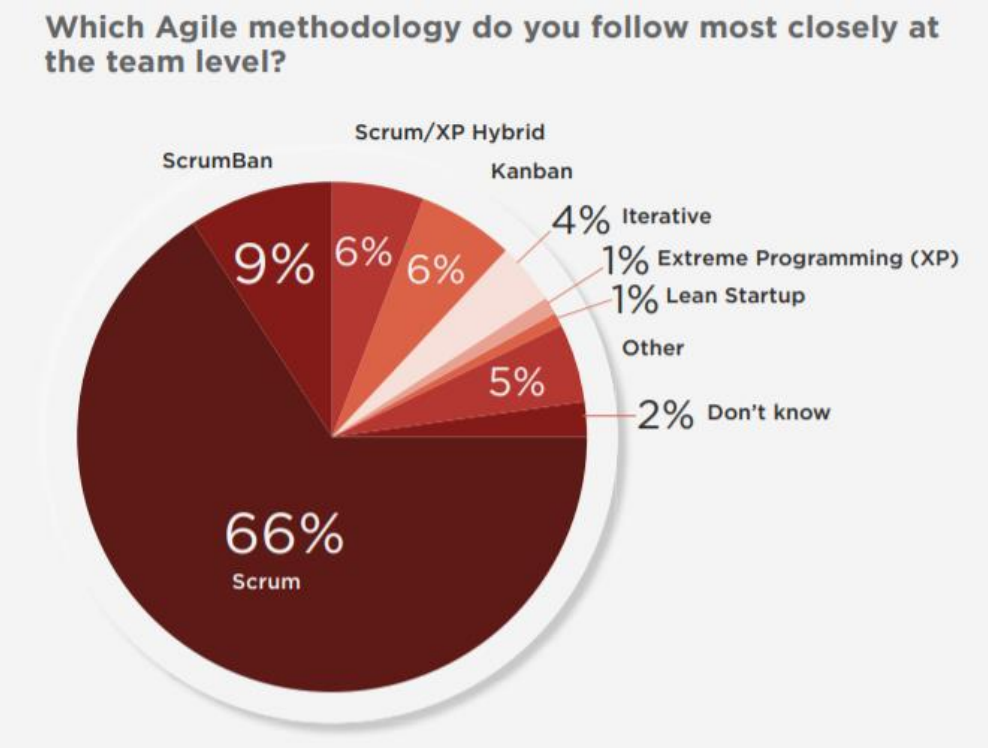

Figure 5. Graph with the Agile methodology used by the participants of the survey. 15th State of Agile report. Digital.ai, 2021.

However, it is also relevant to explore some dimensions of Kanban and Lean since they are often mixed and combined to leverage the best of the Agile possibilities. The derivations of Agile for scaled teams, including Scrum at Scale, SAFe, ScrumBan, and the Spotify model, are likewise pertinent as KONE needs to apply the models on its reality of 60,000 employees[3] and these are the frameworks inspiring the Agile model being currently created internally in KONE. Then, a subchapter dedicated to the Agile mindset and principles is needed for two reasons. Firstly, the principles are the central connection in the different Agile methodologies, all referring back to the Agile manifesto (Beck et al., 2001) and the "new new product development" (Takeuchi and Nonaka, 1986) article. Secondly, there might be a certain level of misunderstanding among some of the Agile practitioners, especially the ones who are starting the journey and beginning to get themselves familiarized with the Agile concepts, in mixing Agile methodologies with the

mindset and principles. As highlighted by the article " These are the Differences Between Agile and Scrum, and How They Differ From Waterfall" (Scrum Alliance, 2021), as an example, while Scrum is used mostly as a framework in teams who are developing products and software, Agile is a wider concept which embraces not only teams but also the leadership in all levels and the company culture values and operating models. The figure below exemplifies this relationship. Known as the "Agile onion," this image illustrates how tools and practices, though relevant, have a smaller impact in comparison to the mindset and principles. The latter also requires greater changes in companies if they want to adopt Agile in comparison to the smaller circles.

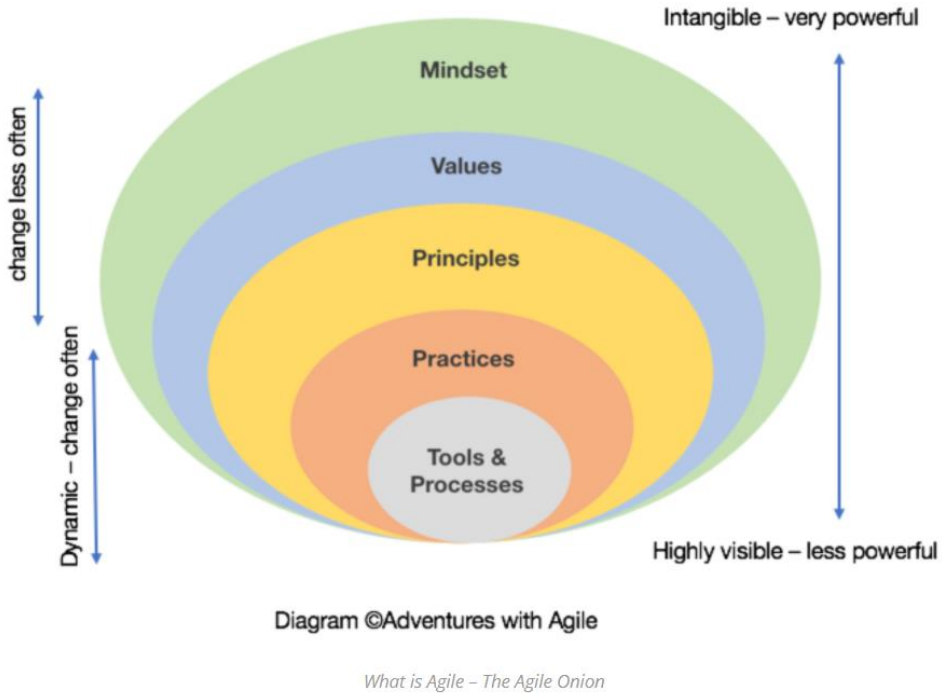

Figure 6. The Agile Onion. Adventures with Agile. Powers S., 2021.

Secondly, what classifies distributed teams, and why do companies have them. Having distributed teams spread throughout the world means that culture might play a key point in the dynamics of the teams. Some literature regarding having teams with different cultural backgrounds and what are the strengths and challenges of cultural diversity in teams inside companies is also relevant.

And, finally, what are the leadership skills required in a distributed Agile setup since Agile proposes new ways of thinking, and this can require a differentiated set of skills for leaders when guiding multi-diverse teams which are not co-located.

2.1 The Agile concept, mindset, and values

As an umbrella term, Agile is often used to describe different methodologies, frameworks, and an overall mindset. It is both a set of practices for managing projects while also the foundation for a culture of experimentation and transparency in the dynamic and fast-changing world we live in (Denning, 2018).

As demonstrated earlier in this chapter, the outermost layer of the Agile Onion is the mindset, which indicates in this graph that the mindset is the most important aspect of the Agile concept. It also demonstrates the difference between "being Agile" and "doing Agile," whereas being Agile touches intangible aspects from culture, trust, and philosophical beliefs in the ways of working, doing Agile is demonstrated by tools and frameworks in tangible manners (Powers, 2021).

The Powers' definition of the Agile mindset (Powers, 2021) divides this idea into three parts:

The complexity belief: complex adaptive problems do not have predictable solutions.

The people belief: human beings are interdependent and, given the correct environment where they have safety, respect, diversity, and inclusion, it is possible for them to thrive and self-organize their work since they trust each other and trust the organization they are working for.

The proactive belief: proactivity is the way for continuous improvement.

To summarize the Agile mindset topic, as it was highlighted by Atlassian (2021), *" The original Agile Manifesto didn't prescribe two-week iterations or an ideal team size. It simply laid out a set of core values that put people first"*.

A starting point for understanding when Agile would be applicable to a given situation is a model known as the "Cynefin model" (Snowden and Boone, 2007). This model provides a structured approach to determine when an iterative and experimental mindset is more

suitable than a more traditional, more fixed approach to problem-solving or project management.

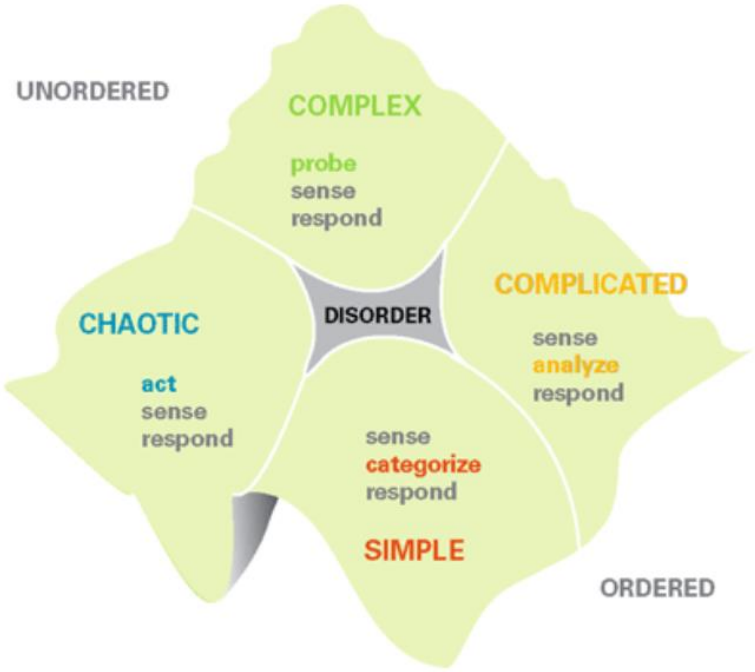

Figure 7. Cynefin model. Snowden J. D., Boone E. M., 2007.

Snowden and Boone define five context categories within this model, which are listed and described below per the article published in the Harvard Business Review magazine in November of 2007:

- **Simple:** stable and direct cause-and-effect situations are categorized as simple contexts. They can be solved through best practices already tested in the past. Commonly described as known knowns, there is no need for questioning as teams are already aligned on solutions.

- **Complicated:** contexts of low stability, where multiple answers can be right at the same time, require experts to sense, analyze, and respond to the different situations. This is the context of known unknowns, where decision-making often requires time and novel thinking.

- **Complex:** this is where systems thinking (Bertalanffy, 1968) comes in as a required mindset. Complex contexts may have one right answer; however they are volatile and uncertain, as each time one part of the system is altered, it may

influence the entirety of the system, thus changing the context completely at the same time. Known as the realm of "unknown unknowns," the complex context is where most contemporary businesses and organizations find themselves in.

- **Chaotic:** within this context, there is no pattern. Every situation feels novel and requires immediate and urgent solutions. No best practices nor a relationship of cause and effect can be used to manage a chaotic environment.

- **Disorder:** the realm of disorder is everything and nothing at the same time. Participants of this context feel lost and do not know where to start from.

Considering these five contexts, Agile is best applied and has the clearest results within the complex realm (Powers, 2021). The complex realm requires that teams work together in order to find answers to problems that have not necessarily been tried before. The understanding that changes will happen and cannot be predicted, as well as being open to adjusting plans according to what is happening across the larger system, is what makes Agile a powerful approach to modern problem-solving.

2.1.1 Agile principles and the Agile Manifesto

At a gathering of like-minded people in Utah in 2001, the Agile Manifesto was created, with an initial focus on software development (Beck et al., 2001). These 17 experts in different methodologies, which included Scrum, Extreme Programming, and Feature-Driven-Development, had the aim of finding an alternative to traditional and outdated development practices that did not enable fast enough value creation.

The Agile Manifesto has provided clear direction and guidance to teams for the past 20 years. The key part of the Manifesto highlights what Agile values most:

*"**Individuals and interactions** over processes and tools*

***Working software** over comprehensive documentation*

***Customer collaboration** over contract negotiation*

***Responding to change** over following a plan"*

The authors clarify that while there is value in the items on the right, the focus should be on the ones on the left side.

Additionally, the same team of seventeen people has developed a list of twelve principles that further expand on how the Agile mindset and approach to problem-solving should be considered:

1. **Customer satisfaction through early and continuous software delivery** – customers are happier when they receive working software at regular intervals, rather than waiting extended periods of time between releases.

2. **Accommodate changing requirements throughout the development process** – the ability to avoid delays when a requirement or feature request changes.

3. **Frequent delivery of working software** – Scrum accommodates this principle since the team operates in software sprints or iterations that ensure regular delivery of working software.

4. **Collaboration between the business stakeholders and developers throughout the project** – better decisions are made when the business and technical team are aligned.

5. **Support, trust, and motivate the people involved** – Motivated teams are more likely to deliver their best work than unhappy teams.

6. **Enable face-to-face interactions** – Communication is more successful when development teams are co-located.

7. **Working software is the primary measure of progress** – Delivering functional software to the customer is the ultimate factor that measures progress.

8. **Agile processes to support a consistent development pace** – Teams establish a repeatable and maintainable speed at which they can deliver working software, and they repeat it with each release.

9. **Attention to technical detail and design enhances agility** – The right skills and good design ensure the team can maintain the pace, constantly improve the product, and sustain change.

10. **Simplicity** – Develop just enough to get the job done for right now.

11. **Self-organizing teams encourage great architectures, requirements, and designs** – Skilled and motivated team members who have decision-making power, take ownership, communicate regularly with other team members, and share ideas that deliver quality products.

12. **Regular reflections on how to become more effective** – Self-improvement, process improvement, advancing skills, and techniques help team members work more efficiently.

It is important to understand the founding principles of the Agile Manifesto, as they define why teams operate the way they do in such environments.

2.1.2 Agile methodologies and frameworks

Agile software development methodologies are amongst the most popular (Hoda et al., 2018), and while several different ones exist, this research focuses on the ones mostly used in the context of the case company. Each of these methodologies present their own ways of working and best practices, however, they all have common ground with the Agile Manifesto, which was developed after most of these frameworks were invented.

2.1.2.1 Scrum

One of the most known frameworks, Scrum was developed in 1990 by Jeff Sutherland and Ken Schwaber. The Scrum Guide (Scrumguides, 2020), first released in 2010, and updated regularly, provides the following definition: *"Scrum is a lightweight framework that helps people, teams, and organizations generate value through adaptive solutions for complex problems."* The Scrum three pillars are: adaptation, transparency, and inspection.

According to the latest version of the Scrum Guide of November 2020, Scrum is based around three key team roles:

- A **scrum master**, responsible for upholding the framework;
- A **product owner**, responsible for upholding the vision of the product;
- The **developers**, a multidisciplinary and self-organized team, responsible for turning the vision of the Product Owner and the enterprise into value for end-users. This team can include, for example, software developers, testers, and designers.

