



UMEÅ SCHOOL OF BUSINESS,
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GUIDANCE ON THE AGILE TRANSFORMATION JOURNEY

The Role of Agile Coaches

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Abstract

While agile methods are old news amongst teams and within the field of software development, the interest of entire organisations to become agile is growing. In the process of adopting agile methods, there are several commonly known success factors and challenges for organisations to take into consideration which would ease the transformation.

Previous studies on success factors and challenges during the agile transformation have been focused on the experience of the organisation or the human resource aspect of agile. The majority of existing theory on the topic has outlined the agile transformation based on single organisational case studies, or in quantifying manors. It is however known that agile coaches carry some significance for successful transformations but the research area is lagging in the understanding of their particular role for organisational agile.

This study focuses on the experience of the agile coach of success factors and challenges and their role in assisting the organisations during the agile transformation. Through a qualitative interpretivist approach, this thesis sat out to understand the agile coaches perception of success factors and challenges and consequently their role in agile transformations. By semi-structured interviews, data was collected and later analysed thematically to find meanings and patterns among the agile coaches of their perception and contribution to successful transformations.

By studying the agile transformation from the perspective of agile coaches, this thesis (1) contributes to broadening the research area with more knowledge about the agile coach as a profession, (2) nuancing the picture of success factors and challenges linked to agile transformations through the new perspective of agile coaches, and to (3) provide new insight to this yet, underexplored area of agile coaches within the research field of organisational agile.

Keywords: *Agile transformation(s), agile transformation process, change management, organis(z)ations, agile adoption challenges, agile transition framework, agile coaches.*

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1. Introduction

This chapter begins by describing the background to the agile emergence and what has driven organisations to a greater extent to undergo organisational transformations and become more agile. Furthermore, the identified research gap and problem formulation, which the study aims to answer, are presented. The section then concludes by clarifying the purpose of the study and also what delimitations have been made for the study to be feasible. Finally, an overview of the structure of this thesis sums up this first chapter.

1.1 Problem background

The buzzword *agile* is frequently used in the business environment as of today, a methodology born within software development in the 1990s (Cohen et al., 2004, p. 7). The concept can mean different things depending on whether it applies to the IT/software field, or to transform organisations (Naslund & Kale, 2020, p. 490). In transformations, agile is a concept for the entire organisation, which differs from the view in the IT/software field, where it refers to a method of how to manage projects and development. In general agile is thus an umbrella term for a series of methods and approaches which share certain common characteristics. Some of which is distinguished by the capacity and ability to adapt and lead change, adjust, minimise uncertainty and risks, and to cater to specific customer expectations, as a natural part of the work (Cohen et al., 2004, p. 12). The pillar of agile is stated in The Agile Manifesto, which is the core values of different agile methods (Beck et al., 2001). Even though the different methods are based on similar values, they differ in the practices and implementation of working agile. The manifesto consists of 12 principles set out to guide organisations and inspire them to create and respond to change and how they can handle uncertainty (Beck et al., 2001). The manifesto, unlike the agile methods, is thus not a concrete tool that can be directly applied to individual cases but must be interpreted and tailored for each individual case (Denning, 2018a, pp. 3-4).

The idea of agile methods is that in a fast-changing environment organisations and working teams must be quick and well equipped to be able to adjust dynamically to ever-changing customer needs and business conditions (Cockburn & Highsmith, 2001, p. 133; Joroff et al., 2003, p. 310). In contrast, traditional product development can spend months on researching the need of the customer, months on design, development and when the release finally comes the customer needs has changed to a degree where the product no longer suffices (Cohen et al., 2004, p.4). The customer needs have now changed but the product is still addressing the original need due to a lack of flexibility during the development process. Agile product development is based on the research going to design going to development and finally release, but in much shorter iterative release cycles (Bresciani et al., 2021, p. 170). The iterative way of working allows for continuous improvement and adaptability throughout the development process which traditional waterfall methodology simply cannot keep up with (Cohen et al., 2004, p. 3).

What originated as a method for team processes (Cohen et al., 2004, p. 26), specifically for software development, agile has become a methodology applied to structure whole organisations around today (Dikert et al., 2016, p. 87; De Smet et al., 2018, p. 8). Fast-changing environments have made many companies look to agile methods to better adjust to customer needs (Naslund & Kale, 2020, p. 490). As agile methods are based on

rapid learning cycles for the teams (Brosseau et al., 2019, p. 2) it allows for flexible development changes and decisions within the organisation and down to team levels when autonomy is favoured. Benefits of working agile are alongside higher flexibility; faster movement and cost reduction in development (Cockburn & Highsmith, 2001, p. 131) compared to traditional methods (Cohen et al., 2004) as agile teams move people closer to each other both physically and in process-steps (Cockburn & Highsmith, 2001, p. 131). Working close to all relevant team members eases decision making and development allowing the iterative cycles to run smooth and quick, why organisations would choose to become agile in their entirety.

Agile organisations are developed and adapted to fast-changing environments embracing uncertainty (De Smet et al., 2018, p. 5). Being an agile organisation means increased adaptability and responsiveness while at the same time remaining stable and dynamic (Ackermann et al., 2021, p. 1286; De Smet et al., 2018, p. 6; Joroff et al., 2003; Bresciani et al., 2021, p. 170). This allows organisations to better deal with the fast-changing environment of today compared to traditional organisations. Through rapid development and learning cycles, agile organisations can move quickly to adjust to customer needs, keywords being iteration and innovation (Holbeche, 2018a). Iterative cycles of development allow innovation to thrive and push agile organisations forward in the modern business environment and the main focus is always the customer (Beck et al., 2001). When the entire organisation is agile, compared to separate teams or single divisions working agile, the organisation is flexible in both production and structure. Large corporations in the manufacturing business like Mercedes Benz (Ackermann et al., 2021), LEGO (Sommer, 2019), Motorola and Daimler Chrysler (Lindvall et al., 2004) have switched operations to become and be agile. This to be able to adapt to trends, changing demands and needs of customers. Other agile organisations like Spotify, Nokia (Lindvall et al., 2004) or Ericsson (Paasivaara et al., 2013; Paasivaara et al., 2018) are agile to address similar challenges, but also aiding technological advancements in faster learning cycles and decision making. Some of them are *born agile*, meaning they have always worked with the agile philosophy and methodology. Other of the examples above, have had to change to truly adopt agility.

When looking at practical cases of agile organisations it is of interest to distinguish between born agile organisations (Brosseau et al., 2019, p. 3) and traditional organisations that need to undergo a transformation to become agile (Brosseau et al., 2019, p. 4). Transformations in an agile context mean an act of transforming an organisation's nature to one that is able to embrace and thrive in a flexible, collaborative, self-organising, fast-changing environment, throughout the entire organisation (Bresciani et al., 2021, p. 171). For this to be possible, a change in the organisational culture where attitudes, values, mindsets, ways of thinking, and ways of interacting with the world have to radically shift (Denning, 2018b). It is thus a process that affects the entire company and everyone must understand the values and the significance of an agile transformation, in order to benefit from the rewards of being agile (Wrike, n.d.). The different theoretical steps to become agile is finalised when the entire organisation is included and operates with an agile mindset, considered to be agile maturity (Business Agility Institute, 2021). Organisational change is generally considered complicated and in a study conducted by CEB (now Gartner group) 50 % of initiated change results in clear failure (CEB, 2016, p. 3). Agile transformations are equally considered complicated and challenging (Naslund & Kale, 2020; Dikert et al., 2016; Boehm & Turner, 2005) and it takes time to achieve agile maturity (Business Agility Institute, 2021, p. 12). How that journey of transformation progresses over time is a field of its own and needs more research on practical cases for valid theory to emerge (Dikert et al., 2016, p. 106).

Due to the high complexity of agile transformation processes, agile coaching as a professional group has emerged to aid and assist organisations in their transition (Stray et al., 2021, p. 6816). This is because the practical guidance in the literature is to some extent lacking and only offers a general framework (Dikert et al., 2016, p. 96). Along with many other success factors, coaching has been noted as one of the most important success factor in the literature (Dikert et al., 2016, p. 103; Naslund & Kale, 2020, p. 494; Kalenda et al., 2017, p. 10; Khoza & Marnewick, 2021, p. 170). Conversely, a lack of coaching can result in impaired development of self-managed teams, which is essential for agile methods (Stray et al., 2021, p. 6816). Hiring experienced agile coaches can act as a tool to reduce the challenges in the transition and increase the chances of success (Parizi et al., 2014, p. 250). Through a combination of coaching and mentoring, the primary goal of agile coaches is to help organisations, teams and team of teams function more efficiently (Stray et al., 2021, p. 6817). The role includes both support and training in the various agile methods, removing obstacles and motivating the teams to themselves impel development and change (Stray et al., 2021, p. 6817), more about this in Chapter 2. The role of an agile coach is therefore potentially complex and uncertain whilst the success of an agile transformation might be riding on it.

1.2 Research gap

The growth of agile methods in organisations and projects has resulted in a relatively widespread research interest, which also applies to key success factors and challenges connected to the implementation of the agile philosophy (Zakrzewska et al., 2022, p. 5). The introduction of agile methods have received a lot of academic attention, e.g. Mahanti (2006), whilst agile transformations within organisations have been scarcely researched since the Agile Manifesto (Beck et al., 2001). The main research in the field of agile transformations has thus been carried out in software development and that specific area is therefore accumulated and mature (Dybå & Dingsøyr, 2008; Jalali & Wohlin, 2012; Kaisti et al., 2013). For example, Dybå and Dingsøyr (2008) conducted an empirical review of agile software development where the purpose of the study was to identify the benefits and limitations of, and the strength of evidence for, agile methods. The authors divided the studies into four different categories: introduction and adoption, human and social factors, perceptions of agile methods, and comparative studies (Dybå & Dingsøyr, 2008, p. 840). Within each group, several benefits and limitations of agile development were identified (Dybå & Dingsøyr, 2008, p. 850). Furthermore, Jalali and Wohlin (2012) conducted a systematic review to capture the status of combining agile practices with Global Software Engineering (GSE). During the study, the authors found, among other things, that the perception of exactly what agile practices are and how these should be documented and reported differs significantly among both practitioners and researchers (Jalali & Wohlin, 2012, p. 658). Together, the studies thus show that although the field of research has received greater attention in recent years, there is still a need for further research. The existing research is largely based on industrial experience where the agile practice has been modified to suit the context of the individual cases and the situational requirements (Jalali & Wohlin, 2012, p. 658). There is therefore an increasing need for research that incorporates different factors from different perspectives when agile as a method is to be implemented.

Mahanti (2006) examined four projects and highlighted several critical factors that affect agile methodology. Common challenges in adopting agile methods were: serial thinking, closed mindedness, office politics, black and white mind-set, fear of change, specialised

skills, outdated skills, documentation-heavy mind-set, and do-it-all-at-once attitude (Mahanti, 2006, p. 199). Strategies for successful adoption of agile methods include: obtaining management buy-in, education and support to employees, integrating agile practices to external processes, starting agile pilot projects, reporting and adapting agile project success, and sustenance of agility (Mahanti, 2006, p. 200). The success of an agile adoption is thus directly related to how the new methodologies are introduced to the organisation (Mahanti, 2006, p. 205). The author also stressed, on the basis of input from the industry, that it is suitable for most organisations to adopt a combination of traditional and agile methods as there is no universal agile method that can be applied to all organisations, but they must be tailored to existing processes (Mahanti, 2006, p. 197). As Jalali and Wohlin (2012) also emphasised, Mahanti (2006, p.197) too argued the need to tailor agile adoptions opens up for further research as more knowledge about agile adoptions can act as inspiration and guidance for both projects and organisations.

Another area of interest for researchers is the factors that influence the success and challenges of agile project management (Zakrzewska et al., 2022). Chow & Cao (2008) identified four different factors that are responsible for agile success or failure. These are:

- 1) Organisational - problems connected with an organisation's culture, size, logistics and involvement in management and executive sponsorship;
- 2) People - problems arising from customer relationships, teamwork, resistance, lack of skills or competencies;
- 3) Processes - problems connected with the scope of a project, requirements or planning and other processes related to failure;
- 4) Technical - these factors come into play when an organisation suffers from inadequate technology, tools or set of agile practices.

They also identified a fifth category that only contributes to success, which is the dimensions of a project (Chow & Cao, 2008, p. 964). This includes the nature and type of project, the scheduling, the project team, the cost assessment and the risk analysis (Chow & Cao, 2008, p. 964). In addition to these, a number of other assumed conditions for the success of agile projects that are mentioned in the literature were tested, but which could not be substantiated with empirical evidence (Chow & Cao, 2008, p. 969). This indicates that there are some contradictions in the research area.

Kumar et al. (2019) conducted a literature review with the aim of examining the existing literature on agile manufacturing to specify critical success factors that affect the implementation of agile manufacturing systems. The most common factors they identified were:

- 1) Organisational culture-related issues: such as mastering change and uncertainty, collaborative relationships, responsiveness to external change, competency, flexibility and speed;
- 2) Information technology: such as the use of mobile technologies, mobile information access, adapting advanced technology and research, automation type, IT integration, manufacturing automation, appropriate hardware (tools and equipment), the use of information technologies and the implementation of an intelligent support system;
- 3) Human resource-related issues: multi-skilled and flexible people, teamwork, employee empowerment, leveraging of people and information, cross-functional teams, workforce skill upgrades, continuous training and development, employee

satisfaction, employee involvement, motivation system, team building agility, multi-lingual, manpower utilisation etc.

Linked to the study's limitations, the authors highlight suggestions for further research. As has been mentioned above, the research area needs a more nuanced picture of agile transformations, as each individual case is unique. Kumar et al. (2019) therefore believes that their study should also be supplemented with other studies conducted in other ways as well as in other contexts (Kumar et al., 2019, p. 218). They urge that attention should be directed to step-by-step implementations of critical success factors and challenges and to study how agile manufacturing implementation affects the overall business performance (Kumar et al., 2019, p. 218). Further, other research could refine one of the issues highlighted by the study, or alternatively one of the mentioned factors (Kumar et al., 2019, p. 218).