Scrum is also known for its time-boxed planning cycle, called sprints. Sprints should usually last from one to four weeks and should contain the following events:

- **Sprint planning:** this is when the priorities for the upcoming cycle is defined, and the required work for achieving value is further defined;
- **Daily Scrum:** daily checkpoints where individuals update each other on the progress of work, as well as align possible needs. It is supposed to be a communication event and not a reporting cadence where each individual shares detailed status reporting of their own activities.
- **Sprint review:** at the end of each cycle, the full scrum team works together to inspect what has been achieved and decide on what is coming for the next sprint planning. The focus is on how the sprint has added value to the product goal.
- **Sprint retrospective:** while sprint review focuses on how the teams achieved the sprint goal and increased value to the product, the retrospective looks at how the team worked together to achieve such outcomes. What practices and ways of working the team has in place, what is working well, and what should be changed for continuous improvement.

2.1.2.2 Kanban

Originally developed in Toyota in the 1940s as a way of visualizing workflows on a factory floor, Kanban has served as a great ally to Agile teams. The direct Japanese translation of *Kanban* to English is *"sign board."* The three key principles brought by the Kanban framework are, as described by (Anderson, 2010):

- **Visualize your workflow:** by using cards and a column system, everyone can easily see where work is and how it is moving. This can often be done in the most basic form of "to do, doing, and done" columns, but it can contain other columns needed by the team, e.g., "blocked" and "test in progress," as long as the workflow is clear for all the team members.

- **Limit work in progress:** As a direct benefit of visualizing the workflows comes the possibility to understand where bottlenecks might exist within the team or the process. Kanban encourages teams to limit work in progress so that value is released often through focused work.

- **Focus on workflow and continuous improvement:** the result of clear visualization and limited work in progress and allows teams to focus their efforts, and therefore continuously improve their own practices.

There are no roles in Kanban or strict ceremonies related to it. When combined with Scrum for single teams, or SAFe for larger portfolios of Scrum teams, Kanban provides essential tools for the functioning and continuous improvement of team practices.

2.1.2.3 Lean Thinking

Again coming from Toyota, Lean Thinking has been defined as a set of practices that target banishing waste and creating wealth (Womack and Jones, 1996). It is based on the seven areas of waste generation outlined by Taiichi Ohno, an executive of Toyota at the time. They are classified as Transportation, Inventory, Motion, Waiting, Over-Processing, Overproduction, and Defects.

When looking at these seven forms of waste, Lean Thinking has been conceived as the mitigation strategy to avoid the occurrence of waste. It focuses on five principles:

1. **Value specified:** what you do must bring value to the end consumer;

2. **Work in Value Streams:** every action within a process must be generating value to the end consumer;

3. **Flow:** similarly to Kanban, Lean aims at enabling a flow of activities without obstacles;

4. **Pull:** in Lean, we do not push, rather we let those in need of our products pull it when they need it.

5. **Pursue perfection:** continuously and relentlessly improve everything we do.

The Lean mindset is closely aligned with the principle of maximizing work done by doing less and wasting fewer resources with non-value-adding activities.

2.1.2.4 ScrumBan

As the self-explanatory name suggests, ScrumBan is a mix of Scrum and Kanban methodologies, supported by some values of Lean thinking. The terminology was coined in 2008 by Corey Ladas when he published the book "ScrumBan – Essays on Kanban systems for lean software development."

As proposed by Ladas, the idea of the ScrumBan is to, supported by the Lean thinking, add elements of Scrum in Kanban and vice-versa, with the goal of limiting work in progress, maximizing the flow of the team, have a pull system culture. These can be done with some of the organizational ways for the working groups proposed by Scrum, where the iterations should last on average up to four weeks, and members can use some of the Scrum meetings to validate their work and communicate better internally, for example, by using Retrospectives.

ScrumBan can be a good process to be followed by teams who are using Scrum and need to organize themselves better by, for example, limiting their work in progress, or by teams starting to implement Agile who do not feel confident enough to adopt all Scrum practices as they are not so familiar with all the processes or might not have all the team members assigned to a Scrum role as the product owner and the scrum master (Agile Alliance, 2021) since, as mentioned above, Kanban alone do not have specific role divisions.

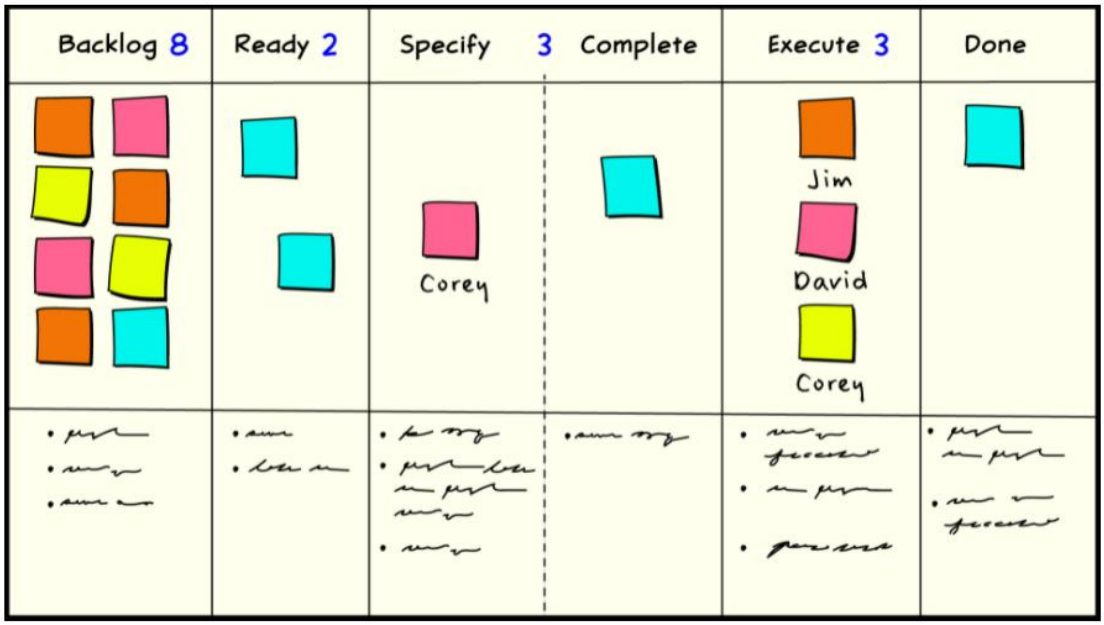

Figure 8. Example of a Kanban board. Agile Alliance, 2021.

2.1.2.5 SAFe, Scalable Agile Framework

As more and more companies look into adopting more flexible ways of working in their operations, the need for a more structured framework arose. SAFe (SAFe, 2021) was developed by Dean Leffingwell to address this need, as it provides a line of sight from the vision and portfolio management of an enterprise to each of the scrum teams participating in its system. SAFe embraces the principles of Agile as well as Lean in how it structures everything in its framework, from resourcing to budgeting and planning across an entire portfolio of projects.

As described on their own website, SAFe is the world's leading framework for business agility. It brings the best of different frameworks and principles together in order to create a more stable environment that enables faster delivery of innovative products and services. Their own analysis of benefits has shown the following improved indicators:

Figure 9. SAFe business results, 2021.

2.1.2.6 The Spotify model

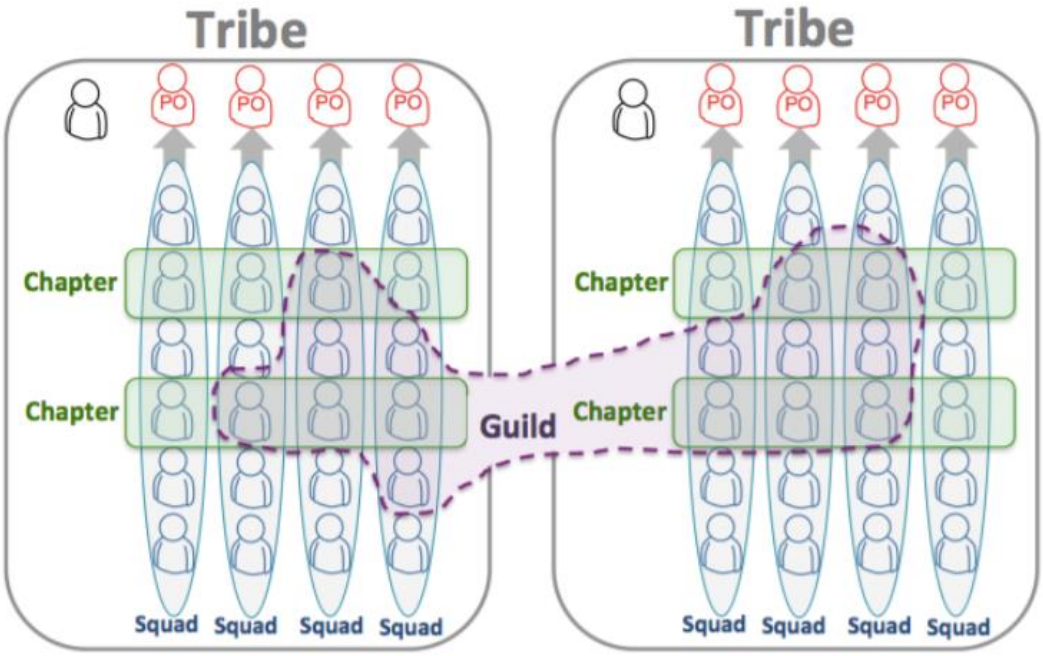

Figure 10. Agile at Scale model in Spotify, 2012

Spotify is a Swedish company which, according to themselves, *"with Spotify, it's easy to find the right music or podcast for every moment – on your phone, your computer, your tablet, and more."* In 2012, Henrik Kniberg & Anders Ivarsson published a whitepaper entitled "Scaling Agile @ Spotify – with tribes, squads, chapters & guilds." This paper

introduced how Spotify organized their work internally, using Agile mindset and Lean principles, as follows:

- **A squad:** it is similar to the Scrum teams, fully responsible for releasing items to production. Some of them can use Scrum, some of them can use Kanban, or any other Agile methodology suitable for the team, working as a "mini start-up."
- **A tribe:** it is a collection of Squads that cannot have more than 100 people.
- **A chapter:** it is a collection of people with similar skills who do not necessarily work in the same squad but who are part of the same tribe.
- **A guild:** it is an informal cross tribe community with similar interests that can share tools, ways of working, and best practices.

The key to this working model is the sophisticated architecture engineer supporting Spotify, and, as mentioned in the publication, everybody is technically able to update the production system, and it is everybody's responsibility to keep its integrity.

In this article, the authors also emphasize that they did not invent this model, but this was a snapshot of Spotify's never-ending journey, which has continued to progress.

2.2 Distributed teams

Powell, Piccoli, and Ives (2004 p. 6-36) define virtual teams as *"groups of geographically, organizationally and/or time dispersed workers brought together by information and telecommunication technologies to accomplish one or more organizational tasks*." In the book "From chaos to successful distributed Agile teams, 2019", Rothman and Kilby use Allen's curve to explain why even geographically co-located teams can be distributed teams. The curve exemplifies how the distance that team members are seated can influence how frequently they communicate - the further they are, the lesser is the tendency they will speak.

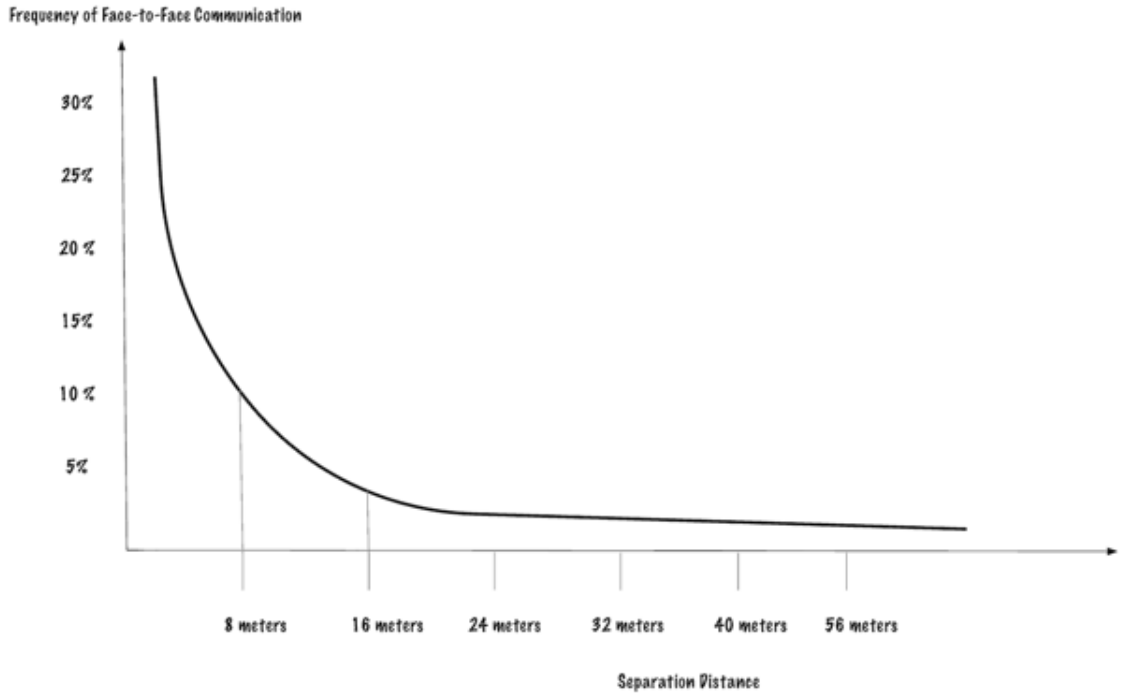

Figure 11. Allen's curve of communication from Managing the Flow of Technology, 1977

Allen's curve explains that, after 8 meters of distance, the frequency of face-to-face communication stays flat and changes little.

In 2018, the global IT (information technology) department in KONE moved to have its base located in a building across the parking lot from the KONE main headquarter office.

Figure 12. KONE headquarters building in Espoo, Finland. Across the parking lot, the IT department is located. News.Cision.com (2020)

However, even before this move, IT members were located on different floors inside the main KONE building, separated from the rest of the other teams because, like any other large global company, KONE has team members spread everywhere, and one floor cannot accommodate all employees together.

In this thesis, the terminology for distributed teams is going to be used to describe KONE's IT department, where some of its members are co-located geographically in the headquarters of the company, but working from different offices in Finland, either from home but also from the strategic areas defined by the company: Finland, India, China, Italy, Singapore, and the United States, and it covers KONE's direct employees and its sub-contractors.

There can be a variety of reasons why a company would have its teams distribute globally, and this will be covered in the next subchapter.

2.2.1 Why distributed teams?

Nowadays, there is no surprise that any global corporation with an international presence would have a distributed workforce, and there can be many different reasons why companies seek out this option. For example, according to Kile (2007), there are mainly three categories of distributed teams advantages: personal, societal, and organizational. In the personal category, individuals can feel more empowered with the flexible hours to accommodate international collaboration and happier due to the fact they don't necessarily need to relocate to pursue a desired job position. In the societal category, distributed teams offer chances to create a multicultural environment with a diversified point of view, which potentially can increase the team's overall efficiency. Finally, at the organizational level, if a company restricts itself to hiring individuals only from a particular region, it removes a significant potential of finding highly qualified and talented people with localized knowledge that could provide key competitive assets to the company.

Parallelly, distributed teams can also present specific benefits when they are also working remotely, meaning when people don't need to go to any of their corporate physical locations. In Pinto's study about Global virtual teams (2018), some findings are related to better work-life balance, as workers don't need to spend time commuting and can redirect this time in hobbies, personal affairs, and family. Another aspect is the saving costs a company can have by not needing to maintain a local facility or by hiring individuals that are cheaper in certain places of the globe due to inflation, currency, or other economic reasons that will be covered shortly.

Additionally to the virtual teams topic, in the years of the pandemic with the outbreak of covid-19 and the restrictions imposed by governments in an attempt to control the infection rates, a vast number of companies were forced to change their work to be remote. According to an article by Choudhury (2020) in the Harvard Business Review, all the benefits regarding remote work presented in this chapter are reinforced, though not only from the working from home perspective but from the working from anywhere angle. Furthermore, the text highlights that it was proved work personnel and their teams could continue to function well while being entirely dispersed. The real challenge is how to continue leveraging from the working virtually situation in the post-pandemic era while

keeping workers motivations and dealing with the uniqueness and different needs of each person.

As stated by Bajarin in a Forbes article (2020), the main difference between working from home to working from anywhere is that in working from home scenario, the employee is expected to attend occasional meetings, the can be more or less frequent depending on the companies' need, but the employee always has a hub they can and need to return to. In working from anywhere situation, the employee is not expected at all in any of the companies' facilities and can be anywhere in the globe performing their activities.

One other relevant element to be considered is the financial side: some companies may decide that outsourcing some type of work can be beneficial for the business. Starting by defining what outsourcing means, we can use this definition of Britannica's encyclopedia: "*Outsourcing - work arrangement made by an employer who hires an outside contractor to perform work that could be done by company personnel."* In his article, Peslak (2012) suggests that the two main reasons why a company would outsource its IT activities would be because the costs of maintaining such a department running are perceived as pricey, and the department's competency is not part of the core activities of a certain enterprise.

For example, KONE is not an IT company. It is still mainly a manufacturer of elevators, although they have been investing more in digital services so, in consonance with Peslak's (2012) finding, it could be perceived as challenging that KONE would have all the developers working in KONE's projects as internals, as 30 percent of the companies outsource their IT work, seeking for cost reduction, but also looking for outsourcing problems and bureaucracy related to a sector which is not seen as a fundamental competency. Once jobs are outsourced to other companies, the client needs to understand that the workforce can be more distributed geographically, following the processes and policies existent in the hired service provider, thus creating a distributed team setup beyond the enterprise's organization.

2.3 The cultural aspects in Agile distributed teams

In his book, Primitive Culture, originally first published in 1871, Edward Tylor defines culture as it follows:

"Culture or civilization, taken in its wide ethnographic sense, is that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society."

As Tylor mentions, culture is a complex subject, and for this thesis, only two main aspects of culture will be taken into consideration: a corporation's working culture and people's national culture. As described in chapter 2.1, the Agile Manifesto is based on a set of principles (Beck et al., 2001) that can challenge more traditional ways of working. In a McKinsey article (Jurisic et al., 2020), it is pointed out that, in a study conducted by the company, 76% of the respondents who are doing some type of Agile transformation are facing challenges in transforming their culture and ways of working. Therefore, it becomes relevant to this study to understand some aspects of KONE's culture and if different multinationalism aspects in teams that are distributed can influence the Agile implementation.

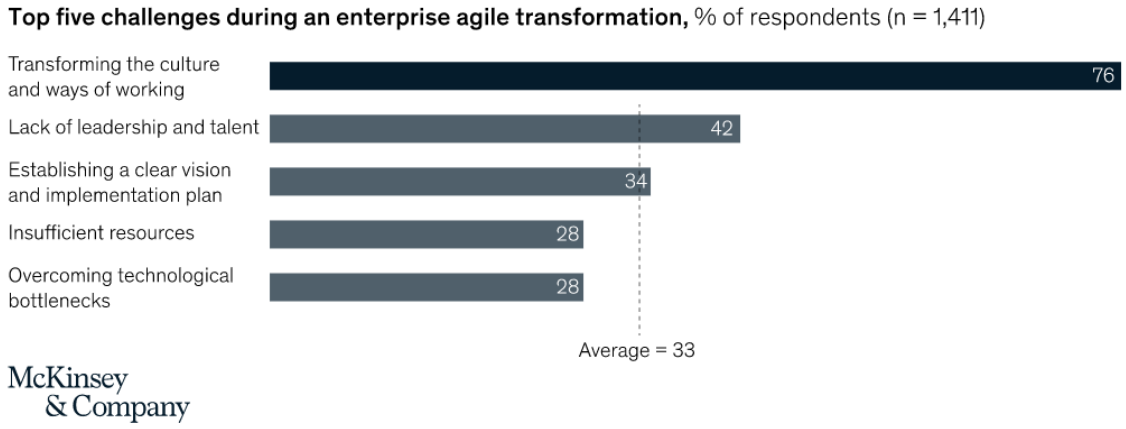

Figure 13. Top five challenges during an enterprise Agile transformation. McKinsey & Company, 2020.

2.3.1 People's culture and the working environment

In 1991, Hofstede published a study conducted during six years inside IBM. This study included more than 100,000 employees across more than 70 countries. Hofstede's findings made it possible for him, in the future, to create the six cultural dimensions (Hofstede et al., 2010) and how important of a role culture could have in the behavior of the employees. The six cultural dimensions are as follows:

The first dimension is the power distance: this comprises the overall societal perception regarding power. An example is in low power distance societies, where the subordinates

expect to be consulted on what should be done, whereas, in high power distance, they expect to be told what to do.

The second dimension is uncertainty avoidance: this measures how societies behave when there is uncertainty. Societies that avoid uncertainty need clear rules, and technology advances slower because people do not want to take the risk of experimenting. On the other hand, when the uncertainty is more accepted, de-regulation is perceived and technology advance is better welcomed.

The third dimension is individualism versus collectivism: in this dimension, when societies have an individualist behavior, there is competition between individuals, communication can take longer, and confrontation is healthy. In collectivism, the competition happens between tribes, the communication is perceived as more obvious, and confrontation is avoided since there is a wish for harmony inside the group.

The fourth dimension is masculinity and femininity: though the name might indicate, this dimension is not gender-oriented but compiles the emotional role expected inside the society. In masculine societies, work prevails over family, people admire the strong examples, and they disdain weakness. In feminine societies, work-life balance is expected, people tend to be more jealous of the high fliers, and there is empathy with weak individuals.

The fifth dimension is long versus short-term orientation: this measures societal behavior for achieving goals. In short-term orientation societies, good and evil are always the same, and this cannot change; people are proud of their traditions, and these traditions are long-lasting. In long-term orientation societies, good and evil are irrelative and can change, individuals should learn from other countries, and traditions can change.

The sixth dimension is indulgence versus restraint: this refers to the subjective feeling of happiness or unhappiness and freedom inside societies. Indulgence groups perceive that friends are important, they are more optimistic, and the guides of morals are flexible. In restraint societies, friendship is less important, individuals more cynical, and there is strict moral behavior.

According to Hofstede, these societal values inside the six dimensions which are transferred from parents to children seldomly change during an individual's life. Therefore, some key aspects for creating functional and high-performing teams should be considered. Coyle (2018) proposes three pillars for establishing a culture where teams could thrive; building safety, sharing vulnerability, and establishing a purpose. Building safety refers to how important it is to have a psychologically-safe environment where workers feel safe to trust each other and to collaborate, minimizing bureaucracy and having leaders closer to their teams. The sharing vulnerability part is discussed and is more relevant for leaders. However, Coyle also suggests that sharing vulnerability is a loop in which employees and leaders need to be involved, where mistakes are accepted, and instead of punishing people, the group should learn and grow from them. Finally, in the establishing goals area, Coyle argues that companies should make heavy use of what he calls ¨corny catchphrases¨ that are simple, but that actually work, and employees can easily relate to them.

Summarizing, even though human beings are essentially the same, every individual is still different because of the culture they were raised in, the working environment where they learned their social clues, and every human being has a unique set of values and preferences, and leaders should know how to navigate these cultural codes and coach their teams in understanding when a behavior is a personality treat or if some misunderstanding is happening simply because of cultural differences (Meyer, 2015).

2.4 Leadership in an Agile distributed environment

All Agile methodologies described in this study suggest a particular key element is needed to function: a leader that serves the team. Servant leaders build trust, enable teams, encourage initiatives through experimentation, and have no fear of failure (Lundström and Yusuf, 2021, p. 69). Being a safety net for the team makes servant leaders an essential part of any Agile team that needs the space to fail fast and fail often to learn quickly and deliver value even faster (Sjödin et al., 2020).

Dierendonck (2010) states that servant leadership focuses on people empowerment and development whilst being humble, authentic, and inclusive. A servant leader enables trust in teams and encourages self-actualization. Dierendonck also suggests that stewardship

provides a vision, and guiding the organization towards the desired direction is a trait of servant leaders.

In the study of Melchar and Bosco, 2010, the organizations studied have demonstrated exemplary performance and are led by what they define as servant leaders. Successful servant leaders, according to the same authors, have the ability to influence other leaders across the organization, resulting in consistency of expectations and a psychologically safer and stronger organizational culture.

Regarding the distributed setup, there are several challenges that employees and their leaders could face. Some of them are, as listed by Gleeson in a Forbes article (2020), lack of face-to-face supervision, lack of access to information, and enhanced issues with already existing silos. These particular obstacles require that leaders are prepared to serve their teams, taking into consideration their locations, cultural background, and, in the Agile case, that the team is able and encouraged to keep the rhythm and cadence of the Agile meetings (Rothman and Kilby, 2019). Additionally, according to Rothman and Kilby, leaders should create a management culture that is adapted to the distributed setup, encouraging team members who can meet face-to-face to do this on a regular basis throughout the year, maintain acceptable overlapping hours for teams collaboration, allocate sufficient money so the teams can communicate efficiently in the virtual environment, having access to modern tools which can make remote collaboration seem effortless. Rothman and Kilby also suggest a set of working with distributed teams principles and what management skills would better reflect them.

Principle	Management skills that reflect this principle
Acceptable hours of overlap	Support the team in selecting their optimal collaboration times, and knowing when they can´t collaborate using an agile approach.
Transparency at all levels	Support transparency in the team, across teams, across the organization.
Culture of continuous improvement	Encourage frequent experimentation, measurement, and learning.
Pervasive communication	Treat every employee as a business partner.
Assume good intention	Practice empathy, not blame.
Create a project rhythm	Encourage your team´s rhythm by creating a cadence for your work.
Culture of resilience	Use resilience as a form of risk management.
Default to collaborative work	Work with others as part of effective teams.

Figure 14. Management skills for Agile Distributed teams. Rothman, J., Kilby M., 2019.

2.5 Theoretical framework

As a result of the review of the literature demonstrated above, the following framework has been developed, showing characteristics that can be important in the successful implementation of Agile concepts with distributed teams. The idea behind the framework is to understand the dynamics between Agile and distributed teams and how culture and leadership behaviors play a role in them. Agile needs to be broken into framework, mindset, and principles, as their adoptions have different elements to be considered.

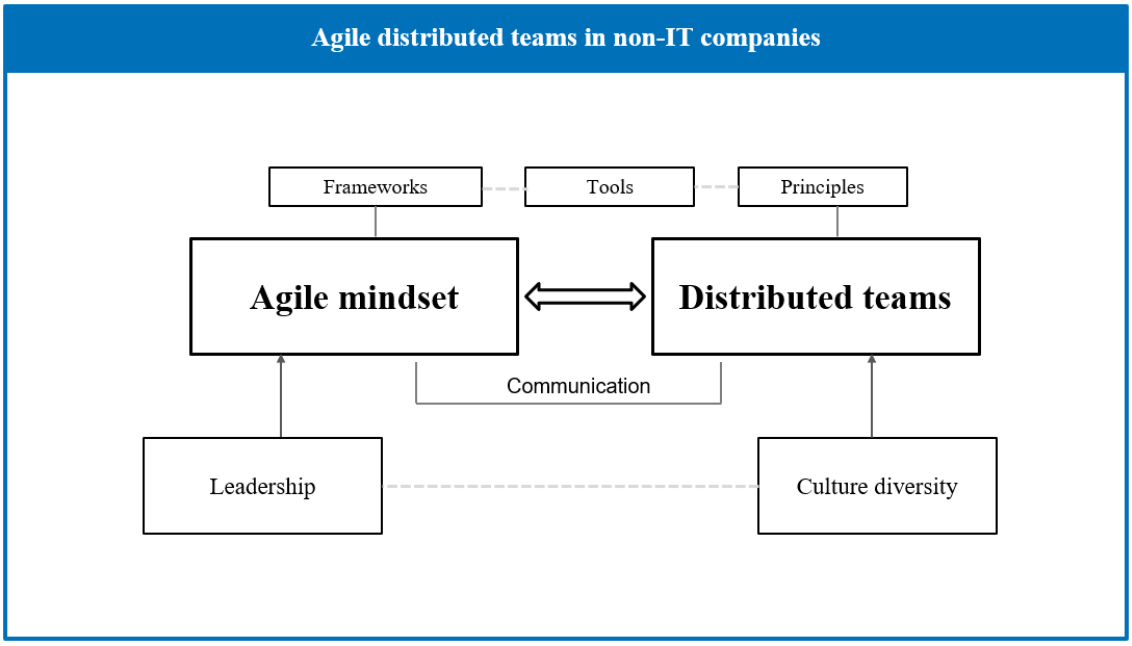

Figure 15. Agile distributed teams in non-IT companies. The Author, 2021.

As demonstrated in the Agile Onion (Powers, 2021) in the literature review chapter, tools and frameworks are easier to incorporate by teams in comparison to values and mindset. Therefore, the literature review was based on articles and journals relevant to the Agile and distributed team sectors, seeking to find empirical evidence of this theory, particularly in the practical field of companies' businesses.

KPMG (2019) and Digital.ai (2021) have demonstrated the variety of different Agile frameworks being used by companies. The most common for teams is Scrum, and when there is a willingness for companies to scale the practices, SAFe is frequently cited. In KONE, both methodologies are under experimentation. However, there are many internal teams utilizing Lean, Kanban, ScrumBan, and the Spotify model as a basis to create their own practices. That is why in the literature chapter, an overview of these frameworks was given as a basis to understand KONE's current ways of working with Agile.