Similar success factors and challenges can be identified in the literature regarding structural organisational changes, even though the focus has been smaller in this area (Dikert et al., 2016, p. 88). In the literature, however, there are some practical examples from case studies where these types of transformations have been undergone by organisations, such as Sommer (2019), Cloke (2007) and Paasivaara et al. (2018), with the proviso that these examples are not exhaustive. Since the majority of similar studies have only taken place on a small scale, Dikert et al. (2016) wanted to map key success factors and challenges in large-scale transformations based on how agile methods have been adopted on a larger scale within organisations (Dikert et al., 2016, p. 88). As the lack of academic research in the field was major, the study is based 90 % on experience reports from real cases (Dikert et al., 2016, p. 92). In total, the study identified 35 reported challenges, grouped into 9 categories, as well as 29 success factors, grouped into 11 categories (Dikert et al., 2016, p. 104). Furthermore, the study conducted by Naslund and Kale (2020) is partly based on the findings of Dikert et al. (2020), which means that their findings complement each other. Unlike Dikert et al. (2020), Naslund & Kale (2020), however, identified 103 success factors, which were grouped into 13 different categories (Naslund & Kale, 2020, p. 492), which will be discussed in more detail in the theoretical Chapter 2 of this thesis. What is highlighted, however, is that it is difficult to succeed with large organisational agile transformations (Naslund & Kale, 2020, p. 489) and that an important category of success factors is training and coaching, which can prevent the transformation from being carried out incorrectly (Dikert et al., 2016, p. 102; Naslund & Kale, 2020, p. 495). The agile coach is highlighted as an important change leader and educator who can contribute to developing management's leadership and creating motivation and commitment among employees (Dikert et al., 2016, p. 102; Naslund & Kale, 2020, p. 495). These findings create an interesting area of research where the agile coach's accumulated knowledge of agile transformations forms a possible research gap. Dikert et al. (2016, p. 106) elucidates that the research field of today is insufficient and needs more practical examples to establish a deeper understanding of these types of transformations and how they are implemented in a successful way. The fact that the agile coach has practical experience from a number of different transformations makes a study based on their experiences even more interesting to investigate. This in order to broaden the knowledge about the success factors and challenges of agile transformations.

The studies conducted by Chow and Cao (2008), Dikert et al. (2016) and Naslund and Kale (2020) are quantitative studies based on success factors and challenges for agile transformations in general. However, it is worth mentioning that these studies did not focus directly on the transformation process, but rather highlighted specific aspects. These success factors and challenges were observed in isolation, rather than along the whole transformation

process. Russo (2021) since then, conducted a mixed-method study in which he examined a large-scale agile transformation process at a notable Italian organisation. The intended contribution of the study was to create a better understanding of individual actors in large-scale agile projects and to create the conditions for generalising the results to a larger population, using the 'Agile Success Model' (Russo, 2021, p. 52:34). As the Agile Success Model only assists with a general theory that describes the relationship between the main stakeholders involved in agile transformation projects, more knowledge is needed to better understand the internal dynamics of the different stakeholders (Russo, 2021, p. 52:35). Some examples that are illuminated are agile team dynamics and management motivation, but they leave further research open for suggestion (Russo, 2021, p. 52:35).

As the above studies prove, the research area for agile transformations is relatively broad. At the same time, the researchers agree that there is still a need for further research from other perspectives, such as from different stakeholders or specific critical success factors or challenges, that further broadens knowledge in the field. This is because many above-mentioned studies are quantitative based on specific organisations and case studies, which makes it difficult to generalise the results. As Jalali and Wohlin (2012) argues, the majority of research is based on industrial cases modified for their specific needs, which leaves the gap for research from different perspectives imminent. Meaning, by conducting a qualitative study, the current knowledge and understanding of critical success factors and challenges for agile transformations can be deepened. All agile transformations are unique arguably and must be tailored to the specific cases, which further calls for more research to nuance the existing picture of knowledge (Kumar et al., 2019). One suggestion is to refine one of the issues or mentioned factors highlighted by the study conducted by Kumar et al. (2019, p. 218). Recurring is the need for training and coaching for successful transformations, where the role of agile coaches is emphasised as important (Dikert et al., 2016, p. 104; Naslund & Kale, 2020, p. 495). Following said need, the role of agile coaches has emerged and generated a new consulting sphere which in turn opened up an additional field of research. Notwithstanding testified need, the research on agile coaches is lagging and especially looking at success factors and challenges for organisational transformation as something the coaches would address. Together this allows for further interpretive studies on the agile coaches role during organisations' agile transformations.

1.3 Research purpose

Previous research has asked for and encouraged more perspectives and further understanding in order to validate and develop theories further. The purpose of this study is therefore to explore the agile transformation process from the perspective of agile coaches. This is of interest because they have accumulated knowledge of the process and critical success factors and challenges linked to several agile transformations. The study is based on seven semi-structured interviews of agile coaches from one Swedish consulting firm, working there at the time of the interviews or did, not too long ago before the interview was conducted. The consulting company is particularly focused on agile frameworks and thus only offers consultants with agile skills. By interviewing agile coaches, further understanding of how these transformation processes occur will provide a foundation and inspiration for future research on this underexplored area of agile.

1.4 Research question

Given the identified need for further research, the following research questions were developed to address the research gap and the overall purpose of this research:

- 1) *What challenges and critical success factors do agile coaches identify for a successful transformation process?*
- 2) *How do agile coaches aid and assist organisations during an agile transformation process?*

1.5 Contributions

The ambition for theoretical contribution of this study is to broaden the field of agile transformations. As much previous research has focused on individual organisations or case studies, the literature is largely one-sided and difficult to apply to other contexts and situations. As agile coaches often work in consulting assignments at several different companies, they can be assumed to have a broad and nuanced knowledge of agile transformations. By taking their perspective, this study can thus combine experiences from several different cases and organisations and thereby contribute to broadening the field of research.

On a managerial level, this thesis offers insights for developing important preparations and actions during an agile transformation. It can also contribute with an accumulated agile coach perspective of what is considered to be the key success factors and challenges for an agile transformation. Getting external input from independent actors, such as the agile coaches participating in this study in relation to anonymous organisations, can contribute with new insights for management that in certain situations can improve agile transformations to be successful. Our hope is therefore that this thesis can be used as inspiration for management and thus contribute to fewer transformation processes failing; both through personal insights and encouragement to use external coaches in the process.

Our ambition is that this thesis serve as an inspiration for other agile coaches and practitioners as well. By accumulating experiences and knowledge from several agile coaches, this thesis can guide in what to strive for and what to avoid and where coaches focus should, or potentially could, lie. As the field grows, so too will the aggregated knowledge in which this thesis hopes to contribute.

As to societal benefit it is possible to see the contribution of this study as a piece in a puzzle to ensure stable transformations and encouragement for organisations to undergo transformations of their own, accustomed to their needs and resources. By increasing the number of flexible and stable organisations with customer-centric mindsets it could be argued the business environment becomes malleable enough to adjust to any and all future crises and challenges, which today is a prerequisite for survival. Stable and flexible businesses operating in an ever changing environment might enhance the possibility for future prosperity and societal economic growth.

1.6 Delimitations

To prevent misunderstandings, this paragraph aims to delineate the scope of our study, which has three main delimitations. The first delimitation concerns the definition of agile

transformations within organisations, where several transformations and methods are seen as acceptable. In this thesis, the agile transformation process is addressed in terms of a strategic restructuring of companies' organisational structure. This includes all parts of companies such as processes, people, strategies, structure, and technology. Hence, the study does not concern agile as a method in project management, digital transformation processes nor agile transformation processes in the public sector.

Second, our sample exclusively contains seven agile coaches from a Swedish consulting firm. In our screening, we look for companies that offer agile consultation and coaching completely or partially focused on transformations. General change management or transformation consultants and agile coaches who have not been involved in transformation process work, will be excluded.

Finally, this thesis only examines agile transformation processes with associated challenges and success factors from experienced agile coach perspectives. Other stakeholders' perceptions of these will thus not be taken into account and require more research to become valid.

2. Theory

When advancing into theory and in order to understand agile transformations, one needs to understand agile fundamentals and how to operate when being agile. Usually agility includes both projects and teams, but these areas are not addressed in the following chapter. Here, instead, the focus is on the organisation as a whole and to provide an understanding of what agile methods might entail on a larger scale. After creating an understanding of agile methods, the theory continues into the particulars of the transformation process. This presentation in turn led to the presentation of previously identified success factors and challenges with agile transformations; going from traditional operations to being agile.

2.1 Agile

2.1.1 Agile methods

Agile methods are based on values and principles defined in the Agile Manifesto (Beck et al, 2001) and composed of agile practices (Campanelli & Parreiras, 2015, p. 86). Compared to traditional operations methods, agile methods have been developed to be able to handle unstable requirements, delivering products in short time frames, on tight budget, with high quality and customer satisfaction, which also are the main characteristics of it (Campanelli & Parreiras, 2015, p. 86). Agile working is about bringing people, processes, connectivity and technology, time and place together to find the most appropriate and effective way of working to carry out a particular task (Campanelli & Parreiras, 2015, p. 86). It is working with guidelines for the task, but without boundaries of how to achieve it. The goal is to break free from the traditional hierarchical organisational structure and empower employees to encourage innovation and productivity (Campanelli & Parreiras, 2015, p. 86). To achieve all this, agile teams generally work in so-called loops, instead of linear processes (Campanelli & Parreiras, 2015, p. 86). Meaning, teams derive concepts from customer needs and develop prototypes (Campanelli & Parreiras, 2015, p. 86). These are then tested to ensure that it satisfies the user's real needs (Campanelli & Parreiras, 2015, p. 86). The result is the basis for the next loop where prototypes are refined until they meet the defined requirements (Campanelli & Parreiras, 2015, p. 86). This way of working thus means a more efficient and flexible way of working compared to the traditional one.

When considering agile methods there are several to choose from and which is suitable to use depends on the context. The most accepted ones are: Extreme Programming (XP), Scrum, Kanban, Lean, Feature-Driven Development (FDD), Dynamic Systems Development Method (DSDM), Adaptive Software Development (ASD), Crystal, and Scaled Agile Framework (SAFe) (Marinho et al., 2021, p. 109673). Most of these are specifically born for software development and therefore of little interest to this study. The purpose of this study is to explore agile transformations from the perspective of agile coaches, not to investigate how to work agile within the different methods and frameworks. To understand what an agile transformation, together with the agile philosophy, means, however, it is important to also understand what the agile way of working implies. For the reader's understanding, the following paragraphs therefore briefly describes the four methods and frameworks that exist in versatile organisations on their way to becoming agile. The more specific software development methods are excluded from the presentation as it does not contribute to a further understanding of the meaning of the working methods.

Scrum is a lightweight process framework for developing and sustaining complex products through iterative and incremental approaches using cross-functional teams (Schwaber & Sutherland, 2020, p. 3). It is thus not a process nor technology for building products, but rather a framework within which you can use different processes and techniques (Schwaber & Sutherland, 2020, p. 3). Scrum uses sprints where smaller partial deliveries to the customers take place at intervals, usually within 2-4 weeks (Schwaber & Sutherland, 2020, p. 5). The work is based on a small, non-hierarchical team, the so-called Scrum team, which consists of one Scrum Master, one Product Owner and Developers (Schwaber & Sutherland, 2020, p. 5). The key is to focus on one objective at a time and to deliver what was agreed during each sprint. This method is commonly used within project management.

Originally from the Japanese car manufacturer Toyota (Toyota Production System), *lean* is another method that fundamentally is about reducing costs by eliminating waste and making full use of employees' capabilities (Sugimori et al., 1977, p. 554). This means that only the most necessary resources that create value for the company's customers should remain in the system's processes, the rest must be eliminated (Sugimori et al., 1977, p. 554). In the context of software development, this means delivering only the features that customers need or request (Campanelli & Parreiras, 2015, p. 87) and in manufacturing to use minimally amount of equipment, materials, components and personnel (working hours) (Sugimori et al., 1977, p. 554). Additional features or solutions thus does not necessarily mean higher customer satisfaction and should therefore be avoided. Consequently, one of the most important principles in lean is thus to identify waste (Campanelli & Parreiras, 2015, p. 87). Within lean thinking one talk about three different waste-related elements that according to Ikonen et al. (2010, p. 376) can be summarised as follows:

- 1) *Muda*: Non-value-adding activities
- 2) *Mura*: variations (in process quality, cost delivery etc.)
- 3) *Muri*: unreasonableness (overburden)

These wastes can be difficult to identify in some operations, while in others, e.g manufacturing operations, it can be much more straightforward, as it is easier to measure the amount of resources that the business requires (Ikonen et al., 2010, p. 376). In software development, such elements can thus be interpreted as: partially done work (inventory); extra processes; extra features (overproduction); task switching, waiting, motion; and defects (Ikonen et al., 2010, p. 377). The goal for all members of an organisation that works according to lean principles is thus to continuously find ways to improve the business's processes and to make organisations more efficient and reduce costs.

Kanban is based on lean principles and is an methodology that is adaptable, visual, waste minimisation and cost-focused (Campanelli & Parreiras, 2015, p. 87). Kanban is a simple, visual means of managing projects or tasks that enables teams to see the progress so far and what is coming up next, through so called kanban boards. The kanban board shows which work is currently in progress, which has been completed and which has not yet begun and remains to be completed (Ikonen et al., 2010, p. 376). Kanban can thus simply be explained as a flow chart where the upstream processing activities are triggered by the demand signals of the downstream processes (Ikonen et al., 2010, p. 377). In general, it can be said that kanban has three rules: visualise the workflow, limit work in progress at each workflow state, and measure lead time (e.g., the average time to complete a job or an item) (Ikonen et al., 2010, p. 377). The advantages that can be identified with kanban are that the amount of work in progress can be limited and that production flows can be more easily balanced (Campanelli & Parreiras, 2015, p. 87; Ikonen et al., 2010, p. 377).