Despite the Agile mindset, methodologies, and values being adopted by different companies for more than twenty years, corporations still struggle when they try to change the outer layers of the Agile Onion (mindset and values), even when there are practical examples in the field with empirical evidence of how Agile practices can improve different aspects of the enterprise. One research done in 2010 in the Journal of Operations management displayed how Agile methodologies were partly responsible for marketing

and financial performance inside the corporation. The State of Scrum 2017 – 2018 has demonstrated that 54% of the participants perceived an improved satisfaction with what gets delivered by the teams, and 51% noticed a better time to market. Still, in the same study, 51% of the participants highlighted that organizational design and culture made it difficult to adopt Scum at scale. In the Culture sub-chapter, a similar finding was demonstrated by McKinsey as 76% identify the cultural transformation when adopting Agile as one of the key challenges in adopting Agile throughout the organization. Therefore, some study regarding the cultural dynamics and how leaders can impact these dynamics was added in the theoretical framework. The main attribute of a leader in the Agile environment is servant leadership (Sjödin et al., 2020).

Finally, KONE has a distributed setup. Hence it was relevant to understand why companies choose to have distributed workforce and what its implications are in the organization, especially through the lenses of working with Agile concepts.

3 METHODOLOGY

The purpose of this research is to further enhance the academic knowledge and understanding about the use of the Agile mindset, principles, and methodologies in companies that do not have Information Technology as their core business. The focus of this research has been on KONE, the Finnish leader in the elevator and escalator industry, and internal projects that leverage the use of distributed teams, including the practical experiences obtained by using an Agile mindset, principles, and ways of working. The theoretical background has been discussed in previous chapters, clarifying how important the theme of the Agile concept is, regardless of what industry field the company is inserted into.

The goal of this chapter is to describe the research process and design, which takes into account the author's experience over the past years, as well as the results of qualitative interviews. The qualitative research has been done with a set of semi-structured questions with KONE employees who were involved in projects with Agile distributed teams.

3.1 Research Approach

The analysis of such a complex theme requires going deeper into discussions with practitioners in order to reveal key information that could be then further interpreted. Agile mindset and methodologies and their use in modern companies are part of natural evolution which their own principles of continuous improvement support. Therefore it is vital to maintain the research on this field always up-to-date and based on practical realities. That said, a subjectivist point of view (Saunders et al. 2009, p. 111) is also present when personal experiences are explored, and therefore are taken into account during this process.

Yin (2013) suggests that while case studies, such as this study, have been under higher scrutiny due to lack of specific academic rigor, it is a valid format for researching concepts that are current and still evolving, even more so when part of the focus of the research includes the construct of leadership (Fergus et al. 2015). In the case of KONE, the author is able to reach key personnel involved in the daily operations of various projects, as well as the documents produced by their teams, providing a solid base to build on.

The author has decided to utilize exploratory and qualitative research, given that the constructs of Agile, leadership, teams, and culture can be tangled and very profound (Saunders et al. 2009, p. 482). That is, by exploring this theme via deeper discussions with a number of experienced professionals, the author is able to find common themes and learnings that can be further leveraged, professionally and scientifically. The choice of exploratory research was made over descriptive research, which would require a larger data set, for instance, via questionnaires, for the author to describe the topic more widely. (Gil 2008, p. 27 - 29)

To enable a more holistic view on the subject of this research, the author utilized a triangulation strategy (Saunders et al. 2009, p. 154) which brings three data points (internal documentation review, the observer's point of view, and the interviews with members and leaders of projects utilizing Agile), at KONE into the light of this research framework. In this context, the author has also been a key actor in projects that utilize Agile methodologies and distributed teams, being able to observe first-hand the different

dynamics it can cause, therefore making observation an important contributor to the overall approach of this research.

According to Eriksson & Kovalainen (2008, p. 86), observation requires that the researcher is deeply involved in the area of interest. Hence it brings an additional layer of complexity to data collection. The author has been immersed in this reality from 2016 to this present day (2021) as part of the case company. Additionally, the author was able to observe the first steps of the implementation of the Agile mindset and methodologies at IBM, starting from earlier 2014. At the case company, the author has both observed and directly influenced the adoption and implementation of Agile concepts across multiple projects.

The third data point includes access to internal knowledge materials and strategies, which influence how teams and projects have adopted and continuously implemented Agile practices in their daily operations. According to Bowen (2009), document evidence is often combined with data from interviews and observation to minimize bias and establish credibility.

3.2 Data Collection

The approach used in this research is anchored in triangulation (Yin 2013; Saunders et al. 2009, p. 154), and it includes three data points: internal documentation review, the observer's point of view, and lastly, the interviews with members and leaders of projects utilizing Agile, at KONE.

The interest for the development of this research started with the process of observation, as the author onboarded the case company in 2016 and connected it with initial experiences at IBM. From the start, the author could observe that there was a different mindset to adopting Agile methodologies in a big company dealing with projects at scale, and that factor motivated this research to go forward. Since joining KONE, the researcher has acted in different roles within a globally distributed team environment, made of team members of different cultures and experience levels, from junior developers to senior executives. The author has directly worked with teams from various backgrounds and nationalities, including most commonly from Finland, France, Germany, China, India, Russia, and the United States.

Being part of the research context is known as participating observation (Gil 2008, p. 103), and it requires that the researcher also utilizes their own point of view in determining the strategic approach for the research, including own perceived dynamics, which became the focus of the interviews on leadership, culture, and more importantly, the use of Agile methodologies. The author's own challenges and successes, as well as the strategic goals determined by KONE's leadership, have all contributed to this development.

Finally, to complete the triangulation method, semi-structured interviews were chosen to be conducted to gather deeper qualitative data, directly from actors of the process itself, which in this case are team members and leaders performing a role in Agile projects with distributed teams. Semi-structured interviews were chosen instead of fully structured ones (Eriksson & Kovalainen 2008, p. 82), as they allow for more fluid discussions to take place, which enabled the interviewer and interviewee to uncover additional value from questions as they progress in such a conversation (Berg et al. 2014, p. 105).

An interview guide with reference questions (appendix 2) was created to support the interviewer so that the focus areas of the research were systematically discussed and documented. Prior to each interview, a shorter version of the questionnaire, as well as key objectives of the session (appendix 1), were sent to the participants of the study, which enabled them to come more prepared to the discussions Saunders et al. (2009, p. 485), thus bringing more value to the responses themselves.

The following graph shows the main areas of interest that were generated both from the author's own experience and observation over the years, as well as the literature review and theoretical framework developed in this research:

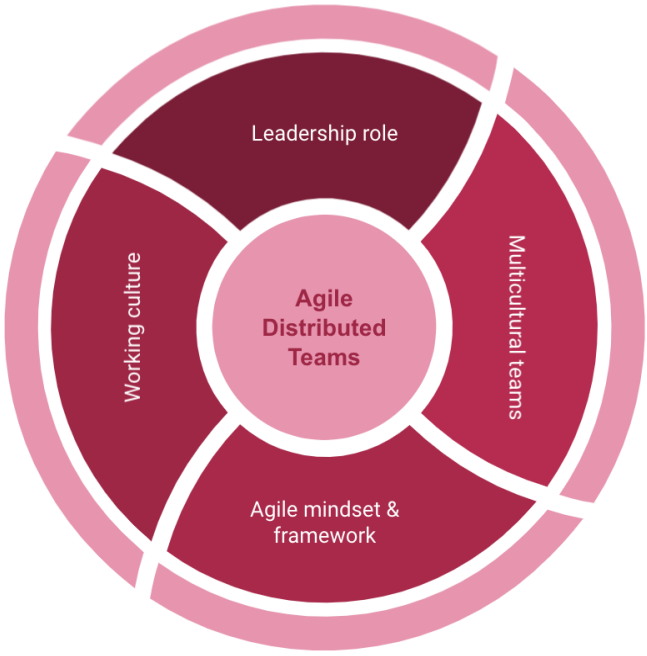

Figure 16. Categorization of the main themes covered during the interviews. The Author, 2021.

The criteria for selecting the interviewees was determined with the key principle of experience and exposure to Agile projects in mind. The selected people also needed to have some solid experience in working with distributed teams and who were familiar with KONE internal operating models. Additionally, for the study to be less culturally biased, it was relevant that not all interviewees would be from the same nationality. Therefore the selected people come from different countries, eight of them working in the KONE headquarters in Finland and one person located in an office in China. As appointed by the literature reviewed, leadership is a strong pillar when any type of methodology is being applied in teams, thus for this research to be relevant, the author interviewed both leaders, meaning people who lead projects but also who have people reporting directly to them and formally responsible for human resources tasks with them, and "Agile doers," people who are exposed to the Agile mindset and frameworks inside their projects or teams.

A summary table has been developed to provide a view of the participants, including gender, nationality, work location, job title in KONE during the time the interviews were held, whether the participant held a leadership role or not. Out of the nine participants, five held managerial positions within the company, and two were males, and three were females.

Interviewee	Gender	Nationality	Location	Role	Leader?
Int01	Female	Finland	Finland	Tendering and ordering development manager	No
Int02	Male	Iran	Finland	Agile coach	No
Int03	Female	Russia	Finland	Solution design owner	No
Int04	Female	China	China	Trade compliance specialist	No
Int05	Male	Finland	Finland	Head in KONE Enterprise IT	Yes
Int06	Female	Finland	Finland	Head in Global marketing and communications	Yes
Int07	Male	Portugal	Finland	Solution Owner	Yes
Int08	Female	Finland	Finland	Head in KONE Technology & Innovation	Yes
Int09	Female	Finland	Finland	Head in the Business area	Yes

Table 1. Summary list of interviewees by gender, nationality, work location, role, and indicating if the person is a leader or not.

All interviews were carried out, individually with each person, during September 2021, after a pilot interview done at the end of August of the same year. The interviews were conducted and recorded using Microsoft Teams, which also enabled the use of advanced technology for automating interview transcription. However, some manual adjustments to incorrectly understood words still had to be made by the author while listening to the replay of each interview. The author also removed words or sentences that did not add direct value to the question asked so that the focus would be on the key theme. This is supported by Bailey (2008) as a way to focus on what has been said and what it means, instead of trying to interpret why certain words were used and their order. None of the participants spoke English as their first language, which also increased the level of manual adjusting of the transcripts while looking to understand the automated generated transcripts. The author removed from the transcriptions any names that were mentioned by the participants in order to protect those people's privacy. Each interview took from 50 minutes to 1 hour and 15 minutes to be done.

Due to the circumstances of the world in 2021, all interviews were performed virtually, as face-to-face interaction has been limited and not encouraged. This, however, provided more consistency to the method of interviews in this research, as they were all equally executed. Though the interviews were done virtually, all of them had the cameras open both from the interviewees' side and from the interviewer in an intention to create some bonding between the participants.

Additionally, a comparison table has been created to summarize the varying degrees of seniority of interviewees and their exposure to Agile projects and programs, to KONE, and to distributed teams:

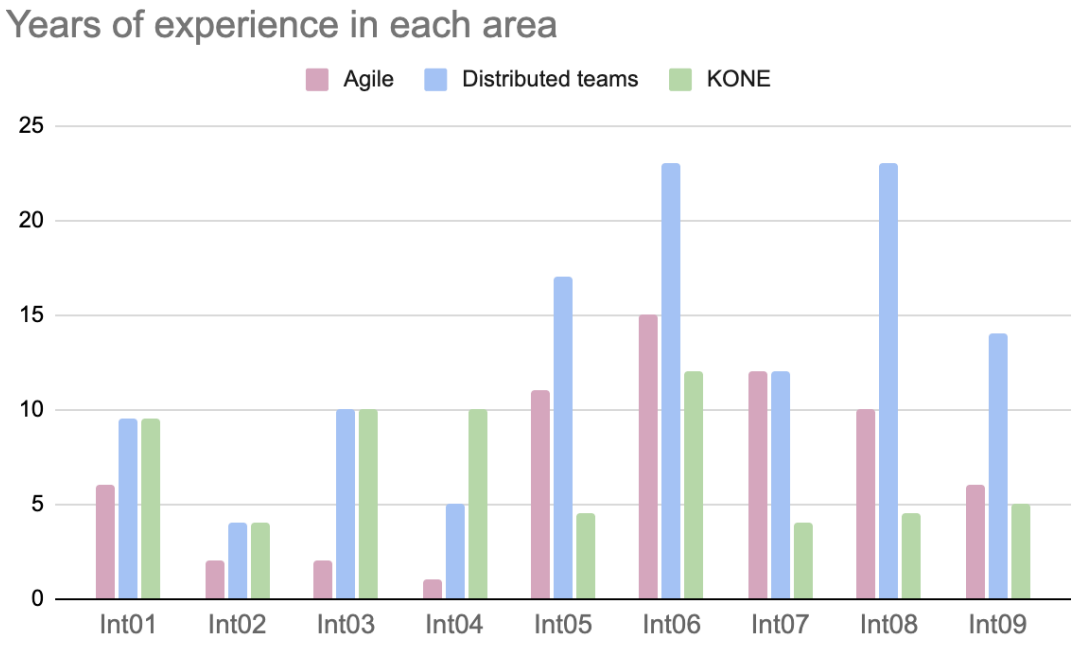

Figure 17. Experience in each area by year for each participant. The Author, 2021.

The figure below provides a visual representation of the nationalities of the participants of this study.

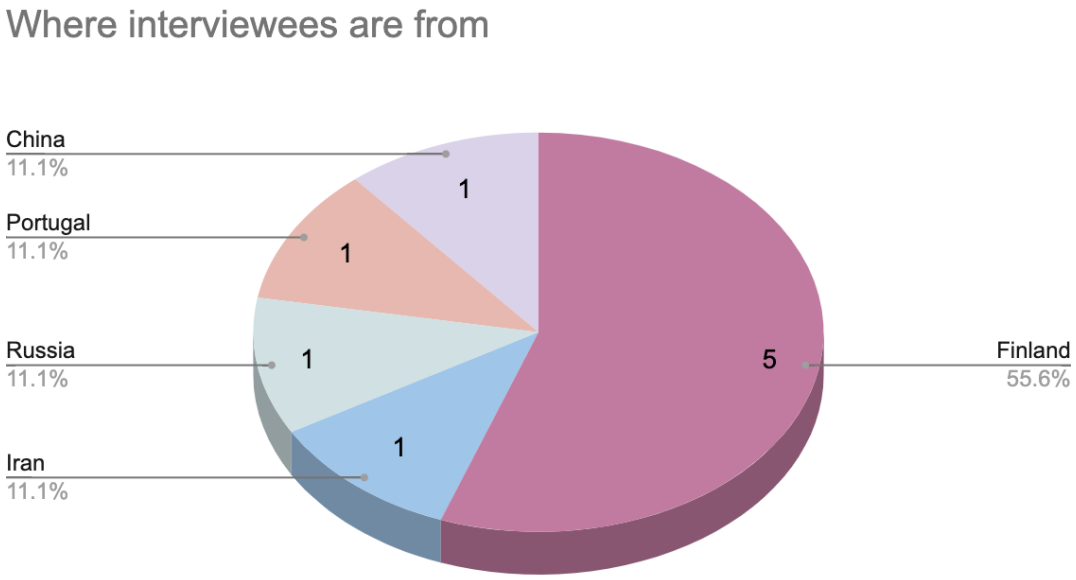

Figure 18. Visualization of the global representation of interviewees

3.3 Data Analysis

The phase of analyzing the acquired data followed a method of thematic and content analysis. These methods support the understanding of qualitative data in a more structured and focused manner, mitigating the risk of skipping relevant details and pieces of information. While this stage of the research process might require a longer investment of time, because reading through the nine transcribed interviews required careful and systematic reviewing of the transcripts, it supported finding the needed links related to the reviewed literature while at the same time developing the codes (further explanation on what defines a code on page 48), creating themes and sub-themes, that are then finally used for the analysis of patterns (Braun & Clarke 2006, Gil 2008, p. 152). Following is a visual representation of the process the author has gone through, from bottom to top:

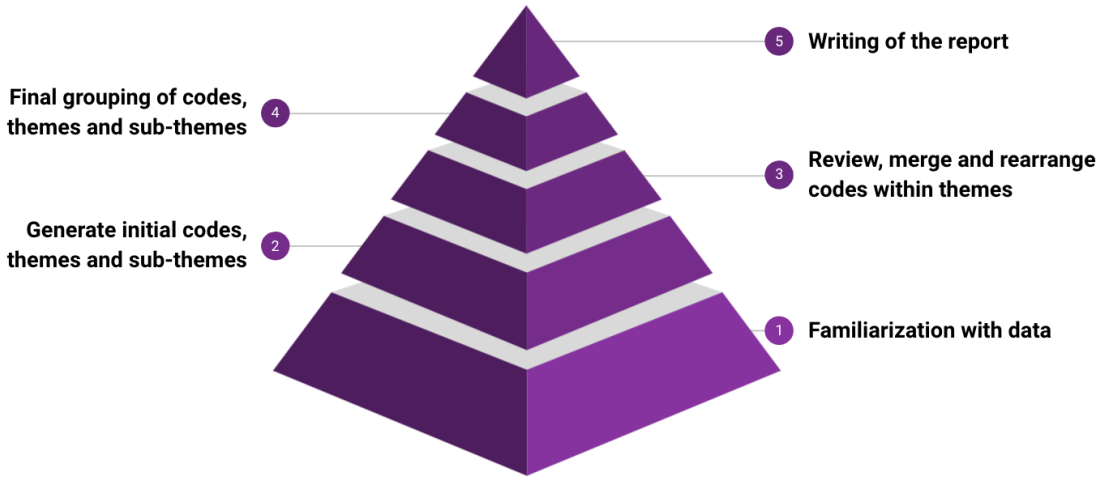

Figure 19. Process of data analysis. The author, 2021.

The first step was the familiarization of the data, where after all the interviews were done, the key sentences were transferred to an Excel spreadsheet. In total, there were 458 sentences selected from the interviews. Next, color coding was created to classify these sentences into larger groups. The groups selected were:

- **Gray - Personal background:** a set of data to demonstrate why the selected people were selected for this study. This was already covered in detail earlier in this chapter.

- **Green – Agile definition and methodology in use:** a set of answers highlighting the Agile methodology used by the interviewees, their personal Agile definition, and their thoughts about who should be responsible for Agile in KONE.

- **Light blue – Global relationships:** an overview of the participants' relationship with their colleagues globally, where those people are mainly from.

- **Light red - Tools used by the teams:** description about different IT collaboration tools used by people in order to conduct Agile processes, to perform team building, or to organize work in general. This code was later merged together with the Agile ways of working.

- **Yellow - Benefits:** the questions were created in a way to encourage the participants to talk both about the benefits of working in Agile distributed teams.

- **Orange - Challenges:** to counterargument the benefits, questions related to the challenges of working in Agile distributed were asked.

- **Dark blue - Recommendations:** closing, the questionnaire was built to request, from each individual experience and point of view, recommendations to overcome the challenges presented, specifically in the KONE context.

Next, a filter in Excel was created to categorize the sentences and to ease the results and the discussion reporting. The initial idea for this research was to have only common benefits, challenges, and recommendations for the entire thesis, but after the analysis done by the researcher, it was clear that dividing these main themes into sub-categories would make more sense, and the study could be clearer on the results achieved:

Benefits	Challenges	Recommendations
Agile mindset & practices	Distributed, virtual, and multicultural teams	Agile mindset & practices
Distributed, virtual, and multicultural teams	Mindset & practices	Leadership
KONE culture and strategy	Internal organizational matters	Skillset
		Distributed, virtual, and multicultural teams

Table 2. Summary of main themes found in this study with sub-themes.

The main themes have Agile mindset and practices; and distributed, virtual, and multicultural teams as common sub-themes. The idea of adding virtual and multicultural terminologies into the distributed teams theme emerged after the discussions with the participants of this study and the realization that the challenges, the benefits the recommendations for KONE teams apply similarly into the distributed, virtual, and multicultural aspects, but the comments were slightly different depending on what was discussed. Thus, for transparency purposes, the author decided to make it clear that not only the distributed setup was highlighted by the interviewees.

During the interview, the benefits of working in the KONE company, specifically on topics related to the KONE's culture, were brought up in an organic manner since there are no questions asking this specifically, but this was brought up enough times for this to be relevant to be pointed out. Similarly, the internal challenges appeared naturally in the interview conversations.

Main theme	Sub-theme	Total mentions	Unique person response
Recommendations	Leadership	72	9
	Agile mindset	40	8
	Skillset	31	9
	Distributed, virtual, and multicultural teams	28	9
Total recommendations		171	
Challenges	Mindset & practices	36	9
	Distributed, virtual, and multicultural teams	36	9
	Internal organizational matters	27	8
Total challenges		99	
Benefits	Agile mindset & practices	65	9
	Distributed, virtual, and multicultural teams	18	9
	KONE culture and strategy	11	7
Total benefits		94	

Table 3. Summary of the main themes found in this study with sub-themes.

The majority of the sentences fell under the recommendations category, followed by the number of challenges and benefits.

Each interview took four hours on average to be transcribed and another five to seven hours to be categorized, making a total of approximately 90 hours of effort put into the data collection and analysis. Since the interviews generated a lot of data, it was decided that only the most relevant aspects of the discussions would be presented in this paper, and the additional information is available as appendixes (Gil, 2008, p.p183). When presenting the empirical data for benefits, challenges, and recommendations, the criteria for selecting what is considered relevant was determined by how often the code inside the sub-theme was mentioned against how many unique people commented about it. A code is a category created to group similar sentences given by the participants during the interview. The more unique people commented about the same code, the more relevant it gets for this study. There was an average of 7.5 codes generated inside each sub-theme. Thus the top five codes were selected to be presented on this research in the tables, and the three most relevant were explored in more detail.

4 RESULTS

The aim of this chapter is to provide the answers to the research questions below:

- What are the benefits and challenges of using Agile concepts with distributed teams in KONE?

- What are the recommendations, from a practical point of view, of using the Agile mindset, principles, and methodologies in KONE with distributed teams?

The questionnaire with the interviewees sought to understand and explore the participants' familiarity with Agile concepts and how they were practically using them inside KONE. It was essential to explore the benefits and challenges of Agile usage. KONE is not a company utilizing Agile entirely at an enterprise level. However, KONE has many projects and teams leveraging the Agile mindset, principles, and methodologies, even when people are not familiar with them. Understanding the dynamics of distributed teams in KONE is also relevant as this could impact the perception of the interviewees on how they collaborate with their co-workers while using Agile, and if they could notice any specific difficulties or advantages in the distributed setup, and if Agile can help to overcome any challenges. Leadership and culture are the other themes supporting this study since they can influence how the teams operate. Concluding the results chapter, there are some recommendations given by the research participants, and those are divided into recommendations for Agile adoption, distributed teams, and leadership and which skillsets the interviewees considered important to have when people are working in an Agile distributed setup.

4.1 A basic overview of the Agile distributed ways of working

To set the foundations of this chapter, the statistics regarding the basic understanding of Agile, frameworks used, and countries with which this study members interact will be presented. The following nine sentences are as below, defining Agile according to each participant's point of view, and they are divided into two groups.

1) **Agile as a broader concept, a mindset:**

"Agile is one of the most misunderstood words. (Agile) is not a tool, not a process, not a value. It is a combination of everything. (...) It's a mindset. It's a philosophy, so it's a combination of mindset and values, principles, and the tools and processes, so everything together." (Int. 02)

"Agile is a mindset on how to approach things. (…) It can be even in daily life. If I think very much now on the work-wise, I think agile for us in a very concrete manner is one development methodology how we very often preferred to do things and develop our solution." (Int. 05)

"My easy word would be a method, or the answer would be methodology, but it's more than that. It's a way to approach work. To me, it's more of a culture and mindset rather than a based methodology or so-called structure." (Int. 06)

"Agile is pretty much a philosophy. It's also a mindset. How do you want to potentially maximize value for anything you do that has nothing to do only with IT." (Int. 07)

"Maybe the mindset and the focus on getting the valuable outcome is the key. I think that methodology is a way to get out the best fit solution or the best-fit response to whatever problem you might have. Sometimes we mix the methodology part with what is actually the aim for this whole thing." (Int. 08)

2) Agile as a methodology or ways of working:

"Agile for me is the principle to help me to manage my work, not only in the project but also the work, and the way of my thinking in a different way, which is different from the traditional way that I used to have." (Int. 04)

"Agile for me is basically the ways of working in the team, which allow you to kind of to bring transparency on the work either within your own team that everybody knows what the priorities are, what needs to be done, so, who is doing what, what is the status." (Int. 03)

"(...)Tuning the ways of working of the team as a whole all the time and not doing such a long term fixed planning, but trying to iterate as we go and also gathering feedback from the end-users and other stakeholders." (Int. 01)

"It's the opposite of waterfall. So it's really about taking a challenge and ambition and splitting it into epics or into bigger entities that you want to achieve and then being able to prioritize those based on the business need or business benefit or the development resource needed." (Int. 09)

Next, a gathering of data regarding which Agile methodology is in use in the reality of the interviewee's teams was done and, **Scrum, Kanban, ScrumBan, and SAFe** were the ones appointed by the majority of the participants. Still, eight people out of nine were reluctant to confirm that any specific methodology was being systematically followed inside the company.

"But then at the same time, we also know that it (Agile framework) has been adjusted to some extent with KONE requirements and some elements are still missing, so I don't think in KONE at least we have a pure framework. (Int.08)"

Only one person clearly highlighted that, currently, there is no Agile framework being used by their team.

Regarding the tools for **virtual collaboration**, the **Microsoft Teams Chat, Teams Channel, and Teams Meetings** are by far the common ones used in KONE, as KONE is a Microsoft client. Two tools for virtual collaboration in a **workshop context** were mentioned: **Mural and Miro**. For **backlog visualization and organization, Jira, Azure DevOps, Vison One, Target Process, Microsoft Planner, and OneNote** were the cited tools. There is also a mention about BMC Remedy Force, which in KONE is used for IT ticket management and, in the past, there was an attempt to use it for Agile processes, but none of the participants said they still use it. And, only in China was there a mention of the **WeChat** tool, used mainly for instant messaging.

> *"Since we have no access to Facebook, Instagram, my boss, to just make sure that we could come in contact, she downloaded WeChat. (Int.04)"*

Lastly, in the below chart, there are the countries mentioned by the interviewees where they have their main counterparts globally, with whom they interact more frequently. The stronger the color of the country, the more importance it was given to it according to the description provided by the interviewer, not according to how many times the countries were mentioned. The three main countries are **Finland, China, and India**.

> *"Primarily, at the moment, in Finland (is where the people I interact mostly with are located). Then we have some European countries like Austria, France, Italy. But then one could say that the delivery engine is in India and in China. (Int. 05)"*

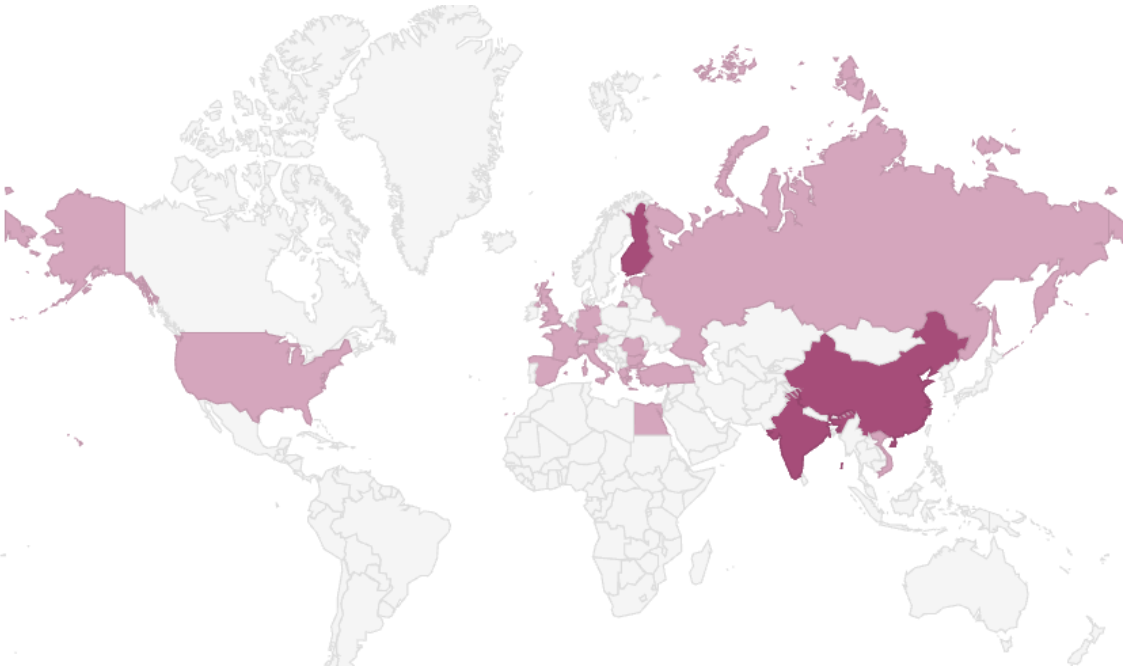

Figure 20. Countries with which the interviewees interact mostly.

4.2 Benefits

As already shown previously, the codes for the highlighted benefits were categorized into three main sub-themes: **Agile mindset and principles; distributed virtual and multicultural teams, and KONE culture and strategy**, and each sub-theme has a set of codes:

Benefits		
Agile mindset & practices	**Distributed, virtual, and multicultural teams**	**KONE culture and strategy**
Prioritization of work	Thinking outside the box	KONE culture encourages collaboration
Collaboration and communication	**Collaboration and communication**	KONE provides clear view on strategic goals
Transparency and visibility	Cost reduction	
Flexibility and fast decision making		
Agile brings structure to complex processes		

Table 4. Top five benefits.

As highlighted in green, **Collaboration and communication** were indicated as crucial topics in two sub-themes.