SAFe is not a method per se, but it is a set of workflow and organisational patterns for implementing agile and lean practices at an enterprise scale, which thus includes all organisational levels (Marinho et al., 2021, p. 109673; Khoza & Marnewick, 2021, p. 167). It is a framework that has gained increasing attention among agile practitioners and coaches as it is developed and suitable to be applied on a large scale (Khoza & Marnewick, 2021, p. 166). Its based on four core values - alignment, built-in quality, transparency, and program execution - that combines the principles of several different agile methodologies, such as lean, kanban, scrum and XP, and contains structured information and advice regarding roles, responsibilities, values and how work can be planned and carried out (Marinho et al., 2021, p. 109673). The SAFe framework is structured, according to Marinho et al. (2021, p. 109673), in three layers:

- 1) *Portfolio*: This is responsible for the funding and the strategic analysis of the diverse initiatives present in the enterprise
- 2) *Large Solution*: It describes the roles, practices, and guidance for enterprises that build large and complex solutions, like critical systems
- 3) *Essential*: this combines the past layers (program and team). It provides a starting point for SAFe implementation and contains the practices, roles, events, and artefacts necessary to deliver business solutions through Agile Release Trains (ART) that is a team of agile teams

As previously mentioned, SAFe is a combination of several agile methods and principles, which means an advantage that the applied methods can be adapted and thus allows strategic adaptation to the implementation of specific projects, in a way that supports fast and frequent deliveries of a product (Marinho et al., 2021, p. 109688), and shorter time to market (Khoza & Marnewick, 2021, p. 166). Challenges in large global organisations, such as applying, orchestrating and tailoring the agile methods to the organisation's own needs, can be mitigated by an implementation of SAFe as it can act as corporate governance and strategically support by offering governance concepts (Marinho et al., 2021, p. 109688) and investment funding (Khoza & Marnewick, 2021, p. 166).

2.1.2 Agile Organisations

Flexibility is nowadays considered to be a competitive advantage (Bresciani et al., 2021, p. 168; Glenn, 2009; Power et al., 2001, p. 247) and at the same time agility is turning into nothing short of a necessity for organisations to compete in a modern business environment. Industries with higher information- and change intensity will push organisations towards agile methods faster than slow-moving industries (Power et al., 2001, 262; De Smet et al., 2018, p. 3). The agile organisation possesses the ability to change and adjust to the surrounding environment, to do it promptly and with accelerated innovation speed for customer satisfaction (Holbeche, 2018b, pp. 11-13).

The characteristics of an agile organisation can be difficult to define. The idea of agility is continuous adaptation and evolution, making an organisation's aspiration for an agile fixed state contradictory (Holbeche, 2018a, p. 303). However, to provide some guidance for thought and future reference, here follows a definition by Holbeche (2018b, p. 11) which states that “an agile organisation is one that can intelligently and proactively seize opportunities and react to threats and make timely, effective, sustainable changes that generate competitive advantage and give them some leverage in the marketplace or in their ecosystem”.

In addition to speed and flexibility there exists two major focuses within agile organisations that stand out as something extraordinary; customer centralisation and people orientation. This focus acknowledges the immediate feedback of customers and the importance of people within the network of the organisation, such as employees, suppliers and other stakeholders (Power et al., 2001, p. 262). This focus distinguishes agile organisational construction from traditional hierarchical organisations stuck in silos. The customer-centric approach calls for rapid delivery and continuous improvement of the product for instant value and in regards to fast feedback (Denning, 2018a, p. 5; De Smet et al., 2018, p. 12). From these two focuses, the teams and iterative release cycles derive; fast value creation requires close working relationships, and for those to work, there needs to be a great understanding among the people operating within the network of teams, team of teams (Beck et al., 2001). With a focus on people and dynamics, an agile organisation is built around teams and creating networks allowing for fast decision making (Beck et al., 2001; Denning, 2018a, p. 5; Bresciani et al., 2021, p. 171; Appelbaum et al., 2017). Being able to make fast decisions and build fully capable teams are crucial for effective development in the agile organisation.

As development and improvement is continuous, learning cycles and feedback loops need to have a central part within the agile organisation (Joroff et al., 2003; Brosseau et al., 2019, p. 2; Holbeche, 2018a). Systems set up to feed knowledge back to the teams in real time whilst the wheels of production keep turning makes for incremental change in the organisations as it is continuously and constantly improving (Joroff et al., 2003, pp. 294-295). These functions of iterative learning and leverage of insights and knowledge throughout the organisations allows all units to improve and helps the organisation avoid making the same mistake twice (Holbeche, 2018a, p. 306). As the business environment evolves, the agile organisations are capable of evolving with it.

Characteristics of an agile organisation such as rapid learning cycles, customer centralisation and people-orientation are hard to measure but crucial to look at. In this study, an *agile organisation* refers to one and all organisations who operate with high speed and flexibility built around tribe structure and networks of teams, team of teams, within the organisation. The primary focus being the customer and iterative learning cycles throughout the organisation as a whole, and not just some of the teams (Holbeche, 2018a; Bresciani et al., 2021; Appelbauhm et al., 2017).

2.1.3 Criticism of agile

Although agile as a philosophy is increasingly adopted in organisations today, there is some criticism of the concept in the literature which is important to highlight to give a more nuanced picture of the method. According to Dybå and Dingsøy (2008, p. 836) there is little scientific support for many of the claims made by the agile community. Furthermore, Mahanti (2006) discusses the difficulties that can arise with working agile, which usually requires close cooperation and physical presence to be successful, as it has become increasingly common to outsource all or part of one's business. Globalisation has made it possible for outsourcing to also take place in other countries, so-called offshore, which further complicates the working method (Mahanti, 2006, p. 204). Despite more digital tools that enable video calls that are largely similar to physical meetings, many believe that video calls cannot completely replace the dynamics that can be created physically, which also reduces the agility's usefulness in today's modern organisational structures (Mahanti, 2006, p. 204).

There are also several researchers who believe that agile is best suited for smaller teams or projects, for which it was originally developed, and that it is therefore more problematic to implement on a large scale (Mahanti, 2006, p. 205; Dybå & Dingsøy, 2008, p. 836). However, researchers disagree with this statement as there are several who believe that agile can certainly be successfully implemented in larger groups and organisations (Livermore, 2008, p. 35; Dikert et al., 2016, p. 87; De Smet et al., 2018, p. 8). One thing they agree on, however, is that an agile transformation in a large organisation is undeniably more complex to implement than a smaller implementation in individual teams or small projects (Livermore, 2008, p. 35; Russo, 2021, p. 52: 3). The complex implementation can be explained, among other things, by the fact that organisations' culture and routines are deeply rooted in people's minds, and thus also in the organisation's DNA, which means that it takes time to change (Russo, 2021, p. 52: 3). The more people involved, the longer the process becomes (Livermore, 2008, p. 35).

Furthermore, Misra et al. (2010) stated that culture is the factor that is most difficult and takes the longest time to change in an organisation (Misra et al., 2010, p. 456), which suggests that a large established organisation faces greater challenges in its agile implementation than smaller firms and that this process also risks to a greater extent to fail (Livermore, 2008, p. 35; Russo, 2021, p. 52: 3). Working in large organisations, managing many different stakeholders, and coordinating several different teams is undoubtedly a major challenge where agile methods contain few clear answers or instructions (Russo, 2021, p. 52:3). As Russo (2021, p. 52:3) states: “[...] *the Agile Manifesto does not reference how to interact with other teams; it focuses only on the team’s practices.*” The quote highlights the complexity of the agile implementation as the organisations themselves must interpret the philosophy and over time let it mature together with the corporate culture.

2.2 Agile transformation process

The term agile transformation refers to, as mentioned above, an organisation's transition from a traditional way of working, to a more agile and flexible way. An agile transformation needs much effort and touches every facet of the organisation, including people, process, strategy, structure, and technology (Brosseau et al., 2019, s. 2; Gandomani & Nafchi, 2015, p. 204). In this process, it is necessary for several stakeholders, such as practitioners, top and middle management, and customers, to collaborate and be involved (Gandomani & Nafchi, 2015, p. 204). According to Brosseau et al. (2019, s. 3), the transformation process can be implemented in three different ways:

- 1) *All-in* is a relatively divisive approach that encompasses the entire organisation and occurs sequentially that can be likened to waves..
- 2) *Step-wise* is a more discreet and systematic method compared to all-in, which is largely about conducting pilot rounds and then iterating the transformation plan before the transformation is fully implemented to the organisation.
- 3) *Emergent* represents a bottom-up approach where the initiative comes and grows from the employees.

Big-bang is another approach where the agile transformation is carried out all at once throughout the organisation (Smart, 2018, p. 58). This is the most complex method and the risk of failure is imminent (Smart, 2018, p. 58). For a change process to be successful the change needs to grow organically from within, “copy and paste” does not work (Denning,

2018c, p. 5; Dickert et al., 2016, p. 104). If top management tries to force people to adopt agile processes, the risk of internal resistance will increase significantly, with failure as a result (CEB, 2021, p. 3). The same is if the transformation is implemented too abruptly and people do not have time to adapt to the new culture and working methods gradually (Denning, 2018c, p. 5).

In the literature, there is little evidence to suggest that there is just one single model that fits all for an agile transformation process (Gandomani & Nafchi, 2015, p. 204). The same applies to a standardised and well-known model or framework that has gained sufficient acceptance in real environments, which can be substantiated by the increasing number of studies that have been published recently on challenges and implementations problems with agile transformation processes (Appelbaum et al., 2017; Boehm & Turner, 2005; Conboy & Carrol, 2019; Denning, 2016; Denning, 2019; Dikert et al., 2016; Gandomani & Nafchi, 2015; Kalenda et al., 2017; Khoza & Marnewick, 2021; Livermore, 2008; Mahanti, 2006; Pawel, 2017; Smart, 2018; Zakrzewska et al., 2022). This means that how a transformation process is carried out in practice can vary greatly between different cases. However, the general steps that have been identified in the literature will consequently be discussed more below.

Parizi et al. (2014) describes in their study three general steps in an agile transformation. These are: the *preparation phase*, the *adoption phase* and the *adjustment phase* (Parizi et al., 2014, p. 248). The preparation phase is the initiating phase in the transformation process where the company provides the transition conditions and gets ready to begin the transformation (Parizi et al., 2014, pp. 248). Activities that are included are, among other things, to define transition and business goals as well as success criteria, learn the agile principles, carry out a risk analysis and finally write the transformation plan itself (Parizi et al., 2014, pp. 248). Another important aspect included here is to design your "why" and what the ultimate goal of the transformation is (Smart, 2018, p. 57). The adoption phase is the phase in which the transformation itself is practically carried out (Parizi et al., 2014, pp. 248). Here, the organisation's management and employees become familiar with the agile philosophy and start to normalise the working methods (Parizi et al., 2014, pp. 248, Smart, 2018, p. 59). In the final adjustment phase, the final fine-tunings are made to ensure that the new working methods fit the organisation's structure and processes (Parizi et al., 2014, p. 248). This phase is a continuous work that will never be fully completed (Parizi et al., 2014, pp. 248; Smart, 2018, p. 58).

According to Denning (2018c), there are ten stages of the agile journey, see figure 1. These stages give a good picture of what an agile transformation would entail and how long it will take (Denning, 2018c, p. 9). Coupled with the three general steps above (Parizi et al., 2014, pp. 248), Denning's (2018c) first four steps - start by taking stock, learning from peer practitioners, forming the team to lead the transformation and proving the concept of agile - can be considered parts of the first, preparation phase. Before the journey towards an agile organisation begins, the top management needs to absorb some of the literature and knowledge on the subject and consider whether the organisation's own management is ready for the challenges that a transition may imply (Denning, 2018c, p. 4). A good way to do this is to visit and learn from peer practitioners, as it can highlight key practices worth emulating and pitfalls to avoid (Denning, 2018c, p. 5). After these steps, the teams that will lead the transformation can then be formed. These people may act as important ambassadors who spread the agile vision to the rest of the organisation (Denning, 2018c, p. 6). If one, or several, small teams can demonstrate their success for the remaining functions, their energy

and enthusiasm can be spread elsewhere in the organisation (Denning, 2018c, p. 6). This visionary image can motivate the remaining teams, which consolidates the agile mindset of the organisation (Denning, 2018c, p. 6).

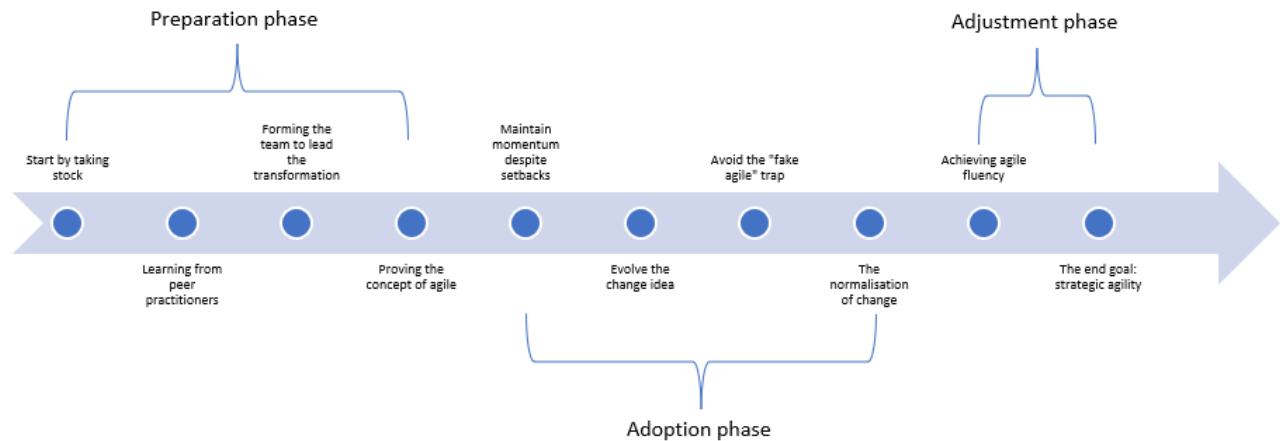


Figure 1. Schematic image of the ten stages of the agile journey (information obtained from: Denning, 2018c).

In the second phase, the adoption phase, Denning's fifth through eighth steps can be included (Parizi et al., 2014, p. 248; Denning 2018c, p. 7). These are: maintaining momentum despite setbacks, evolving the change idea, avoiding the “fake agile” trap and the normalisation of change (Denning, 2018c, p. 7). As an agile transformation is not a linear process, challenges and setbacks will arise. When this happens, the management must ensure that momentum is maintained and that the motivation for the change does not fail (Denning, 2018c, p. 7; Smart, 2018, p. 59). This also means that the idea of agile will continue to evolve as it adapts to the organisation different functions, teams and departments (Denning, 2018c, p. 7; Smart, 2018, p. 59). Denning (2018c, p. 7) exemplifies by:

“The process is not a matter of crafting a plan and then rolling it out across the organization. It's not a mechanical eight-step program. It requires continuously adapting the idea to the circumstances of the organization. As the organization and everyone in it adapts the Agile approach to their own context, each individual needs to own it.”

This organic transformation thus ensures that the agile way of working is tailored to the organisation's conditions and needs and consolidates the philosophy in the employees' consciousness (Denning, 2018c, p. 7). In this way, the company can avoid the "fake agile" trap, which means that the methods are only implemented as yet another tool among many others, and not as the philosophy it was originally intended to be (Denning, 2018c, p. 7). Once agile teams are established as the normal way of performing work in the organisation, the goals in all back-office functions, such as budgeting, accounting, marketing and auditing, must also be in line with the agile philosophy. Only then, the agile concept has been normalised (Denning, 2018c, p. 7).

When it has finally been normalised, the organisation can be considered to enter the third phase, the adjustment phase (Parizi et al., 2014, p. 248; Denning, 2018c, p. 7). As

organisations become more adept at adapting agile to their own needs and circumstances, the agile mindset will increasingly become more fluid and become fully internalised (Denning, 2018c, p. 8). This means that the principles and practices become second nature to everyone who works within the organisation (Denning, 2018c, p. 8). The end goal of the agile transformation journey is to achieve strategic agility (Denning, 2018c, p. 8). Once there, companies can hopefully create good conditions for innovative excellence and achieve great competitive advantages. As the market today is often very fast and changing, it is not enough to be operationally skilled, the organisations must also focus on the strategic horizon to ensure its survival and in the long run acquire competitive advantages and market shares (Denning, 2018c, p. 8).

Brousseau et al. (2019, pp. 4-5) complement Denning's (2018c) ten-step journey by highlighting the importance of designing a blueprint that serves as a map in the transformation. It should contain and stem from a clear vision and design of how the new operating model may work. The blueprint should also identify changes related to people, process and technology elements in the business model. This should provide sufficient guidance for the organisation to be able to test the design (Brousseau et al., 2019, pp. 4-5).

Because each agile transformation must be attune to each specific case, the transformations differ in several aspects. Harraf et al. (2015) present a framework that is grounded on ten pillars: a culture of innovation, empowerment, tolerance or ambiguity, vision, change management, organisational communication, market analysis and response, operations management, structural fluidity and a learning organisation. How the organisation uses the measures for each attribute should thus be tailored concerning the organisation's own needs and conditions (Harraf et al., 2015, p. 684). Although the application itself may vary, an understanding of the extent to which an organisation adheres to the pillars can enable managers to lead their businesses successfully. Depending on what the organisation looks like, different emphasis may need to be placed on different pillars, to achieve an agile organisation (Harraf et al., 2015, p. 684).

2.2.1 Transformational success factors

There are several studies that report critical success factors for agile transformations within organisations (Dikert et al., 2016; Naslund & Kale, 2020; Kalenda et al., 2017; Khoza & Marnewick, 2021; Russo, 2021). The success factors that have been identified by previous literature differ to some extent between the various articles, due to how the respective authors have chosen to categorise them. The categorisation of the success factors in the literature aims to group the identified factors which discuss the same topic or where the meaning is largely similar to each other. This has created a simpler overview of the factors and also the meaning of each. Note, the categories themselves are not individual success factors, but a merger of several. All success factor categories are presented in Table 1, and thereafter the respective success factors follows. The success factor categories that include similar success factors have, however, in this study been merged, see Table 1, explaining some duplicate designations. To further illuminate, the following categories are presented in no particular order, however, the first six categories in the table are the ones that are most frequently mentioned in the previous literature. The remaining categories, despite their lower frequency of mentions, are considered to have a value for the research area, which further justify including these in the framework as well. All mentioned categories with associated success factors will consequently be discussed in the following paragraphs. For a compiled full list

from all relevant sources of the categories and respective success factors identified within each category, see Appendix 5.

Table 1. Success factor categories

Success factor categories - collected from: Dikert et al., 2016; Naslund & Kale, 2020; Kalenda et al., 2017; Khoza & Marnewick, 2021; Livermore, 2008; Russo, 2021

Management
 Choosing and customising the agile model/approach
 Training and coaching/employees
 Change leaders
 Mindset and alignment/culture
 Piloting
 Communication, transparency and collaboration
 Teams
 Operational processes
 Role definition and deployment
 Incentives and measures
 Organisational structure
 Transformation planning
 Tools

Management is by far the most mentioned success factor category in the literature (Dikert et al., 2016, p. 99; Naslund & Kale, 2020, p. 494; Kalenda et al., 2017, p. 17; Khoza & Marnewick, 2021, p. 177; Russo, 2021, p. 52:28; Livermore, 2008, p. 34). The category contains many different success factors but the one that is emphasised as the most mentioned is management buy-in and support (Dikert et al., 2016, p. 99; Naslund & Kale, 2020, p. 494; Kalenda et al., 2017, p. 17; Khoza & Marnewick, 2021, p. 177). This includes the managements' understanding and own training in agile practices to be able to assist with the right support and resources for the employees, and to remove obstacles when they arise (Dikert et al., 2016, p. 99; Naslund & Kale, 2020, p. 494; Khoza & Marnewick, 2021, p. 177). By training the management in agile, the chances are greater that the implementation of the new way of working is carried out in the right way, which is highlighted as another important factor (Dikert et al., 2016, p. 99). If management fully understands the agile mindset, they can hold on to the agile methods and frameworks if employees begin to doubt or question its usefulness, which makes it easier for the change management to be established in the organisation (Dikert et al., 2016, p. 99; Khoza & Marnewick, 2021, p. 177). It is also important that the management is active and involved in the agile transformation as it can help the implementation to be consistently adopted throughout the organisation and that necessary resources are made available, which further may help management's own learning (Kalenda et al., 2017, p. 17). Dikert et al. (2016, p. 99) along with Kalenda et al. (2017, p. 17) further put emphasis on management visualising their commitment as an important factor. If management makes their commitment visible, the employees themselves can be motivated and encouraged to adopt the new way of working. The important factor of transparent communication is also highlighted as a motivation boost through information about the process and encouragement to actively participate in the design of the transformation (Naslund & Kale, 2020, p. 494). Meaning managers may need to change their leadership style from a commanding to a more serving leadership where employees are empowered (Naslund

& Kale, 2020, p. 494), giving them the opportunity to develop their own work and grow together with the new working methods (Kalenda et al., 2017, p. 17).

Choosing and customising the agile model/approach is the second stressed success factor category in the literature (Dikert et al., 2016, p. 101; Naslund & Kale, 2020, p. 495). As each organisation will have its own challenges in implementing agile, the approach should be customised and adapted to the business model and also the different departments and teams within the organisation. The factor that appears as most mentioned is to map the old way of working along with seeing the agile transition as an evolutionary process, where the processes and tools over time adapt to the organisation's unique conditions, the management and the different teams (Dikert et al., 2016, p. 101; Naslund & Kale, 2020, p. 495). This thus makes it a continuous process where fine adjustments are recommended to be made regularly (Dikert et al., 2016, p. 101). Especially in large organisations, it can be difficult to apply the same process to all projects, which further confirms the thesis that it can be beneficial for the philosophy to grow gradually and be adapted to the individual units within the organisation (Dikert et al., 2016, p. 101). Another success factor is involving the organisation as a whole in the transformation (Dikert et al., 2016, p. 101; Naslund & Kale, 2020, p. 497). Better results have been reported in cases where teams have been highly involved in designing their own practices according to their own specific needs (Dikert et al., 2016, p. 101), which refers to team autonomy (Naslund & Kale, 2020, p. 497). Team autonomy creates a greater commitment and motivation as the teams themselves understand the purpose and usefulness of the methods and have the opportunity to adapt it to their own working needs (Dikert et al., 2016, p. 101). It can thus encourage innovation and development as employees are challenged to think in new ways (Dikert et al., 2016, p. 101). The fact that the different teams within the organisation must be able to tailor their own processes does not mean that the organisation should choose several different strategies. On the contrary, a final success factor within this category is that one overall strategy for the organisation needs to be established to ensure that everyone speaks the same language, to facilitate comparison between different teams, make simpler relocation of employees and minimise the risk of confusion among stakeholders (Dikert et al., 2016, p. 101).

Instead of presenting a manual on how to work agile, agile methods rather emphasise a mindset (Dikert et al., 2016, p. 102). As agile is difficult to explain in theory, the agile approach is therefore best learned by doing, making the third success factor category *training and coaching* (named 'employees' in Naslund & Kale, 2020) crucial. This can prevent damage from occurring and the techniques being implemented incorrectly (Dikert et al., 2016, p. 102; Naslund & Kale, 2020, p. 495; Khoza & Marnewick, 2021, p. 177; Livermore, 2008, p. 34). According to Dikert et al. (2016, p. 102) education in agile as a concept and training for the employees are the most mentioned success factors within this category. These are closely followed by the employee's buy-in, which is largely created through education, and seeing learning as a continuous process, contributing to maintaining motivation over time (Dikert et al., 2016, p. 102; Naslund & Kale, 2020, p. 495; Khoza & Marnewick, 2021, p. 177). As agile is a customer-focused approach, continuous learning can ensure that the organisation is constantly improved to meet customer needs, with major competitive advantages as a result (Naslund & Kale, 2020, p. 495). Naslund & Kale further highlight the development of different skills such as social, analytical and presentation skills as equally important to be able to assimilate the new agile methods (Naslund & Kale, 2020, p. 495).

In addition to learning, both internal and external coaching may be needed, where external experts may need to be brought in to supplement the organisation's own knowledge gaps in

the area, making it an important success factor (Naslund & Kale, 2020, p. 493; Dikert et al., 2016, p. 102; Russo, 2021, p. 52:28). External coaches can contribute with a more objective view of the organisation and challenge old ways of thinking (Dikert et al., 2016, p. 102). Internal coaches, contrary, may be more accessible and have better knowledge about specific details about the organisation, which the external coach may lack (Dikert et al., 2016, p. 102). This creates a complementary relationship in a transformation ensuring, among other things, that a clear vision is created and problems are identified and solved through support of both management and employees (Dikert et al., 2016, p. 102).

Change leaders are another important success factor emphasised, which refers to individuals or groups within the organisation who have a positive attitude towards and previous experience of agile methods (Naslund & Kale, 2020, p. 495). As an example, both internal and external coaches can act as change leaders in the agile transformation process as they promote the frameworks and are often driving in the transition (Dikert et al., 2016, p. 102). Having these established and experienced change leaders showing the way for the less experienced practitioners can increase the motivation and the chance of success in the change process, which further explains their importance in the transformation (Naslund & Kale, 2020, p. 495). This is because it both creates a positive atmosphere, but also important support where problems or questions that may arise can be solved and answered by these leaders (Kalenda et al., 2017, p. 17). In addition to agile coaches, other ambassadors within the organisation can also act as change leaders in the agile transformation (Dikert et al., 2016, p. 102).

Another success factor category in the literature is *mindset and alignment* (Dikert et al., 2016, p. 103), referred to as company culture in Kalenda et al. (2017, p. 17) and Naslund & Kale, (2020, p. 497). The category deals with success factors that primarily emphasise the importance of adapting the organisational culture by implementing the agile mindset. This category is highlighted as important because an acceptance of the agile values can increase the understanding of why the transformation is carried out, reducing resistance to change and thus creating motivation for the transition (Dikert et al., 2016, p. 103; Kalenda et al., 2017, p. 17; Khoza & Marnewick, 2021, p. 177). The factor of changing the organisational culture is therefore argued as crucial (Kalenda et al., 2017, p. 17) together with the adaptation of a more agile way of thinking (Naslund & Kale, 2020, p. 497). In Dikert et al. (2016, p. 497), this is referred to as consolidating the agile philosophy into the DNA of the organisation. Some success factors that are highlighted to accomplish this are to concentrate on the agile values, arrange agile events, talk about and align agile throughout the organisation, and create a feeling of togetherness (Dikert et al., 2016, p. 103). As it is important for everyone to use the same language and that the organisation as a whole can feel that they are doing the transformation together, presenting success stories and celebrating each other's prosperities is thus another success factor (Dikert et al., 2016, p. 103). This is, among other things, to increase the willingness to develop the agile way of working within the different teams (Dikert et al., 2016, p. 103).