4.2.1 Agile mindset and practices

The most commented benefits in this sub-theme were **prioritization of work** (15 mentions, 6 unique respondents), **collaboration and communication** (14 mentions, 8 unique respondents), and **transparency and visibility** (12 mentions, 7 unique respondents).

In the **Prioritization of work** code, the **Agile practices were mentioned as a good way to organize the teams' work,** and one recurrent theme was the **quarterly planning**, a practice that has been widely experimented inside the company:

> *"Agile suits to a specific context, for instance, prioritization of work within a distributed team on a quarterly basis and there I think the methodologies would suit perfectly. (Int.09)"*

Collaboration and communication were frequently commented on in this sub-theme and also in the Distributed teams one. From the comments, it was clear that **interviewees appreciate the cadence and organization inside the Agile frameworks** and that **they enable more communication** between team members.

> *"Just the simple fact of having daily standups every day 15 or 20 minutes means that the communication is better, so the collaboration is increased. (Int. 02)"*

> *"I would say that agile methodology and that culture and mindset do tend to support more of a dialogue than waterfall models or any other model does. It is about coming to a mutual understanding. (Int. 06)"*

These frameworks were also quoted as means to **increase transparency and visibility** and a **sense of cross-teams common understanding** inside the projects.

> *"From the business side, they were saying that they are happy, that now they see, they have the transparency. They know what is happening in the team, what we are doing, and what the planning is. (Int. 03)"*

Finally, the topics of **fast decision making and Agile bringing structure to complex processes** were brought on the lenses of **Agile having practices that support** these conditions, but also that its **mindset encourages** team members to be **more open to complexity** and to needed changes.

> *"I believe the collaboration in Agile team compared to the traditional way is that Agile is more rapid and we need to embrace the change. In an agile way, we treat change as a normal thing. I will not say, "Oh no, change again," I will say, "OK, here is the request to change, so what can we do?" We embrace it instead of avoiding it. (Int. 04)"*

4.2.2 Distributed, virtual, and multicultural teams

Regarding the distributed team setup, three topics were mostly mentioned as advantages: **thinking outside the box** (11 mentions, 9 unique respondents), **collaboration and communication** (4 mentions, 3 unique respondents), and **cost reduction** (3 mentions, 3 unique respondents).

In the **thinking outside the box** code, it was pointed out that when teams have people from diversified cultures, this can bring **more perspectives for problem-solving** and that this is helpful, especially in complex areas. It was also mentioned that **local knowledge is an asset** that companies should leverage more as it can also help to **improve the performance of the teams**.

> *"The positive side of course of multicultural is that we get multiple opinions. We get various aspects on topics and, especially in a global company like we are, we truly need that. (Int. 05)"*
>
> *"I think it's fantastic. Definitely, cultural diversity helps the team to grow and perform better. (Int.02)"*

Inside the **communication and collaboration** area, the emphasis of the benefits was not in the distributed setup as such, but more regarding how **virtual environments make it easier to keep in contact with any team member**, regardless of where they are located.

"Virtual is good, of course, from the angle that you can do it anywhere, anytime, with anyone. And you can reach out that in any timeframe, or it doesn't matter the timeline where you are. (Int. 07)"

Finally, only 3 mentions regarding **cost reduction** were made related to having some of the work being done in countries where the labor rate can be cheaper in comparison to other available locations:

"One short-term benefit, if I want to be very honest, is cost. (Int. 02)"

4.2.3 KONE culture and strategy

KONE's culture and strategy were mentioned as positive aspects, and this was divided into two codes: **KONE's culture encourages collaboration** (6 mentions, 4 unique respondents) and **KONE provides a clear view on strategic goals** (5 mentions, 5 unique respondents).

In **KONE's culture** code, it is mentioned how the company has some aspects of a **flat and relaxed culture**, making **collaboration outside of work** seems **smooth**. Also, **KONE has some activities that are created locally** (meaning, the headquarters do not mandate this type of collaboration, but they are proactively created in the offices around the globe), which can **make its personnel feel integrated**:

"KONE culture really allows that (collaboration outside of work). And I think there's also a kind of a relaxed culture, from certain parts of the organization, not all the parts of the whole organization, but if you look at an even bigger picture, I think yes, it does support it, and I think it's a good thing to do that. (Int. 07)"

"Locally, we have a lot of activities. Some volunteer activities, and some sports events, and some other activities are available for everyone to sign on and to be part of it. So I think Kone's culture is really amazing, so that's why I stayed here for a very long time. More than ten years already. (Int. 04)"

Regarding the **KONE's strategy**, the respondents emphasized that the corporation provides **clear views on the goals the company wants to achieve** and that **the strategy** of where the company wants to go in the near future **is open** and **visible for all the employees**:

> *"Yes, I think we have a very good view on the goals that we should achieve. They come from IT when we talk about, for example, the financial goals. And when it comes to the goals of what we deliver, like the projects or solutions that come from the business, and I think we also have a very good view on those too. (Int. 05)"*

To conclude, the figure below is a word cloud generated from the 94 sentences inside the entire Benefits theme.

Figure 21. Benefits word cloud Wordclouds.com.

4.3 Challenges

Similar to the theme of the benefits, the challenges were also divided into three sub-themes: **agile mindset and practices; distributed, virtual, and multicultural teams; and internal organizational matters**.

Challenges		
Mindset & practices	**Distributed, virtual, and multicultural teams**	**Internal organizational matters**
Lack of Agile mindset and no clear internal framework	Bonding and team building	Not enough human task force
Waterfall oriented processes	Time zones	Collaboration and communication
Resisting the change		KONE's current operating model
		Multiple tools usage and Architecture issues

Table 5. Top five challenges.

4.3.1 Mindset and practices

Inside the Mindset and practices sub-theme, three topics were more often mentioned as main constraints: **lack of Agile mindset and no clear internal framework** (21 mentions, 9 unique respondents), **waterfall oriented processes** (11 mentions, 5 unique respondents), and **resisting the change** (5 mentions, 4 unique respondents).

The lack of Agile mindset was grouped together with the **no clear internal framework** as one single sub-theme because the interviewees were recurrently connecting the two subjects together, as a way to explain challenges of applying agile mindset and principles inside the company **when there is no clear process or core Agile values to be followed**, and how **this can generate confusion** for the employees:

> *"There's a huge lack of visibility. There is a lack of visibility not only to me but between the team members as well. There is no sense of working together. (...) There is no common goal everybody is working towards. A lot of wasted time. (Int. 06)"*

There are also some **negative perceptions** from the participants, related to when some teams or some parts of the organization **try to experiment with Agile methodologies without having cross-company guidance**, where **teams can feel isolated, and some breaches in the processes** can start appearing:

"Depending on the activity level of the business, then they are involved, or they are not involved. We don't really have guidelines for that. (Int. 01)"

"Company level, I think, we can definitely improve. Companywide, we haven't done this prioritization, at least from the portfolio level all the way down, but we are getting there, so that would be a major improvement. (Int. 02)"

"The fact is that the business organization is not onboarded with the whole process, right? So there's already a gap. IT cannot alone do this, or R&D cannot alone do this. This has to be an integral part of the whole organization to have the same. That's challenge number one. So as long as the business is not aligned and onboarded, then that (problems with Agile implantation) will always be there. (Int. 07)"

Lastly, this **lack of a clear internal framework** can generate some **confusion** on having a **common understanding of what Agile** is:

"Some teams have adopted it (Agile). Some teams claim to have adopted it, and they just use agile terminology for waterfall projects. (…) There's no common way how Kanban had been taken into use. So it's a mishmash of Agile methodologies. (Int. 06)"

The **waterfall-oriented processes** code summarizes the interviewee's impression of the KONE internal processes as something which is **restraining** some of the **teams' agility, ability to adapt and focus** their work better from the lenses of people trying to work in Agile ways. It was clear from the interviewees that there is nothing wrong with waterfall

processes. The **problem is trying to implement Agile inside a company that created its operation model based on waterfall practices**:

> *"Very often, there are concrete plans required before we even know what we want to do. (Int. 05)"*
>
> *"(...) And then maybe the most important portfolio management, it's probably critical. Not that portfolio management is not done correctly. It's done correctly with the current model that the organization follows. But at least looking from the IT angle, it's a pain point because it does not bring the perspective of agility in there. I would say it's a really critical challenge that I see. (Int. 07)"*
>
> *"We set the priorities at the beginning of the year. We revise them after the summer holiday, so biannually, but if something would emerge, then we need to adjust, and then we openly discuss if it's something to be taken on top and if we have priority for that or capacity for that, or if we then need to stop doing something else. And in KONE, I think we actually quite often take on top. (Int. 09)"*

The **resisting the change** code outlines the interviewees' experiences in trying to implement Agile concepts in teams where other types of practices (most commonly the official KONE operating model) were in use, and **some opposition to it was perceived**:

> *"The challenges that we are facing now it's on the team level in getting everyone on board with these new practices." (Int. 02)*

4.3.2 Distributed, virtual, and multicultural teams

Regarding the distributed, virtual, and multicultural teams code, two topics were highlighted: **bonding and team building** (31 mentions, 9 unique respondents) and **time zones** (5 mentions, 5 unique respondents).

As a starting point, there are three main topics discussed under the challenges in the **collaboration and communication** code. The first one was the perception that it is **more**

difficult to have **spontaneous conversations** and **team-building** activities when the teams are not co-located. Additionally, **people might have more difficulties dedicating time** specifically for this :

"When you have face-to-face (communication), and if you think about a scenario that we are all in the office, it's easier to reach out because you are the in a physical format to be able to reach out to someone. The virtual format will enforce a little bit to chat, you know, or I'm not going to maybe connect with someone if I see he or she's busy in a meeting. (Int. 07)"

"Distributed teams, I think, is much, much harder because then those sessions (happy hours) would need again, a calendar invite, or we'd be able one meeting on top of everything else. (Int. 02)"

"Because we have lots of meetings about the project, so we stop it (virtual coffee meeting). (Int. 04)"

The other challenge was on **how to create strong connections and empathize with co-workers** in the **virtual environment** and **how to make every person** in a virtual and distributed setting **feel equally included** :

"(...) every single event you try to plan or meeting on site you want to plan, when you recognize that you have few individuals who cannot be there, it's really tough because you don't want to take away the opportunity from others to connect face to face, but still this inclusion factor is there, and it's a really hard thing. (Int. 08)

"Being long time co-located with the development team, for example, made me actually understand what they are doing and what kind of challenges they are struggling with. (Int. 01)"

Thirdly, some difficulties were raised on **how to achieve a common understanding** when people **cannot see physical signs of human expression** inside a virtual and

multicultural environment, **especially when team members are not using their native language** to communicate:

"We know that English is our working language, but we learn English in different ways or different books, so we may use different words to express something, and that will lead to the misunderstanding. (Int. 04)"

"If people don't have the cameras on, you don't actually see what people are doing, if they're talking, if they're not talking. It's trickier to see what people are truly thinking. It's trickier to see if somebody wants to say something. (…) It's trickier to identify if somebody is thinking about something or not agreeing. (Int. 05)"

4.3.3 Internal organization matters

During the discussions on how to implement Agile in a distributed setup, some generic internal problems were raised. Inside this sub-theme, the top three codes were: **not enough human task force** (10 mentions, 5 unique respondents), **collaboration and communication** (8 mentions, 6 unique respondents), and the current **KONE's operating model** (5 mentions, 4 unique respondents).

The **not enough human task force** code comprises two overall challenges: one is to **implement Agile in isolated teams** or in some parts of the organization when **there are no established Agile roles** across the company. Therefore, people **need to incorporate the Agile roles in their current functions**. The second challenge is related to the **problem of creating cross-functional teams with diversified competencies**, as those competencies are not easily available.

"Sometimes it might be really difficult to get an architect or get a designer or get a UX expert. (Int. 01)"

"We have PO's that are extremely occupied with a lot of activities that they do. They have dual roles, and they are also accountable for

the product that they are the product owner for it, building the vision and prioritizing it for the team. (Int. 02)"

Regarding the **communication and collaboration** code, it can be generally summarized as how the **company does not provide any clear guidance on how teams can bond and collaborate better in a distributed and virtual environment**, **considering** not only with KONE employees but **also with the sub-contractors and partners** the company has:

"I don't think there's a common practice KONE wide or these types of activities outside of work, but team by team is different. (Int. 02)"

"The problem is that our development team, they're external vendors, so they don't have access to quite many forums, but we try to keep them up to date. (Int. 03)"

In the **KONE's current operating model** code, it was highlighted that, though the corporation has an official and published operating model, **it is not fulfilling the needs** of the teams working in an Agile distributed way that are also trying to use the **value stream principles**. Additionally, the current teams' **ways of working** are perceived as **not harmonized**:

So I don't think I have ever had the luxury that the full team would have been dedicated to one value stream or one flow. So always, some elements, particularly around the integration or infrastructure, have been shared, and then the rest has been like sort of changing depending on the case. (Int. 08)

Lastly, the **tools and architecture** code embraces the situation where **the company has multiple virtual tools** in use and **how teams have difficulties in following up work** in a broader manner:

"It's hard to get people aligned with, for example, backlog management tools if there's no support provided for that. So, this is at least maybe something that KONE could do. (Int. 01)"

To conclude, the figure below is a word cloud generated from the 99 sentences inside the entire Challenge theme.

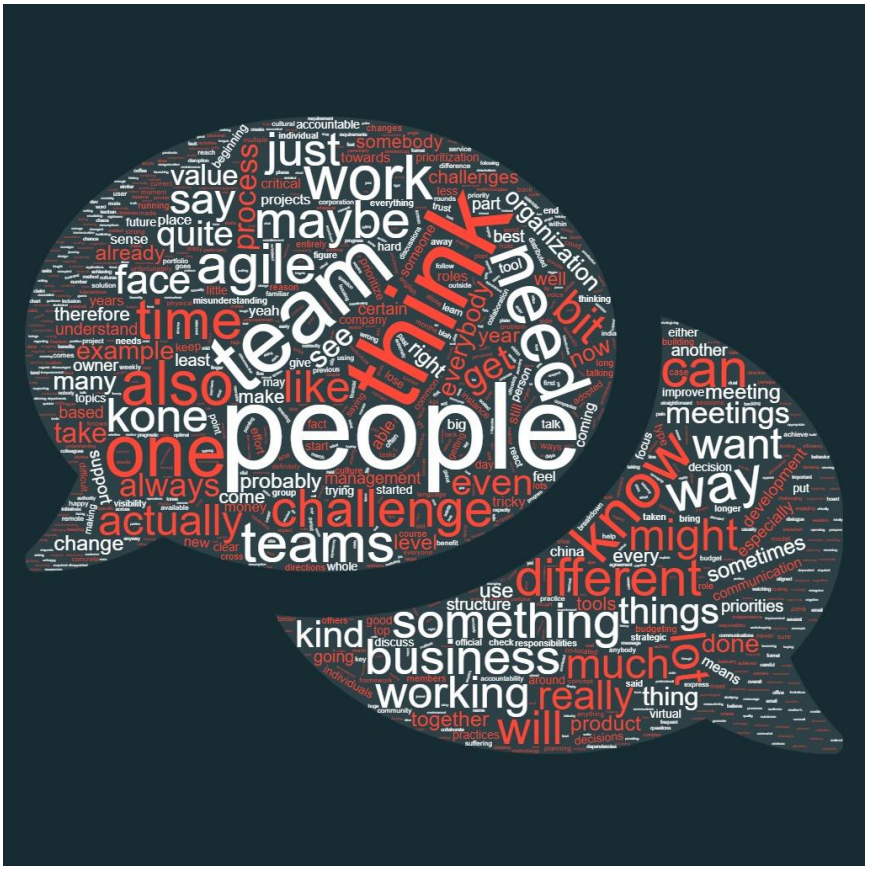

Figure 22. Challenges word cloud. Wordclouds.com.