The success factor category *piloting* is further stressed as important according to Dikert et al. (2016, p. 102) along with Kalenda et al. (2017, p. 16), even though there are other studies who claim the opposite (i.e. Russo, 2021, p. 52:28). Dikert et al. (2016, p. 102), however, argues that pilot projects are an important success factor as it can increase the acceptance of the agile working methods, as well as create confidence that it will be suitable for the organisation to implement the frameworks. If successful pilot trials are carried out, an increasing motivation for an agile transition among managers and employees may increase,

which facilitates the implementation (Dikert et al., 2016, p. 102). A pilot project may visualise how the methods should be adapted to the individual organisation and provide feedback on how leaders and teams are best introduced to these (Dikert et al., 2016, p. 102; Kalenda et al., 2017, p. 16). These pilot projects can thus serve as a valuable learning experiment that can provide insight into how to mitigate problems when the remaining parts of the organisation are being transformed (Dikert et al., 2016, p. 102; Kalenda et al., 2017, p. 16). It is however important to highlight that in the study conducted by Russo (2021), no such correlation could be determined. Instead Russo (2021, p. 52:28) stressed the difficulty of planning a pilot sprint, even named impossible.

Communication, transparency and collaboration deals, as the name suggests, with the importance of management having transparent communication and cooperation with employees. Dikert et al. (2016, p. 102) emphasised the success factor of intensive communication through several different channels to consolidate the new ways of working. Khoza & Marnewick (2021, p. 177) further highlighted it as quality communication and transparency, which Naslund & Kale (2020, p. 496) confirms and complements with that this communication should take place externally as well as internally. Transparency can be achieved by the management making both successes and challenges that arise during the transformation visible, actively reaching for feedback (Dikert et al., 2016, p. 102). By sharing experiences and status about the transformation, the organisation can be allied, ensuring the organisation as a whole is moving in the same direction (Dikert et al., 2016, p. 102). Making these factors important to take into account.

In an agile organisation, the *teams* are considered to play a significant role, creating its own category of success factors (Dikert et al., 2016, p. 103; Naslund & Kale, 2020, p. 497). The most discussed success factor in this category is the team's ability to self-organise, called team or employee autonomy (Dikert et al., 2016, p. 103; Naslund & Kale, 2020, p. 497). The agile principle of giving teams the power to decide over themselves has been seen as an important factor in advancing the transformation (Dikert et al., 2016, p. 103). The other factors discussed emphasise the organisational aspects of teams within an agile organisation, such as their location, size, and members (Naslund & Kale, 2020, p. 497), as well as the allowance of grass root level empowerment, described as absence of a top-down mandate (Dikert et al., 2016, p. 103).

Uniquely categorised by Naslund & Kale (2020, pp. 497-498), *operational processes* concern the need to adapt the organisational processes. Within this category, the need to involve customers more intensively and to synchronise the agile processes with the existing waterfall ones, is discussed (Naslund & Kale, 2020, pp. 497-498).

Another small category discussed by Naslund & Kale (2020, p. 498) is *role definition and deployment*. This category consists only of a few success factors that address the importance of the definition, alignment and communication of new roles for managers and employees, and generally addresses the need to review and adapt existing roles and positions (Naslund & Kale, 2020, p. 498). This is to minimise the risk of conflicts arising due to confusion or unfulfilled expectations about the new working methods (Naslund & Kale, 2020, p. 498).

Incentives and measures are concerned with the need for an organisation to consciously evoke agile behaviour and implement corresponding performance measures (Naslund & Kale, 2020, pp. 498-499). The success factors included in this category are the creation of guidance for how the transformed company should adapt its performance measures and the

need to adjust measures with the developing agile practices, meaning that the measures which were applied early in the transformation will likely be replaced with new metrics as the transformation progresses (Naslund & Kale, 2020, p. 498). Further, tying performance evaluations to the entire team, integrating innovation and knowledge sharing as important appraisal criteria (Naslund & Kale, 2020, p. 499). Providing development and growth opportunities are another method to evoke the desired behaviour (Naslund & Kale, 2020, p. 499).

Organisational structure is closely related to the need to synchronise agile processes with the old, waterfall processes, but expands the perspective to organisational units (Naslund & Kale, 2020, p. 500). Examples of factors that were emphasised in this category are the creation of symbiosis between the formal and informal organisational structures, adapting the organisation to the agile needs, mapping the organisational structure according to the customers' real needs, restructuring teams and using a common agile framework for the whole organisation (Naslund & Kale, 2020, p. 500).

Transformation planning touches the first stage of an agile transformation, where the plan for the transformation itself is created (Naslund & Kale, 2020, p. 499). The success factors stressed within this category is the need to create a concrete vision and strategy for the organisation (Kalenda et al., 2017 p. 17), assess costs, benefits and risks of the agile transformation before the start and to set business goals (Naslund & Kale, 2020, p. 499).

Tools is the final success factor category that is emphasised in the literature (Naslund & Kale, 2020, p. 500). Mostly identified factors within this category refer to IT systems, such as the management of interdependencies between old, non-agile systems and new software systems (Naslund & Kale, 2020, p. 500). This factor is closely linked to the need to align the new, agile organisation and its processes to the remaining waterfall-oriented organisation until the transformation is complete (Naslund & Kale, 2020, p. 500). The category also stressed factors such as investment in system improvements, the availability of tools for teams to transition their work procedures and new technical solutions.

2.2.2 Transformational challenges

Similar to success factors, there are a number of challenge categories for agile transformations, with associated factors, that are mentioned in the literature (Denning, 2016; Denning, 2019; Dikert et al., 2016; Kalenda et al., 2017; Khoza & Marnewick, 2021; Pawel, 2017, Parizi et al., 2014). The categorisation of the challenges equally aims to group the identified factors that discuss the same topic or where the meaning is largely similar to each other, in order to simplify for the readers. All challenge categories are presented in Table 2, and thereafter the respective challenges follow. Note, the categories themselves are not individual challenges, but a merger of several. To further illuminate, the following categories are presented in no particular order, however, the first six categories in Table 2, are the ones that are most frequently mentioned in the previous literature. The remaining categories, despite their lower frequency of mentions, are considered to have a value for the research area, which further justify including these in the framework as well. For a compiled full list from all relevant sources of the categories and respective challenges identified within each category, see Appendix 5.

Table 2. Challenge categories

Challenge categories - collected from: Denning, 2016; Denning, 2019; Dikert et al., 2016; Kalenda et al., 2017; Khoza & Marnewick, 2021; Pawel, 2017, Parizi et al., 2014

Agile difficult to implement
Change resistance
Integrating non-development functions
Requirements engineering challenges
Hierarchical management and organisational boundaries
Coordination challenges in multi-team environment
Lack of investment
Different approaches emerge in multi-team environments
Quality assurance challenges

One of the biggest challenge categories that has been identified in the literature is the implementation process itself, named *agile difficult to implement* (Dikert et al., 2016, pp. 96-97; Denning, 2019, p. 9; Pawel, 2017, p. 192). This can partly be linked to the fact that there is not enough guidance in the literature on how a transformation should be carried out, in a purely practical way (Dikert et al., 2016, p. 96). The reason for this is, as mentioned above, that each organisation and department is unique in terms of both conditions, needs and resources and that it is therefore not possible to take an agile package "off the shelf" and directly apply it to individual cases (Dikert et al., 2016, p. 96). This lack of practical guidance thus makes the implementation very complex which in some cases may result in the challenge of customise the agile practices, resulting in the practices being stripped or skipped entirely and thus failing to achieve a real change in the processes and the employees' mindsets (Dikert et al., 2016, p. 97). When the agile concepts are misunderstood in this way, there is a risk that people will return to old ways of working instead of adopting the agile methods and mindset (Dikert et al., 2016, p. 97). The same applies if the processes are integrated too quickly, which in addition to creating problems such as confusion and anxiety, also can increase costs and the use of other resources (Dikert et al., 2016, p. 97; Kalenda et al., 2017, p. 16). According to Kalenda et al. (2017, p. 16), small pilot projects in parts of the organisation before the change is implemented consistently on a large scale can therefore be advantageous.

Change resistance is also a big challenge category mentioned in the literature (Dikert et al., 2016, pp. 92-94; Boehm & Turner, 2005, pp. 34-35; Kalenda et al., 2017, p. 16; Khoza & Marnewick, 2021, p. 177; Parizi et al., 2014, p. 246; Pawel, 2017, p. 192). If people lack understanding of the purpose of change or if it is received as too complex to implement, resistance tends to increase (Dikert et al., 2016, pp. 92-94). This change resistance is often built of uncertainty and that people are afraid that their working conditions and tasks will change for the worse after the change has been implemented (Dikert et al., 2016, pp. 92-94; Khoza & Marnewick, 2021, p. 177). This is especially true in cases where the initiative for an agile transformation comes from and is forced by the top management (Dikert et al., 2016, p. 94; Parizi et al., 2014, p. 246). If the change initiative is presented in a bad way and employees feel compelled to change, the risk increases that the employees will not accept the change and that the implementation is not carried out in the best way (Dikert et al., 2016, p. 94; Parizi et al., 2014, p. 246; Kalenda et al., 2017, p. 16). It is thus important that the employees and management from start understands what agile as a concept is, what the

purpose of such a type of transformation is and how their work environment after such a change will be affected (Dikert et al., 2016, p. 92; Naslund & Kale, 2020, p. 493). If these criteria are met and people feel inspired and motivated, the chance is thus significantly increased that the transformation will succeed (Dikert et al., 2016, p. 92; Naslund & Kale, 2020, p. 493). The final most mentioned challenge within this category is if management does not give the teams the authority to lead their own work and make their own decisions (Parizi et al., 2014, p. 246). Too strict processes or an unchanged leadership style that involves command and control, which is often the case in more traditional waterfall structures, may reduce the team motivation and confidence (Parizi et al., 2014, pp. 246-247). A change in management's mindsets is therefore important (Denning, 2016, p. 17).

Although the agile transformation may have been successful in some departments, the integration of other departments such as marketing, sales, human resources etcetera, can create challenges for the process (Dikert et al., 2016, p. 98; Pawel, 2017, p. 192; Kalenda et al., 2017, p. 16; Parizi et al., 2014, p. 247). Leaving *integrating non-development functions* as the third important challenge category. This is because extremely few functions operate in a vacuum without influencing other departments, which highlights the importance of all departments having to work according to the same principles and frameworks (Dikert et al., 2016, p. 98). If not all departments or functions within the organisation are aligned with the agile mindset, great limitations for the transformation may arise, and the agile benefits also risk not being fully utilised (Dikert et al., 2016, p. 98; Kalenda et al., 2017, p. 16). According to Denning (2016, p. 18) the organisation as a whole has to "be agile" and not only "do agile" to get the benefits of Agile, which refers to the challenge to shift the overall organisational culture. For the organisation to become agile, managers have to change their basic mindsets about how businesses need to operate in order to be successful in today's fluctuating market (Denning, 2016, p. 16). They must think, organise and lead in a way that encourages innovation and constantly delivers high customer value (Denning, 2016, p. 18). If it does not create customer value, the processes should be re-evaluated and, if possible, redone or removed completely, which applies to all departments throughout the organisation (Denning, 2016, p. 18). If customers really are the number one, all parts of the company must be adjusted - goals, values, principles, systems, practices and structures - to generate constant customer value and eliminate everything that does not, a challenge of magnitude (Denning, 2016, p. 18).

In the field of software development, people talk about *requirements engineering challenges*, which is about challenges occurring in the process of gathering and defining what services should be provided by the system (Dikert et al., 2016, p. 98). Challenge linked to this is also one of the most mentioned factors in the literature (Dikert et al., 2016, p. 98; Pawel, 2017, p. 192; Khoza & Marnewick, 2021, p. 177), which can primarily be linked to the fact that the agile mindset originates from and thus is most widespread in the software development industry (Cohen et al., 2004, p. 7). The challenges that are highlighted as the most significant include that the various agile methods' attitude to requirements is lacking, problems with requirement refinements, and that the systems create a gap between long- and short-term planning as agile usually only visualises the short-term planning, creating the need for additional practices for long-term planning (Dikert et al., 2016, p. 98).

As has been touched before, *hierarchical management and organisational structure* is also a challenge category that is apparent in the literature (Dikert et al., 2016, p. 98; Pawel, 2017, p. 192; Denning, 2016, pp. 17-18; Khoza & Marnewick, 2021, p. 177). One factor is challenges with unclear roles of middle managers in the new agile organisation, where the organisation

risks continuing to work according to the old waterfall model unless the role of middle managers is reformulated and adapted to the agile model (Dikert et al., 2016, p. 98). As the teams themselves must be involved and active in the design and management of their own work within the agile philosophy, an agile transformation may result in certain roles, including managers, having to be removed or changed, and for the roles that are retained, the job description thus needs to be adjusted so that the managers understand what their new roles implies (Dikert et al., 2016, p. 98; Naslund & Kale, 2020, p. 498). Another factor that may preserve the old structures and implies a challenge is managers' lack of training. If not sufficient training is offered to management it can be challenging to succeed with the transformation (Dikert et al., 2016, p. 102; Naslund & Kale, 2020, p. 495; Khoza & Marnewick, 2021, p. 177). The same as employees' resistance to change can arise in the event of a lack of information and training, management can feel resistance to change their own work and to let go of old ways of leading, which further preserve the bureaucracy (Dikert et al., 2016, p. 98). Finally, cross-functional collaboration between different functions or departments needs to be encouraged, as an excessive focus on old structured functions can also create major challenges for the transformation process to succeed (Dikert et al., 2016, p. 98). These boundaries between divisions must be blurred so that better collaboration is possible and that efficient teams can be brought together to solve problems and meet customer needs (Dikert et al., 2016, p. 98). Achieving this is not possible unless the hierarchical structure and bureaucracy are re-evaluated and revised (Dikert et al., 2016, p. 98).

The challenge category *coordination challenges in multi-team environments* refers to the difficulties of coordinating the work between different teams, both in one and the same geographical location and globally (Dikert et al., 2016, p. 97; Pawel, 2017, p. 192; Khoza & Marnewick, 2021, p. 177). The most prominent challenge is when the team needs to work with other teams and as part of the larger environment in the organisation (Dikert et al., 2016, p. 97). The flexibility that the teams have built up can be difficult to transfer to these other contexts, as the agile working methods to some extent may differ between the different teams (Dikert et al., 2016, p. 97). When agile is to be scaled up to a global context, these coordination problems can also become visible as, for example, time zone differences can make it more difficult to have frequent meetings or other important events (Dikert et al., 2016, p. 97). The feeling of presence, on which the agile way of working is largely dependent, is also difficult to achieve through digital meetings (Dikert et al., 2016, p. 97). Agility in these cases can thus work great at the group level, but collapse when brought together with other teams. In the worst case, these coordination problems can create a "we" and "them" feeling where the teams prioritise their own personal goals over the organisation's overall goals and vision (Dikert et al., 2016, p. 97). This is because the balance between these two goals can be difficult to find, which means that teams often choose their own over others (Dikert et al., 2016, p. 97). The technical solutions can to some extent also contribute to this as the integration of different teams' products or work can be problematic in certain systems (Dikert et al., 2016, p. 97; Parizi, 2014, p. 247).

As discussed by Dikert et al. (2016, p. 96), *lack of investment* addresses challenges related to the lack of resources and commitment. The challenges that are emphasised are lack of training, lack of coaching, too high workload, old commitments kept and rearranging physical spaces (Dikert et al., 2016, p. 96). Training and coaching are direct investments for a transformation and the lack of these may imply major problems (Dikert et al., 2016, p. 96). As highlighted, employees may be ill-prepared for the transformation and therefore quit using the agile methods, as a result of decreased motivation (Dikert et al., 2016, p. 96). Other

problems that are emphasised are when the team's workload is not adjusted to facilitate the change. This can hamper the transition as overworked and stressed people do not have the ability to change their behaviours and learn new things (Dikert et al., 2016, p. 96). The final challenge mentioned by Dikert et al. (2016, p. 96) is the preservation of old commitments, such as deadlines, meaning that agile working risks being ignored. Additionally, Khoza & Marnewick (2021, p. 177) could not see an equally strong correlation between challenges for agile transformations and lack of financial investment as Dikert et al. (2016, p. 96).

Within the category *different approaches emerge in multi-team environments* the challenge of interpretation of agile differs between teams and using old and new methods side by side, are discussed (Dikert et al., 2016, pp. 97-98; Khoza & Marnewick, 2021, p. 177). These pose challenges as it can create fragmentation between the different teams if not all teams have been consistently guided in the transformation (Dikert et al., 2016, p. 97). Further, a parallel approach between the new agile and the old waterfall can end up in conflict if, for example, you work in sprints, but detailed planning is still required to be drawn up in advance, causing tensions on all organisational levels (Dikert et al., 2016, p. 98).

Finally, *quality assurance challenges*, similarly to requirements engineering, concerns the need to extend the agile approach to accommodate additional testing activities (Dikert et al., 2016, p. 98; Kalenda et al., 2017, p. 16; Khoza & Marnewick, 2021, p. 177). The success factors stressed are: accommodating non-functional testing, lack of automated testing, and requirements ambiguity affects quality assurance (Dikert et al., 2016, pp. 98-99). These factors are particularly focused on software development and therefore less applicable to general organisations agile transformations.

2.3 Agile Coaching

As mentioned above, see table 1, coaching, and especially agile coaching, is an important success factor that has attracted attention in the agile literature (Dikert et al., 2016, p. 103; Naslund & Kale, 2020, p. 494; Kalenda et al., 2017, p. 10; Khoza & Marnewick, 2021, p. 170). An agile coach's job is to help teams and organisations adopt and take advantage of agile methods (Stray et al., 2021, p. 6816). They can either be hired as external consultants, or directly by the companies as internal coaching roles (Stray et al., 2021, p. 6816). Their main goal can be compared to other coaches, which is to increase teams' abilities to perform better through improved decision-making, commitment and team accountability, which contributes to higher organisational efficiency (Stray et al., 2021, p. 6816). Even though agile coaches are often regarded as team coaches who primarily work with individual teams, they have proven to be crucial even in agile transformation processes, where they are often involved and guide management in the transformation, as well as implement and support self-organising or self-managed teams (Stray et al., 2021, p. 6817).

According to Parizi et al. (2014, p. 247) agile coaches have different tasks in the different transformation phases. In the preparation phase, agile coaches, among other things, have the mission of guiding leaders in defining goals and teaching the agile principles and expected values to the organisation (Parizi et al., 2014 p. 248). They should also help organisations to identify whether they are ready to undergo the transition to the agile approach, or not, and develop an action plan or framework for the transition (Parizi et al., 2014 p. 248; Stray et al., 2021, p. 6816). This also includes carrying out a risk analysis, collaborating with the HR department to select the most qualified team members who can lead the first adoption, and to help prepare the transition plan - from preparation to full-scale transformation (Parizi et al.,

2014 p. 248). Based on this, it can be assumed that it is advantageous for a transformation if the agile coach is hired before the start of the transformation process.

During the second phase, the adaptation phase, team members, leaders, and customers adopt the agile mindset (Parizi et al., 2014 p. 248). That the agile coach is available as a practical support and teacher during this stage is thus of great importance, which may shorten the learning time (Parizi et al., 2014 p. 248). Here, the agile coach's role is to ensure that the transformation follows the plan and is available on the ground to answer all possible questions that may arise among the participants (Parizi et al., 2014 p. 248; Stray et al., 2021, p. 6816). The agile coach should also motivate the team members if obstacles or challenges arise and create psychological safety to encourage employees to experiment and emphasise that it is acceptable to make mistakes (Parizi et al., 2014 p. 248; Denning, 2018c, p. 7; Stray et al., 2021, p. 6818). To have a plan for how a gradual adaptation will be realised may simplify the transformation and thus make it more feasible (Parizi et al., 2014 p. 248).

The adjustment phase, which is the last and continuous one, can both begin during the transformation process and after (Parizi et al., 2014 p. 248). In this phase, the agile coach may suggest some adjustment activities in order to better adopt the agile practices. These adjustments may be related to the organisation's weaknesses or limitations, which the agile coach is usually responsible for addressing (Parizi et al., 2014 p. 248). If the organisation, for example, is characterised by a top-down structure and sanctions, the agile coach may need to change the corporate culture in dialogue with top management to loosen up the structure and thus empower the teams (Stray et al., 2021, p. 6820). This also includes defining what the agile concept means for the organisation, so that everyone understands the meaning and speaks the same language (Stray et al., 2021, p. 6820). In cases where a full adoption is not possible, the agile coach may be forced to modify the agile tools to customise it to the organisations' limitations (Parizi et al., 2014 p. 248). Depending on the agile maturity of the different teams, different measures may be required to help the teams develop (Stray et al., 2021, p. 6821). For this to be possible, the agile coach needs to be attentive and have a people-oriented approach (Stray et al., 2021, p. 6823).

2.4 Summary

In summary, an agile transformation is about changing the organisation's basic structure, values, culture and way of working, from a traditional waterfall structure, to a more flexible and responsive one. Such a transformation can be implemented in several different ways and affects all parts of an organisation. As a transformation process rarely is linear, a gradual transition and continuous learning is crucial for its success, where the management must be proactive and committed for the employees to follow. An agile organisation is characterised by the ability to respond to changing needs in the market. Its primary focus is thus on customers and people, where cross-functional work in teams is essential for the organisation to be able to deliver high customer value. However, implementing an agile transformation is complex and there are a number of identified challenges in the literature. Some challenges that are highlighted are weak guidance on how a transformation takes place in practice, resistance to change and integrating the agile way of thinking in all parts of the organisation. On the other hand, agile coaching has been highlighted as a critical success factor for agile transformations. The role of agile coaches are stressed as being involved in and guiding management, as well as implementing and supporting self-managed teams. The tasks of the agile coach vary depending on the phase of the transformation, expressed as preparation phase, adaptation phase, and adjustment phase.

3. Theoretical methodology

This chapter presents the methodological approach to answer the research questions in a scientific manner from *ontological, epistemological and axiological assumptions*. In addition, the research design and data collection method is discussed alongside ethical implications and preconceptions of the researchers.

3.1 Researchers and preconceptions

The choice of studying agile transformation processes as the subject of this thesis can be explained by chance, and by a compromise. As both authors come from slightly different academic fields, where one has studied her specialisation in supply and logistics, and the other in strategy and entrepreneurship, there was no obvious area to conduct the study within. After conversations between the authors, however, a common interest in leadership and change management within organisations could be identified, which thus laid the foundation for the study. After a review of the change management area, it became clear that more and more organisations are choosing to reorganise their organisations to become more agile. Despite this, the area is largely still neglected in the research world, especially agile working methods outside the industry of software development and IT, which calls for more research from other perspectives. As it is a highly relevant topic, the authors considered this to be very interesting, and they therefore decided to plunge into the subject. What you are reading now is the result of the discussion.

Although the interest in the field may act as a motivator to increase the understanding of the subject of agile transformations, as well as its critical success factors and challenges, it is important to mention that the authors pre-understanding of the topics treated by the research questions is limited. Both authors have studied questions related to management and organisational changes. Together, a relatively broad academic background is also created where one author's background in strategy contributes with the more long-term planning perspective, which is highly important in agile transformations, while the other author's background in logistics and supply chain planning contributes with a basic understanding of agile as a concept. However, this does not offset the lack of practical experience from reality, but provides a foundation and understanding of its emergence and usefulness.

The described level of pre-understanding can consequently mean that biases based on distorted assumptions can affect the research, for example through incorrect interpretation of descriptions by previous researchers and the respondents included in the data collection. In general, it is also reasonable to consider that the authors' ability to make accurate recommendations based on the real contexts of agile transformations is limited. Whilst the authors hope that the sparse experience of the practical work in these types of transformation processes can facilitate an objective perspective, it is however important to put the results in this thesis in relation to the limited pre-understanding of the topic.

3.2. Research philosophy

The concept of research philosophy relates to the development of knowledge and the nature of that knowledge (Saunders et al., 2019, p. 130). The philosophy that is adopted can be seen as the researcher's assumptions about how one sees the world. These assumptions will support the research strategy and the methods used as part of that strategy (Saunders et al., 2019, p. 130). Consequently the philosophy lays the foundation for and answers the questions

concerning the nature of reality, what is accepted as knowledge and how values influence the research study (Saunders et al., 2019, p. 131). The philosophy can be divided into three different categories: ontology, epistemology and axiology (Saunders et al., 2019, p. 133), and will be discussed separately below.

3.2.1 Ontology

Ontology is the assumptions about reality and how it is perceived, what it means for something to exist and the nature of reality (Bell et al., 2019, p. 26; Saunders et al., 2019, p. 133). When conducting a study, the ontological assumptions determine what will be considered reality and the epistemological how to study it (Bell et al., 2019, p. 26). Different assumptions in social studies are commonly categorised as *objectivism*, where the reality exists indifferent to the observers and actors own awareness of reality (Bell et al., 2019, p. 26; Saunders et al., 2019, p. 135), and *constructivism* where reality is a construct of culture and behaviour of the social actors (Bell et al., 2019, p. 27). In an objectivist view, the reality of agile transformations would occur indifferent to the actions of agile coaches, customers, managers, employees or other people. Since the idea of agile methods is based on the contributions of the people within and around the organisation, this perspective would contradict the need for this specific research topic. Constructivism on the other hand, views reality as constructed and interconnected with the social actors and inevitably continuously evolving with them (Bell et al., 2019, p. 27; Collis & Hussey, 2014, p. 48). The assumption of people and social actors' impact, but not limited to, on organisational transformation process, positions this study from the perspective of the constructivist. The ontological assumptions of this study is therefore the subjective reality of interpretivism affected and experienced by agile coaches as social actors. It includes the effect the researchers have on the interviewees as well as the interviewees' effect on the topic, and their different experiences and interpretations of reality.

3.2.2 Epistemology

Epistemology is derived from the Greek: *episteme*, which means knowledge, and *logos*, which means theory (Bell et al., 2019, p. 29). Epistemology is thus about what constitutes acceptable, valid and legitimate knowledge (Collis & Hussey, 2014, p. 47; Bell et al., 2019, p. 29; Saunders et al., 2019, p. 133). According to Bell et al. (2019, p. 29) epistemology is subordinate to ontology as the ontology lays the foundation for how knowledge can be acquired from that reality. A consideration of these issues ensures that the knowledge that is provided is acceptable (Bell et al., 2019, p. 29). Depending on what paradigm, the view on epistemology and knowledge acquisition, differ. With a *positivist* view, knowledge comes from objective evidence about observable and measurable phenomena, which is usually applied in natural science (Collis & Hussey, 2014, p. 46). The researcher should be, in the case of positivism, distant from the phenomena under study (Collis & Hussey, 2014, p. 46). On the other end of the spectrum, *interpretivism* means that the researcher interacts with phenomena during the study and that knowledge comes from subjective evidence from all participants (Collis & Hussey, 2014, p. 46). This view is usually applicable to social science, in which business and management is categorised (Collis & Hussey, 2014, p. 46). In short, positivists believe that knowledge is only valid if it can be observed and measured indifferent of the researcher, while interpretivists want to reduce the distance between the researcher and the object of study and create knowledge in interaction (Collis & Hussey, 2014, p. 47). These two different approaches have both strengths and limitations of subsequent findings (Saunders et al., 2019, p. 134). In the positivist view, one can consider the result objective and generalisable (Saunders et al., 2019, p. 134). However, there is a risk that these types of

studies do not provide an equally rich and complex picture of the reality of organisations or agile coaches (Saunders et al., 2019, p. 134). Nor may it create a new understanding of the world, compared to applying a different view of knowledge, such as the interpretivist view (Saunders et al., 2019, p. 134).

As this study strives to gain a deeper understanding of the agile phenomenon, the interpretivist paradigm seems appropriate in relation to trying to capture the subjective reality of the agile transformation process. As the research question aims to broaden the understanding of the success factors and challenges viewed by agile coaches and their own understanding of the transformations process, it would be almost impossible to gain insight into the study as objective and without personal agendas. Since all transformations are unique, a quantitative logic would not be able to capture the underlying subjective elements an agile transformation is affected and shaped by. The interpretivist paradigm in epistemology is thus best suited for this thesis, as it acknowledges nuances of the subjective contributions derived from a qualitative study.