4.4 Recommendations

This section compiles all the recommendations given by the interviewees on how some of the highlighted challenges could be mitigated and closes the recommendations chapter. This theme, by far, was the one with the most number of sentences, having **171 statements** in total, and it was divided into four sub-themes: **agile mindset and principle, distributed, virtual, and multicultural teams; leadership, and skillsets**. An observation was made on the **focus on team building and trust** code, which appeared in three sub-themes, and the **defined common ways of communication and collaboration,** which appeared in two sub-themes.

Recommendations			
Agile mindset & practices	**Distributed, virtual, and multicultural teams**	**Leadership**	**Skillset**
Focus on team building and trust	Focus on team building and trust	Have a clear and transparent Agile Transformation vision & build an internal Agile framework	Agile and Growth mindset
Define common ways of communication and collaboration	Define common ways of communication and collaboration	Servant leadership and empowered individuals	Proactive collaboration
Appropriate allocation of people & build cross functional teams		Leaders should be open, trustworthy, and close to their teams	Emotional intelligence
Share best practices inside the company to other teams		Serve as an Agile role model	Active listening and observation
		Focus on team building and trust	Courage: Be brave and dare to take the first steps towards change

Table 6. Top five recommendations.

4.4.1 Agile mindset and practices

Inside the Agile sub-theme, the three topics with most comments were: **focus on team building and trust** (19 mentions, 6 unique respondents), **define common ways of communication and collaboration** (11 mentions, 7 unique respondents), and **appropriate allocation of people and build cross-functional teams** (7 mentions, 3 unique respondents).

In **focus on team building and trust** code, two main observations were: because of the **cadence** of how **agile ceremonies** (e.g., dailies, retrospectives) work, **this helps teams to bond, and trust is built through transparency** between the involved parties. Additionally, it was observed that **Agile could work with distributed teams** as long as the **Agile mindset is present** and companies know how to leverage it and have access to **modern tools as enablers**, supporting Agile collaboration.

"These frequent meetings help so people are there every day and, in a way, when you have a good frequency, then the topics are small enough so they can actually be discussed. (Int. 01)"

"Agile would also work for the distributed teams as well because a lot of those practices that you would bring to the teams are just common sense. For example, we talked about dailies and Retros, right? So these are promoting collaboration. I think agile works for the distributed teams as well, but it's just about how companies do it. (Int. 02)"

"We all know in the past it was ideal to have co-located teams (for Agile collaboration). Because why is that? To exactly eliminate the collaboration/communication challenges that you would tackle that immediately on the spot. And then also with distributed teams, it has been seen to be an issue already in the past, that when you have people far away, then you don't naturally trigger communication and collaboration for a bottleneck or an issue that is preventing your work. But I think, and this comes again to the cultural mindset, nowadays there are so many smart tools and smart capabilities that you could utilize that it's just about teams to be mindset oriented to say that there is nothing that can prevent us even if we are distributed, far away from each other, the speaker can always be on and then we actually are communicating, or the video screens are always on, and we can always see each other. (Int. 07)"

The **defined common ways of collaboration and communication** sub-theme highlight the importance of how the **communication would be more transparent and efficient** if teams would **understand in practice the different Agile ceremonies**, supported by a **set of harmonized tools that were selected for teams to use**. These, according to the interviewees, can lead to **open communication** inside and outside of a team level, where team members and stakeholders have a **common understanding of what is happening** in the projects. Additionally, the overall importance **of personal communication skills** was emphasized by the interviewees.

"This is what we had in the beginning that when we started, for example, with daily calls, we had some people who were not joining. (...) And then they started to realize actually it's important for them as well. (...) people started to get in on a daily basis because they realized that yes, actually it works and it brings benefit to them. (Int. 03)"

"You could build something from scratch, but if you can't just express it clearly how it's functioning, how it is used, no one would understand, even it's really a great design (...). (Int. 04)"

"But I think the key point is that at the moment in KONE we are using very many different kinds of tools for backlog management (…) I'm strongly favoring in selecting, at least for this higher level backlog management, just one, allowing us to have the visibility, and then, if for technical reasons we need something for pipeline management and so on, that is a different dialogue, at least from my perspective. (Int.08)"

The **appropriate allocation of people and building cross-functional teams**, and **sharing best practices inside the company to other teams** codes emphasize how **Agile teams need to be self-sustainable**, meaning they should have enough **knowledge available internally to solve daily issues**, and how this can only be achieved if the **appropriate allocation is given to people** working in such projects and if **multi-skilled talents** can be **available for the teams** to build cross-functional teams. Furthermore, **sharing best practices** was recommended by some interviewees for teams to be able to **benchmark Agile** in areas that are familiar to the teams, with **examples that have worked in practice**.

"For an Agile team, you want to have one whole team that can take one product further down the line a couple of years, so they can build the vision and of all the skill to run it. (Int. 02)"

"In KONE, we have been super flexible with tools and ways of working, and that's also part of Agile, to be flexible. It might still be good to have some recommendations or best practices shared, especially for people who are starting out with new projects. (Int. 01)"

4.4.2 Distributed, virtual, and multicultural teams

Inside the distributed teams sub-theme, two topics were emphasized: **focus on team building and trust** (21 mentions, 8 unique respondents) and **define common ways of communication and collaboration** (7 mentions, 6 unique respondents).

In **focusing on team building and trust** code, the research participants pointed out that **trust can be only built once people start to know each other better**, and this often means that communication should go beyond the work conversation because, as mentioned in the interviews, it **is important to understand the human working behind the job role**, and this can lead to a mutual empathy which is built. The most commented manner of getting to know better-distributed colleagues were **meeting at least once face-to-face**. However, some other techniques were highlighted, for example, **being self-conscious** and **taking extra effort when communicating with different cultures**, without assuming that the message given was clear to everybody, but making sure, multiple times, that all **people are on the same page** regarding what has been discussed.

"It's at least important to get the people together and to talk to each other at certain intervals, so this team spirit stays there. (Int. 01)"

"Communications. Everybody needs to take responsibility to make an effort to understand what others are saying and communicate what they're saying in a way that's more understandable and not assuming that everybody is going to just understand or that everybody else has to understand you and you don't have to do anything for it. (Int. 06)"

"(...) take the time to meet all of the key stakeholders. Talk on the very first meeting, talk less about what's your business ambitions and talk more about how you are as a person. (Int. 09)"

Regarding the **defined common ways of communication and collaboration** topic, the interviewees mentioned how **modern technology** and tools for virtual collaboration **have improved over the years**, making **virtual collaboration more effortless**. Finally, it was acknowledged that distributed teams should **focus on coordinating how to cooperate** in the working environment, having **empathy towards time zones and balancing the number of meetings booked inside the teams**.

"I don't see big challenges (in working with distributed teams) because we found our ways how to collaborate (...). And especially nowadays when you can have video calls, and you can have calls and

Team chats and whatever, so you anyway feel that you are close and you work as a team. So I think it's just the way how you set up the communication in the team. (Int. 03)"

"It requires a bit more coordination. We have more meetings in global roles, definitely, just to have them in the calendar so that you have the chance to have those systematic catch-ups and there is a different rhythm with the different stakeholders. (Int. 09)"

4.4.3 Leadership

A sub-theme specifically for leadership was created because a considerable number of recommendations were aimed at leaders. Three main topics were raised: **have a clear and transparent Agile transformation vision and build an internal Agile framework** (22 mentions, 6 unique respondents), **servant leadership and empowered individuals** (18 mentions, 7 unique respondents), and **leaders should be open, trustworthy, and close to their teams** (17 mentions, 7 unique respondents).

Having a clear and transparent Agile transformation vision and building an internal Agile framework was categorized under the leadership sub-theme because, though the **interviewees did not mention that these are the sole responsibility of the leadership**, still they trust that the **Agile transformation vision and creation of an internal framework**, should be **aligned and supported by different leaders across the entire organization**, and the leaders should be transparent towards their employees and have a **clear purpose on why and how Agile** is being taken as a way of working. Additionally, **Agile as a concept should be well understood by leaders**. Thus they can guide their employees throughout their Agile journey. Additionally, it was mentioned that **leaders should have a clear Agile prioritization strategy between the business department and KONE Technology and Innovation area**.

"If you want to be called an Agile leader, maybe the first thing is that you should know Agile. Because Agile is a buzzword or a hot topic. So if you just go and Google it, there are a lot of things that you can find. Then you read a couple of them, and then you know Agile, or you

claim that you know it. But an Agile leader should really know Agile. (Int. 02)"

"I wish, and I have wished this for four and a half years now, that people at KONE would take the time to put their egos aside and come together and find a way to solve this Agile at KONE issue. (…) There are so many different alternatives to what it can be, but it can't be led by one department over another. And there has to be collaboration. There has to be a common framework. (Int. 06)"

"Then the next thing that needs to happen is actually better alignment on what happens on the tactical and operational level when it comes to road mapping and planning. (…) when it comes to the whole KONE Way and our development portfolio management, there we still have a lot to be done. So for me at least, and for IT, I see that as a next step that how to improve this forecasting and planning capabilities and then create transparency and joint decision making. That is really the next step and immediate step that we need to take. (Int. 08)"

In the **servant leadership and empowered individuals** code, it was highlighted how **leaders should act as coaches and let the decision-making on how to achieve results on the hands of the teams**, even if difficult situations emerge or if some escalating process happens. The **leader should have a good understanding of where the teams are struggling**. However, **they should not provide ready-made answers or take decisions on behalf of the team**. Instead, **guide them towards the desired direction**.

"(…) first and foremost to just be very genuine and to be there for the people. To help them rather than being a star somewhere and not realizing that you marched off in some direction and nobody followed you. (Int. 06)"

"I think the servant leadership is quite often mentioned, and I think the empowerment starts with that mindset on how can I make others

successful and enabling people, rather than being the one making all the decisions and being there as a blocking factor. (Int. 08)"

"Making decisions over a team member when they are the ones making the decisions. (...) when I joined four and a half years ago, KONE had this escalation culture that I always got when a manager, let's say people reporting to me didn't agree with business or anybody or something, then they came to one level higher and said that this person doesn't comply. (...) I would never wish that an Agile leader would make a decision based on somebody coming and escalating without listening, kind of forcing them that decision back. (Int. 05)"

The **leaders should be open, trustworthy, and close to their teams and serve as an Agile model** codes highlight some of the **needed characteristics leaders**, in the view of the participants, **should have if they want to apply the servant leadership** successfully. Additionally, according to the interviewees, **leaders should dedicate and should have appropriate time to be available for their teams** and go through the continuous improvement process together with them.

"We shouldn't give one leader too much scope so that they cannot manage with that and need to be too far from the teams' day-to-day work. (Int. 01)"

"I think, first, an Agile leader is someone who's waiting to face challenges. So challenges by the misunderstanding, challenges by the change. (Int. 04)"

"An agile leader that is not present, it's managing again, it's not leading. And this human collaboration, this engagement with an individual, is important. (Int. 07)"

Finally, a comment from some interviewees related to the leadership aspect is that **leaders should focus on team building and trust in general**, regardless of the location or the framework being used by their teams to perform their work.

4.4.4 Skillset

Closing the recommendations chapter, a set of skills were mentioned by all participants as important aspects to have when an individual is working in an Agile distributed setup. These skills are **Agile and growth mindset** (10 mentions, 5 unique respondents)**, proactive collaboration** (6 mentions, 5 unique respondents)**, emotional intelligence** (6 mentions, 4 unique respondents)**, active listening and observation** (5 mentions, 4 unique respondents), and **courage** (4 mentions, 3 unique respondents)**.**

These recommended skills emphasize the idea of having **empowered individuals** who are **willing to continuously learn** new ways of solving problems, who **can connect with their colleagues,** and **do not wait to be told what to do**, but instead **have the courage** to **experiment and learn** with their achievements and mistakes.

"I think you just need to have an open mind and maybe some interest in learning the Agile methodology because there are no difficult things, you just dig into it, and you just try to figure out what or, if you cannot figure it out, you just try out the different ceremonies, and you see what works for you. (Int. 03)"

"Be active, be proactive. Dare to just say what's on your mind, dare to challenge. Dare to hold others accountable and be the team member that you would hope the others to be. So if we all just sit on the side and wait for somebody to take the first step, we will never get there. (Int. 06)"

To conclude, the figure below is a word cloud generated from the 171 sentences inside the entire Recommendations theme.

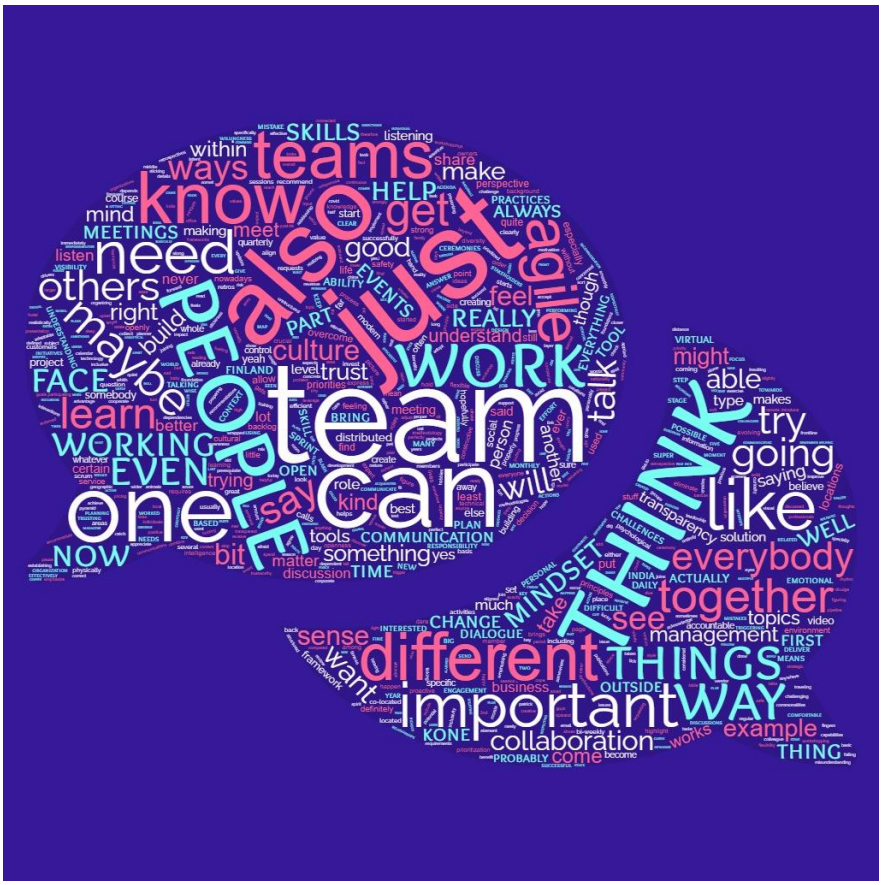

Figure 23. Recommendations word cloud. Wordclouds.com.