3.2.3 Axiology

Axiology is concerned with the role of values and ethics (Collis & Hussey, 2014, p. 48; Saunders et al., 2019, p. 134). One of the main axiological choices a researcher must make is to what extent the study is allowed to be influenced by the researcher's own values, together with the studied object's values (Saunders et al., 2019, p. 134). According to Collis and Hussey (2014, p. 48) a positivist approach views the research processes as value-free and that the researcher is disconnected and independent of what is being researched. It is believed that the relationship that exists between the variables that are being studied has always existed, and that it will continue to exist even after the study has been conducted (Collis and Hussey, 2014, p. 48). Due to the constant phenomena, the research object does therefore not affect, nor is it affected by, the research. These assumptions are characteristic of studies in natural science and are therefore found less frequently in social science, which are generally more interested in human behaviours (Collis & Hussey, 2014, p. 48). In contrast, an interpretivist approach means that researchers have values impacting the study, even if these have not become explicit (Collis & Hussey, 2014, p. 48). The values help to determine what is recognized as facts and the interpretations that can be drawn from them (Collis and Hussey, 2014, p. 48). Many interpretivists thus believe the researcher is being involved in what is being researched and accept the phenomenon as interdependent and relative (Collis and Hussey, 2014, p. 48).

As previously mentioned, this study is based on an interpretivist paradigm. Even within the axiological assumption, an interpretivist view can be considered to be most applicable to this study. Although it can be assumed that agile transformation processes are not particularly emotionally sensitive, this study recognizes people's subjective backgrounds, experiences, values and priorities may have affected the responses given during data collection. The same applies to the design of the questions, where the authors own values can reflect both how the questions have been formulated and how these were posed to the respondents. Despite this, there are no clear signs that the authors have influenced the study significantly. The authors have done their utmost to prevent any kind of influence from having occurred on the study objects to impair the reliability of the study. Acting professionally has been a primary focus, which means minimising any influence from values that could potentially have affected the study negatively. Only contribution of nuances within the subject, which also was one of the purposes with the study, was the aim of professionalism during the study and interviews. The

contributions of the agile coaches' own experiences, opinions and values were the foundation on which the study was based, therefore unambiguously forced the axiological assumption to welcome these personal subjectives.

3.3 Research approach

When talking about the logic of a research, it refers to whether a study applies an *inductive* or a *deductive* method. An inductive method means that the researcher creates theory from observations of the empirical reality, where general conclusions are induced from the observations (Collis & Hussey, 2014, p. 7; Bell et al., 2019, p. 23; Saunders et al., 2019, p. 155). In other words, generating results moving from the specific to the general. In this type of research the process goes from observations, to findings, to theory (Bell et al., 2019, p. 23). This is in contrast to the deductive method where a conceptual and theoretical structure is developed and then tested through empirical observation (Collis & Hussey, 2014, p. 7). If the two methods are combined it refers to an abductive approach (Saunders et al., 2019, p. 155). Although there are exceptions, an inductive method is often associated with an interpretivist approach (Saunders et al., 2019, p. 145). The research is usually carried out qualitatively on small samples with in-depth data collection methods, such as interviews or case studies (Bell et al., 2019, p. 23). This is to be able to create a deep understanding of a phenomenon, which can then be generalised to a larger group.

The purpose of this study is to create a deeper understanding of the agile transformation process, including important success factors and challenges, from the perspective of agile coaches. Since deductive research is based on a theoretical structure in the form of hypotheses being formed and then tested against empirical observation (Bell et al., 2019, p. 21), i.e. particular instances are deduced from general inferences (Collis & Hussey, 2014, p. 7), an inductive research is considered more appropriate in this case. This is, too, consistent with the inductive method as it aims to generalise a result from the specific data collected. The less strict structure can hopefully reveal alternative explanations and approaches to critical success factors and challenges during transformations which possibly otherwise could have gone missing. Still, since the study is based on and guided by a theoretical background, the study also contains minor elements of deductive logic which hopefully has enriched the process and ultimately the final contributions as well.

3.3.1 Research design

The research design is the overall plan for the conceptual research problem to relevant and practicable empirical research (Bell et al., 2019, p. 45). In other words, the research design creates a plan or framework for data collection and its analysis. It reports the type of research and the priorities for the researcher (Bell et al., 2019, p. 45). What distinguishes the research design from the research method is that the method describes the technology used to collect data after the design has set the “how’s” and “why’s” (Saunders et al., 2019, p. 174). The type and quality of empirical research are thus greatly influenced by the underlying design. In research design, a distinction is made between research purpose and research strategy. By interpretivist approach, interviews are held with practising agile coaches in order to understand the role of the agile coach during an agile transformation. The data is then analysed through thematic analysis in an attempt to find meaning and patterns in the resulted data.

3.3.2 Research purpose

When research is classified according to its purpose, it can be described as: exploratory, descriptive, analytical or predictive (Collis & Hussey, 2014, p. 4; Saunders et al., 2019, p. 186). The aim of exploratory studies is to gain insight into a subject and to look for patterns and ideas rather than test a hypothesis (Saunders et al., 2019, p. 186). Typical techniques used in exploratory research include case studies, observations and historical analysis (Collis & Hussey, 2014, p. 4). Descriptive research aims to describe a phenomenon and goes further in investigating the problem compared to exploratory studies (Saunders et al., 2019, p. 187). Descriptive studies want to identify and obtain information about the characteristics of a particular issue and can thus form the basis for testing hypotheses (Saunders et al., 2019, p. 187). Analytical (or explanatory) research is a continuation of descriptive research where the researcher, in addition to explaining the characteristics, also establishes causal relationships between variables and describes how certain phenomena arise or occur (Saunders et al., 2019, p. 188). Predictive research is the last classification and it is based on analytical research (Collis & Hussey, 2014, p. 5). As the analytical research creates an understanding of what is happening, predictive research creates a forecast of the probability that the phenomenon will be repeated in other, similar contexts (Collis & Hussey, 2014, p. 5). Due to the complexity of analytical and predictive research, it is usually performed at postgraduate or doctoral level, and explanatory and descriptive research are thus better suited for the undergraduate level (Collis & Hussey, 2014, p. 4).

As this study is written as a degree project at the undergraduate level and should neither examine why certain phenomena occur nor how likely they are to occur in other situations, analytical or predictive research design is not suitable. Since this study does not look to find general patterns either, but rather explore agile transformations from the perspectives of agile coaches, a descriptive method would also be unsuitable. Exploratory research on the other hand, is a very open research approach which focuses on collecting a wide range of data and can therefore be very helpful to understand the context and reasons for certain events (Saunders et al., 2019, pp. 442-444). The purpose of this study is to explore the agile transformation process from the perspective of agile coaches, with associated success factors and challenges, an exploratory research design is best suited. In this way, a deeper understanding of this type of organisational change can be created and contribute with a more nuanced picture of the research area, and act as a foundation and inspiration for future research.

3.3.3 Research strategy

To be able to make an appropriate choice of a practical method, it is necessary to establish a research strategy that sets out how the collection and analysis of collected data is to be carried out (Bell et al. 2019, p. 35). An important decision is whether the study should be based on a quantitative or qualitative design (Saunders et al., 2019, p. 175). The quantitative design is associated with a positivist stance, which often involves a deductive approach with a more strict structure of numerical data (Bell et al. 2019, p. 35). Quantitative research usually aims to investigate variables and verify causal relationships between them through the use of statistical and graphical techniques in controlling settings (Saunders et al., 2019, p. 178). Being able to replicate the findings is of great importance as positivist research strives for generalisability between different contexts (Bell et al. 2019, p. 35).

Qualitative studies, in turn, are often associated with the interpretivist stance with an inductive stance (Saunders et al., 2019, p. 179; Bell et al., 2019, p. 35). The purpose of

qualitative studies is to obtain a deeper understanding of phenomena, their meaning, and the relationship between them (Saunders et al., 2019, p. 179). This is to conceptualise a framework. Within this strategy, one is particularly interested in the understanding of how individuals construct and experience reality (Saunders et al., 2019, p. 179). The premise of the epistemological basis for qualitative research is that studies of social life can only be captured through direct experience (Saunders et al., 2019, p. 179). The most important aspect of qualitative data is thus its richness and how it contributes meaning (Collis & Hussey, 2014, p. 52).

The aim of this study is to understand how agile coaches aid and assist the process of agile transformations and major impacting success factors and challenges; the keyword being understanding. In order to make sense of and understand the meaning of actions and roles in terms of key success factors and challenges, the approach for this thesis is qualitative (Magnusson & Marecek, 2015, p. 5; Saunders et al., 2019, p. 145; Bell et al., 2019, pp. 366-368; Guba & Lincoln, 1994, p. 106). For this thesis, it means the participants, both interviewees and the researchers, will personally affect the results. As the agile approach to business operations value the personal and human impact on operations and delivery, the topic requires recognition of the social construct of reality (Saunders et al., 2019, p. 145; Guba & Lincoln, 1994, p. 108). Qualitative research, through an inductive interpretivist approach, views actions and events through the perceived reality of the individual (Bell et al., 2019, p. 355).

3.4 Literature review

A literature review is about mapping the existing knowledge within a subject. It can thus be defined as a systematic process where the existing knowledge within a specific subject is to be identified (Collis & Hussey, 2014, p. 76; Torraco, 2005, p. 357). The literature in this context means all data, so-called secondary data, which is collected from existing sources. The underlying purpose of a literature review is to collect as much relevant literature as possible and read it (Collis & Hussey, 2014, p. 76). According to Bell et al. (2019, pp. 91-92) this is important for the researcher to get an idea of:

- 1) What findings have been made in the past?
- 2) What concepts and theories are relevant?
- 3) What research methods and strategies have been used?
- 4) If there are ambiguities or inconsistent findings?
- 5) If there are unanswered research questions within the topic?

Regardless of whether the literature review takes place in a mature research area, there is the expectation that such a review will create a different image or a different way of thinking about the subject (Torraco, 2005, p. 358).

To find suitable and relevant literature for this study, several different sources and instruments have been used. The majority of the sources used are peer-reviewed articles obtained from external databases such as EBSCO and Emerald Insight as well as through search engines such as Google Scholar and Umeå University Library's search tool. When searching for general facts about agile as a concept, well-known websites created by the authors of, among other things, the agile manifesto were also used. Some facts from methodological literature obtained from Umeå University Library have also been used to build up the theoretical structure of the study.

Throughout the literature search, the authors of this study have strived to continuously review and be selective in their selection of articles. This was to maintain a high academic standard in their contribution. With only a few exceptions, the study is based on articles written by the original author of the concepts, models or theories. This was to minimise the risk of misinterpretation and to ensure that the information is of a high quality and suitable for the study to use. A few studies have served as the basis for the theoretical framework, as it has been closest to the study's own topic. For example, the article written by Dikert et al. (2016) has been cited in a number of similar studies in the field and its reference list has thus contributed with additional significant literature to this research. When the agile literature was studied, a number of research names were discovered that were repeatedly quoted in the majority of the articles. This ensured that this study also included the most prominent researchers in the chosen research area.

The keywords used in the literature review were:

Agile transformation(s), agile transformation process, change management, organis(z)ations, agile adoption challenges, agile transition framework, agile coaches.

4. Practical methodology

This chapter presents how the authors have practically gone about collecting the primary data for the study. It contains delineations of the interview structure and selection method used as well as a description of the interview guide. The chapter concludes with ethical considerations.

4.1. Sampling

4.1.1 Sampling method

For the interpretivist approach to understand the transformation of an organisation, the worldview and experiences of the interviewees will largely affect the result of the study (Magnusson & Marecek, 2015, p. 34; Saunders et al., 2019, p. 321). Therefore, the sampling method will determine whether this study will or will not be able to answer the research question and understand the key factors of the transformation (Magnusson & Marecek, 2015, p. 35; Saunders et al., 2019, p. 294; Collis & Hussey, 2014, p. 132). Since the common critique of interpretivist studies is that it uses few participants, it is important that the ones used are of high enough quality with both insights and variation to represent the population sufficiently (Magnusson & Marecek, 2015, p. 36). Arguably, the sample should be enough to draw conclusions from and be able to answer the research question from dependent on the quality and positions of the participants as the semi-structured interviews ensure (Magnusson & Marecek, 2015, p. 36). The exact number of participants needed cannot be determined before since the minimum number varies greatly between different studies (Magnusson & Marecek, 2015, p. 37).

Most sampling in qualitative research entails purposive sampling, occurring when elements selected for the sample are chosen by the judgement of the researcher (Bell et al., 2019, p. 391). The forms of purposive sampling that are commonly discussed are theoretical sampling, generic purposive sampling and snowball sampling (Bell et al., 2019, pp. 391-396). Theoretical sampling is used to develop theory when it emerges, and where the codes and data collected determine which data is to be collected next, and where to find it (Bell et al., 2019, pp. 391-393). The data collection continues until theoretical saturation has been achieved and the data no longer propound new insights (Bell et al., 2019, p. 394). The advantage of this sampling method is that it can provide the data collection and data analysis process with a certain structure (Bell et al., 2019, p. 394). However, due to its high systematics, it may require more resources, such as time and money, compared to other sampling methods (Bell et al., 2019, p. 394). Generic purposive sampling is about the researcher establishing criteria concerning the kind of objects needed to address the research questions, identifying appropriate objects, and samples from those (Bell et al., 2019, p. 395). This method allows the researcher to target niche demographics to obtain specific data (Bell et al., 2019, p. 395). At the same time, it can be challenging to defend the representative nature of a sample, because the researcher's judgement has to be provided with evidence for its appropriateness (Bell et al., 2019, p. 395). Snowball sampling is about the researcher making contact with a small group of people who are relevant to the research topic, and then using these to establish contact with other suitable research objects (Bell et al., 2019, p. 395). The advantage of snowball sampling is that the researcher can reach stigmatised groups that might otherwise be difficult to reach (Bell et al., 2019, p. 395). However, it is a relatively slow method, as it relies on recommendations from other participants (Bell et al., 2019, p. 395).