5 DISCUSSION

Twenty years after the Agile Manifesto for software development was published, KONE is not alone in the challenges it has been facing when adopting Agile. The Digital.ai company published, in July 2021, a study that is quite aligned with the results of this thesis. The figure below, extracted from the Digital.ai research, summarizes the main struggles the respondents faced in their Agile course:

Figure 24. The most significant barriers in adopting Agile. Digital.ai.15th State of Agile Report, 2021

One interesting mention in the Digital.ai study is that the key challenges perceived in corporations when adopting Agile have remained vastly unchanged in the past several years.

In this KONE research, it was perceived that often the Agile framework is mixed with the Agile mindset, and people tend to limit Agile as a set of practices of tools and methodologies, without acknowledging the culture and value parts, which can demand profound changes in the organization. Additionally, KONE has a current official operating model which was not built considering the Agile concepts, and this can lead to confusion when teams try to innovate and adopt Agile, framing it inside the official framework. It does not work.

Since resistance to change will be faced whenever a new initiative is implemented, it is crucial that the company has a clear and transparent message towards their employees where the corporation wants to go and why the change is needed. Also, some official guidance should be available to all employees, informing that the company is going in a certain direction, what the expectations are, and with guidelines on how individuals can start with it in their daily lives. This minimizes the impact on when small teams try to experiment with new ways of working and have the resistance of some of their colleagues

who are not familiarized with Agile and, therefore, have not had the chance to experiment its benefits. This can also reduce processes inconsistency. The guidelines do not need to be perfect and surely should evolve. However, a clear message from the company regarding the intention towards Agile should be visible to all employees.

The Agile mindset and values cannot only be present in a single sector of the company or a team. Otherwise, these groups of people will face immense cultural clashes and push-backs once they try to build something. Agile core values should be advocated companywide. In the 15th State of Agile published by Digital.ai, there were some key benefits that were highlighted when companies adopt Agile:

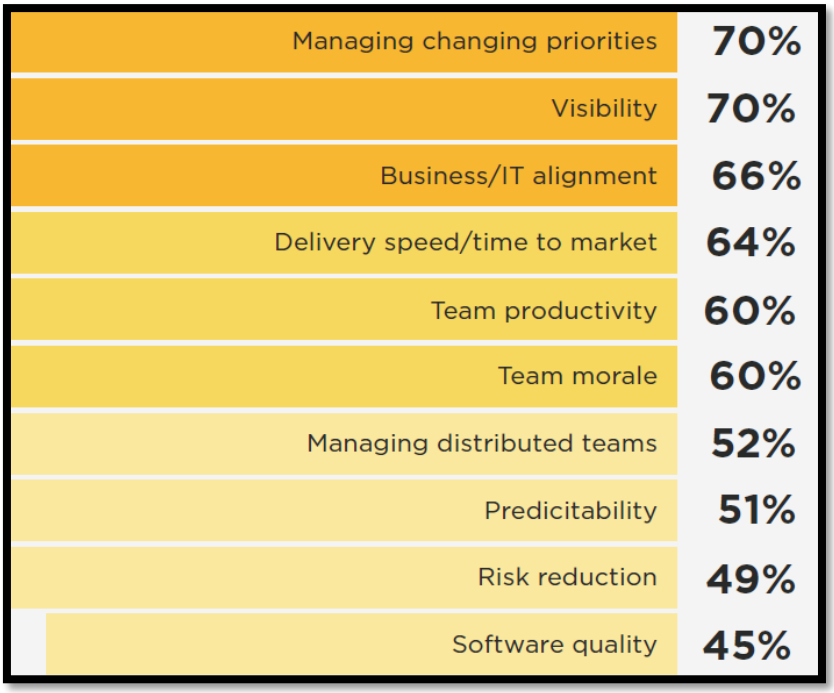

Figure 25. Positive impacts in implementing Agile. Digital.ai.15th State of Agile Report. 2021

In this thesis focused on Agile in KONE, it has been clearly stated how Agile can better support distributed teams to work better together, and specifically, the cadence of the Agile ceremonies was perceived as a tangible benefit—meaning, having an organized schedule that often encourages communication with distributed peers can increase people's sense of belonging to a team. Another clear positive effect was the improved collaboration across teams, with the quarterly planning practice being mentioned by the interviewees, as this is in experimentation by multiple teams. The quarterly planning is when teams in KONE can have the opportunity to stop executing work and dedicate

quality time to think about what they should achieve in the next quarter together with stakeholders who may come from completely different teams.

Although face-to-face collaboration was mentioned as the ideal way to interact with work colleagues, the existence of distributed teams was not described as a constraint. The main problem is not having a working culture that embraces the Agile distributed setup and which does not allow enough time for colleagues to bond, even if this connection building needs to be done virtually. Modern tools can support virtual collaboration much better than in the past. Still, Agile requires that team members trust each other, this builds a psychologically safe environment that can promote transparency, and this transparency increases trust in the working collaboration theme.

This transparent and trustworthy culture needs to be supported and fostered by leaders who are prepared to sponsor their employees when challenges emerge. It was mentioned in the literature review how important it is for leaders to be a servant of their teams (Lundström and Yusuf, 2021, p. 69). The participants of this research have also emphasized, multiple times, that a leader should guide their teams and not take decisions on behalf of the actual doers of the work. Additionally, Agile should be a familiar concept for leaders working with Agile. They should not only trust quick guides available on the internet but also have the core values also intrinsically stored on their minds. Ideally, leaders should have enough time and be close to their teams so they can coach their teams properly.

Transparency and shared vulnerability should work both ways. As leaders expect employees to be open about issues, challenges, and ideas, employees also expect the leadership to be transparent in admitting weaknesses, accepting problems during the transformation journey, and providing constructive feedback to their peers. It is also essential to focus on the continuous evolvement of the team. From the perspective of the literature and from the interviews conducted during this research, it is better for a leader to be open and assume that answers and solutions are missing than pretend everything is fine.

Interpersonal skills were regularly mentioned throughout the interviews, and quite rarely were technical skills commented as a must-have. Interpersonal skills have the power to affect the employees' social environment directly, and it is something much harder to

learn than technical skills. Regarding social skills, courage was incorporated as a Scrum value in 2016, and KONE added this to their values in 2021. The courage to innovate can only be achieved if working personnel feel they have the support of their leadership in its most authentic format.

The purpose of this research was to answer the two questions below:

- What are the benefits and challenges of using Agile concepts with distributed teams in KONE?
- What are the recommendations, from a practical point of view, of using the Agile mindset, principles, and methodologies in KONE with distributed teams?

In conclusion, having company processes that support and embrace agile values with distributed teams, a talented pool of people with enough available employees who have time capacity to dedicate themselves into personal growth and balance this with projects, and capable and trained leaders who can coach Agile distributed teams are the critical factors in making Agile in KONE successful.

6 RECOMMENDATIONS ON FURTHER RESEARCH AND CONCLUSION

During the years of this study, mainly 2020 and 2021, the world was affected by a global pandemic. For future research, it could be helpful to understand companies' workers' perceptions of whether the quarantine time, cities lockdown, and anxiety with the uncertainty on how the virus would be developing have affected the perception and behavior in working with distributed teams. The virus outbreak may be one of the most relevant social experiments of this era and has redefined people's perception of jobs, and has opened opportunities to tackle business problems with different approaches (Jesuthasan, Malcolm, Cantrell, 2020). Additionally, this study focused on the IT department and its collaborations with Marketing, Business, and the Research and Development areas. More study from outside the IT department could bring interesting results on how the Agile dynamics work in other fields, such as Finance and Human Resources. Furthermore, further research on Agile through cultural lenses could be pertinent because throughout this research, it was often brought to attention how

companies have been struggling to change their culture, aiming to incorporate the Agile mindset and values.

In conclusion, this study aimed to understand the benefits and challenges of using Agile in distributed teams and the practical recommendations KONE could leverage when adopting Agile practices and principles. It was found that the issues KONE has been facing in adopting Agile are similar to what the general market is encountering in years of studies in this subject (Digital.ai, 2021). As shown throughout this study, adopting tools and practices is easy and can already bring some positive changes. The problem is changing a company culture that truly embraces the Agile mindset and values, and this is where the most meaningful results of Agile adoption can emerge. As described by Rigby, Sutherland, and Takeuchi in the Harvard Business Review article, Embracing Agile (2016), "*Compared with traditional management approaches, agile offers a number of major benefits, all of which have been studied and documented. It increases team productivity and employee satisfaction. It minimizes the waste inherent in redundant meetings, repetitive planning, excessive documentation, quality defects, and low-value product features."* In addition, Agile can definitely work with distributed setup, and its ceremonies and cadencies can support employees to collaborate better in comparison to other models of work.

Agile transformation and adoption require dedication from all levels inside the company, which should have a clear message towards their employees regarding Agile. Equally important, companies need strong leaders who are knowledgeable and fundamentally believe in such values, capable and courageous employees who are willing to experiment beyond the traditions pre-established, and a working environment where people trust each other, so they can dare to be transparent and open with problems and try out creative solutions for them.

To close, during the interviews, the author asked a question of who should be responsible for the ownership of Agile. As demonstrated in the course of this study, it is everybody's responsibility to make Agile a fruitful reality regardless of the company or field people are working in.

“Everyone, everybody should be responsible in adopting it (Agile) and committing to adopting it. (Int. 06)”

“I think first of all, of course the teams themselves. They have to be responsible because if you don't want to do it (Agile ways of working) they cannot be just forced. If you force them, they won't work. (…) if they are open to try this out, so then the change happens, because you see clearly the benefits. (Int. 03)”

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8 APPENDICES

Appendix 1. Email message: Semi-structured interview questions guide

Semi-structured guiding interview questions: Email message

Hi! Thank you in advance for your time. To give you a bit of background, I am writing my thesis about the practical experience acquired from applying Agile principles and methodologies in projects with distributed teams and what are the dynamics of culture and leadership around them.

I have a few questions to go through with you, and the main themes are below for your reference and preparation.

1. What is your experience with distributed teams?
    a. Types of project, types of teams you had, the roles you played
    b. Ways of communication, tools, challenges, benefits
2. What is your experience with Agile projects?
    a. How do you support your peers and / or team members?
3. What type of benefits have you noticed by working with Agile distributed teams in KONE?
    a. Could you tell one short story?
    b. How about challenges of working with Agile distributed teams?
4. How do you define a role model Agile leader?
    a. How about the pitfalls an Agile leader must avoid?

I don't expect you to come with complete answers written down. This is mostly for us to carry out a conversation around these 4 main questions. Thanks!

Appendix 2. Base script: Semi-structured interview questions guide

Semi-structured guiding interview questions: Interview base script	
Discussion topic	**Examples of questions**
Opening and bonding	Thanks in advance for your time. This interview will provide direct input and support to my thesis work on applying Agile principles and methodologies in projects with distributed teams. * Are you ok with me recording this interview for later analysis? Neither the audio nor the transcription will be made available publicly. 1. To gain some more context, please tell me about your professional background. 2. How long have you been with KONE? What is your current role? 3. And how long have you been working with distributed teams? (Interviewer provides the distributed teams definition used on this research). 4. And how long have you been working with Agile teams/projects?
Agile methodologies and principles	We will discuss about Agile and its principles and methodologies and we will talk about 3 other themes in parallel: distributed teams, culture, and leadership role. 1. What is Agile for you?

	2. Does your team/project use any specific Agile methodology? If yes, which one (s)?
	    a. How do you feel about having or not any established framework?
	3. Who should be responsible for Agile in KONE?
	4. What type of benefits have you noticed by using Agile in KONE specifically?
	    a. Could you tell one short story?
	5. How about challenges of working with Agile in KONE?

Culture in distributed teams	Now talking about working with distributed teams a bit more…
	In KONE, you work with people from different cultural backgrounds.
	1. From which countries are the people you talk mostly on a regular basis?
	2. What are your thoughts about multicultural teams?
	    a. What benefits are there to multicultural teams?
	    b. What challenges are there to multicultural teams?
	    c. How do you overcome these challenges*?*
	    d. Do you believe that culture plays a bigger or smaller role in Agile compared to other ways of working that you have experienced?

Working in distributed teams	1. How do you keep in contact with what's going on with the team in general?
	   a. Do you and your team speak about anything else other than projects?
	   b. Do you think this type of communication is important? Why?
	   c. And do you think KONE provides good support for this type of collaboration?
	2. How do you connect teams that are partially co-located and partially virtual?
	   a. Does this hybrid practice introduce benefits? How about challenges?
	3. What do you see as challenges over face-to-face collaboration?
	   a. Do you have any ways of overcoming these challenges?

Distributed team collaboration in Agile teams / projects	1. What do you think about collaboration with Agile distributed teams?

Leadership	For leaders: 1. How do you prioritize your team/project work, meaning, how do you make sure they are focusing only on the important items? Do you and they have visibility of the goals to be achieved? a. Can you briefly describe your process for requirement gathering until having the item/feature/request available for your users/customers? b. Can you think about any improvements that you feel could be done in this area? 2. What skills do you believe are needed to work in an Agile distributed team? a. Which is the most important to you? Why? 3. How do you define a role model Agile leader? a. How about the pitfalls an Agile leader must avoid? For team members: 1. How do leaders prioritize work in your team/project, meaning, how do they make sure you and the team are focusing only on the important items? Do you have visibility of the goals to be achieved? a. Can you briefly describe your process for requirement gathering until having the item/feature/request available for your

	users/customers? b. Can you think about any improvements that you feel could be done in this area? 2. What skills do you believe are needed to work in an Agile distributed team? a. Which is the most important to you? Why? 3. How do you define a role model Agile leader? a. How about the pitfalls an Agile leader must avoid?
Recommendations	1. Before we close, regarding the theme of our discussion, would you have any final thoughts or comments? What would you recommend to a person working in KONE with Agile distributed teams?
Thanks and closing	I deeply appreciate the time you spent with me today, and the help with the development of my master thesis. Once I finish it, planning for early winter of 2021, I will make sure to share the results with you.