The collection and reaching out to potential participants was for this thesis snowball sampling in order to connect with the particular community of agile coaches. This meant searching for suitable candidates through the network of LinkedIn as well as looking through information on different company websites alongside websites of consultancy firms aiding companies during their transformation. After getting in touch with relevant candidates, they were offered the possibility to recommend additional candidates whom they believed could benefit the study further. With the help of this method, we were thus able to reach well-qualified agile coaches who were otherwise difficult to get in touch with. At some points, attempts were made to contact specific respondents without result. When contacted again with a recommendation from other agile coaches, they re-evaluate their attitude to participate. This was very beneficial and contributed with important insight to the results of the study. As the above-mentioned advantages and disadvantages of the various methods were illustrated, a disadvantage is that this is a slower process compared to other methods. To compensate and to speed up the process, new inquiries to additional agile coaches took place continuously and in parallel with the interviews. This enabled sufficient data to be collected more efficiently.

About 20 people from several different agencies were contacted in total for this study with a request to participate, see the request letter in Appendix 2. Of these, only eight people responded with a positive reply. However, one of these eight had to rebid, which resulted in a final number of participants of seven people. Despite this dropout, the authors considered the other seven respondents to have generated sufficient data for the study. The sufficient data indicated that the search for more respondents could be terminated, argued to as theoretical saturation (Bell et al., 2019, p. 394). Theoretical saturation means that new data no longer suggest new insights into an emergent theory or new dimensions of theoretical categories (Bell et al., 2019, p. 394). Meaning, after the interviews with these seven participants, the authors considered the new data collected no longer contributed to the analysis and development of the results, but instead only confirmed the data already collected.

4.1.2 Sample overview

Related to purposive sampling, the ideally composed sample of respondents was people with experience of at least one agile transformation within organisations. As the study addressed the problem from the perspective of agile coaches, it was experienced agile coaches who constituted the primary search criterion. The idea was that they could offer different perspectives and perceptions of the transformation process compared to existing theory (Magnusson & Marecek, 2015, p. 36), as well as practical experiences and examples from their real assignment. The second aspect was their explicit area of expertise should be in regards to transformations. Scrum masters, scrum coaches and developers were hence excluded unless combined with transformational experiences. This meant that employees in other roles who had been involved in transformations, as well as agile coaches who had not been involved in agile organisational transformations, were excluded from the sample. Thirdly, it was preferred if they were working with agile assignments currently in the role of agile coach, to have fresh memories and good recollection of their actual actions within the organisations.

4.1.3 Respondents

The respondents included in the study all came from the same consulting firm, working there at the time of the interviews or did, not too long before the interview was conducted and they were all working currently. All of them had experience of agile transformations within

organisations, see a presentation of the respondents' respective professional background below, and table 3 for a summary of the respondents title and interview duration. To ensure the respondents' anonymity, their names have been replaced by names of cities as fictitious names. The same applies to company names, which were mentioned during the interviews as practical examples to deepen the understanding of current topics. These have been replaced by other fictitious names, or have been excluded entirely, to ensure the respondents' identities cannot be linked to the various companies and assignments they have had in different organisations in the past.

Amsterdam started as a software developer mainly within the medtech business during the late 90's. Agile as philosophy was introduced to Amsterdam through XP and a book by Kent Beck at this time which was applied in the everyday work of software development. In the same field, the carrier continued as scrum master before starting out as an agile coach. Agile coaching led to consulting and more assignments with different organisations such as The Bank, The TV Channel and at The Government Agency. Today, Amsterdam has collected eleven years of experience as an agile coach.

Copenhagen started out as a research engineer for a telecom company with a background in IT, programming and networks. Soon moved on to work a couple of years in a startup. The experience from the startup has Copenhagen brought along when continuing the path and in the first agile coach assignment as a consultant. After working with both big and small organisations as a coach and even went back to employment for a while, Copenhagen has now 15 years of experience in the role as agile coach.

Munich too, has a background within software development and consulting. It was the work as a software developer, and the challenges and problems that arose in different contexts, that over time gave Munich the insight that it is not only the technical skills that can limit projects. An interest in team and leadership started to develop, as for the profession as an agile coach. When the role of agile coach was initiated, the tasks varied between pure coach tasks and change management tasks addressing both team effectiveness and organisational structures along agile transformations.

Tokyo is a systems scientist at heart and worked after education as a developer for five years, before transitioning to becoming a project manager. After the project management role, Tokyo began working as a scrum master, followed by head of mobile development at a gaming company for five years. During the time at the gaming company, the organisation underwent an agile transformation, resulting in an interest in working with agile transformations. Becoming an agile coach consultant at a consulting company, focused on agile coaching, was therefore the next step in Tokyo's career. For the past seven years, Tokyo has had several different assignments with different organisations in different industries, such as classic agile coach, scrummaster and involved in change management in agile transformations.

Jakarta started out as programmer and architect and employed as such for 10 years up until the early 2000's. As the interest for team effectiveness and group dynamics grew, the role started to metamorphose into coaching and Jakarta began working as Scrum master. This later resulted in partaking in the development of different agile methods for larger organisations working agile collectively as existing methods seemed to suffice only as single team methods. Has worked as an agile coach nationally and internationally for The Agile Company. The interest of scaling agility continued to grow and Jakarta has experience of

several agile transformations, growing agile organisations and developing more than one framework for agile at scale.

Madrid has divided the career between programming and agile coaching. The first ten years were spent programming, and the rest up until now has been coaching and consulting. The major focus of the agile coaching has been to reevaluate and reinforce the value chain all across the organisation as part of agile transformations. Has experience of different types of assignments within several large organisations whilst undergoing agile transformation processes.

Melbourne started out as an IT consultant 30 years ago on a foundation of programming and software development began the agile journey exploring the method of rational unified process. Later that evolved into specific agile and lean methodologies. For the last 10 years or so Melbourne has been working more as a management consultant, specialised in organisational agile.

Table 3. Respondents and interview

Respondent	Professional background	Interview duration	Date
Amsterdam	Software developer and has worked as scrum master before starting as an agile coach.	52:21 min	5/4
Copenhagen	Worked as an agile coach since 2007 with several different organisations.	56:28 min	7/4
Munich	Background within software development, worked as coach with both technical leadership and more refined coaching and change management tasks.	55:36 min	8/4
Tokyo	System scientist basically, worked as a developer for five years before starting leading projects. Later became scrum master and agile coach, and has seven years of experience as an agile coach today.	46:40 min	8/4
Jakarta	Ten years of experience as a programmer and architect. Has also worked as a scrum master, agile coach and been involved in developing agile frameworks.	55:00 min	11/4
Madrid	Ten years of experience as a programmer before starting to work as an agile coach. Has had several large assignments with different companies.	42:37 min	12/4
Melbourne	Started to work within the IT-business in 1991, mainly with programming and software development. Worked as an agile coach and management consultant for the past ten years.	48:59 min	12/4

4.2. Data collection

4.2.1 Interview structure

Interviews are a data collection method that involves a structured conversation with selected respondents (Magnusson & Marecek, 2015, p. 6). The purpose of interviews is to gain a deeper understanding of a topic by encouraging respondents to explain the phenomenon based on their reality. Interviews can take place both individually and in groups and through a number of established interview methods (Qu & Dumay, 2011, p. 243). Linked to the more individual methods, structured, semi-structured and unstructured interviews are the most common ones (Qu & Dumay, 2011, p. 243). As the names suggest, they are categorised according to the structural level (Fontana & Frey, 1998, cited in Qu & Dumay, 2011, p. 244).

Structured interviews mean that the interviewer asks predetermined questions to the respondent (Qu & Dumay, 2011, p. 244). These interviews are thus fixed as the interviewer reads from the written script and deviates from it as little as possible (Saunders et al., 2019, p. 437). All respondents therefore answer the same questions, in the same order, which makes the data analysis relatively simple (Qu & Dumay, 2011, p. 244). Structured interviews are appropriate when the researcher wants to minimise the risk of bias and increase the generalisability (Qu & Dumay, 2011, p. 244). It is commonly used in quantitative research methods (Saunders et al., 2019, p. 437).

In contrast to structured interviews, there are unstructured interviews. This method is not based on a prescribed script, but the researcher develops the questions according to the individual situation and context during the interview (Qu & Dumay, 2011, p. 244). This method is suitable for qualitative research in occasions when you do not know much in advance about the phenomenon to be explored, or when the researcher wants to encourage the respondent to develop their thoughts about it on their own (Qu & Dumay, 2011, p. 244). These types of interviews are more difficult to analyse as the answers from the different respondents risk being very different (Qu & Dumay, 2011, p. 244).

Between these two extremes are the flexible semi-structured interviews, which are also commonly used in qualitative research (Saunders et al., 2019, p. 437). Semi-structured interviews contain prepared questions that are guided by selected themes that the interview aims to address (Qu & Dumay, 2011, p. 246). These types of interviews often contain open-ended questions and allow follow-up questions, which enables more detailed answers (Magnusson & Marecek, 2015, p. 47). As the different respondents' questions and answers may therefore differ, the different themes aim to guide the interviewer and ensure that the necessary answers are collected under all themes (Qu & Dumay, 2011, p. 246). In this way, the researcher can explore each theme systematically with each participant and gain a greater understanding of the phenomenon (Saunders et al., 2019, p. 437).

As structured interviews do not allow particularly large deviations from written script questions and are commonly used in quantitative research, it can be difficult to create an in-depth understanding of the agile transformation process with these types of interviews, which explains why it was not appropriate to apply to this study. Furthermore, unstructured interviews can be considered too complex and difficult to analyse for a study written at the undergraduate level as it requires a very large, thorough knowledge of the subject in order for the right type of questions to be asked. The authors of this study thus believed that this method was also inappropriate to apply. Semi-structured interviews was therefore the method

that was considered most suitable for this study to use. In this way, specific themes during the interviews could be addressed, while at the same time, the personal experiences of the people involved could be included in order to create a better understanding of the job of agile coaches and, from the perspective of the coaches, successes and challenges of the transformation processes.

4.2.2 Interview guide and question formulation

The idea of the interview guide for semi-structured interviews is to provide direction for the researchers to be able to explore desired areas whilst at the same time providing enough room for the interviewee to elaborate and provide personal nuances to the issue at hand (Magnusson & Marecek, 2015). The guide also acts as a checklist for the interviewers to make sure to cover all topics and gain necessary detail (Magnusson & Marecek, 2015, p. 46). The key lies in preparations for the interview, and the guide helps with wording of particular questions and allows the researchers to carefully decide on wording for especially sensitive topics as well as steering clear of leading questions (Magnusson & Marecek, 2015, p. 50). Focus on open ended questions, in some instances follow-up questions are suggested in the interview guide, but it should be stated that additional follow-up questions will be asked depending on the specific interview situation. These are merely suggestive. The specific interview guide and supporting questions can be found in Appendix 1.

In the composing the interview questions, both method and research question has been present in the thought process. The questions are categorised in different themes to help both interviewers cover all desired topics as for the interviewee to follow the line of thought when posed with the questions (Magnusson & Marecek, 2015, p. 48). Two of the main themes concerned success factors and challenges during agile transformations based on the categorisation made in previous literature (Dikert et al., 2016; Naslund & Kale, 2020; Kalenda et al., 2017; Khoza & Marnewick, 2021; Russo, 2021). Second, in order to provide context and comparable data, another theme was inspired by research made on the topics of agile organisations and transformation characteristics and phases (Holbeche, 2018a; Holbeche, 2018b; Brosseau et al., 2019; Gandomani & Nafchi, 2015). The final theme during the interview addressed specific aspects of the agile coach and gathered inspiration from previous literature too (Parizi et al., 2014; Denning, 2018c; Stray et al., 2021).

4.2.3 Revising the interview guide

To test the structure and questions of the interview an external person was consulted prior to the interviews. This person had extensive experience of agile methods as practice, agile transformation in large organisations and agile coaches both internally and externally. The input and feedback received led to the finalisation of the interview guide. Minor tweaks were made such as reformulating the question of why organisations usually reached out to the agile coach as it provided a better ground and understanding of the context in which the agile coach operated. Both insight to their particular work and assistance the agile coaches provide for organisations during their agile transformation process was enhanced thanks to this background question.

4.2.4 Performing interview

The interviews were held with both authors present at all times. Divided as one leading the interview, and the other taking notes and managing time as well as recording and other additional tasks, the authors were prepared to conduct professional interviews. The one

leading the interview could therefore focus solely on the questions and answers given by the interviewees while the passive one could assist through short comments and follow up questions when needed. The authors took turns leading and recording through the interview process. All interviews were held through the digital platform Microsoft Teams which allowed for both recording and transcribing instantaneously. They were all between 40 and 60 minutes long, depending on the extent of the answers from interviewees. All but one respondents were located in their personal home offices, where the one exception was located in the company office.

Why the interviews were conducted digitally is explained by the long geographical distance between the authors and the respondents. Physical meetings were difficult to achieve, both in terms of time and costs. At the time of the interviews, there were to some extent still global circumstances that did not justify physical meetings, which also gave rise to the choice of digital meetings. However, the platform chosen was comfortable for all parties to use as they were all experienced users thanks to the circumstances at the time, which meant that confusion or disruption could be minimised. Since all interviews took place with video calls, in addition to the respondents' speeches, aspects such as body language and facial expressions could be noted, which physical meetings would offer as well. Despite the digital aspect, relatively real-life contexts could thus be created.

In order to avoid biases and limitations due to the authors' preconceptions and behaviours, all interviews were conducted according to the same rules. All interviews began with the interview leader asking for the respondent's permission to record the interview, as well as transcribe the conversations immediately. After approval, the interview leader continued to present important information regarding the purpose of the study, their rights as participants, handling of personal data (GDPR) and access to the results after the study's publication on DiVA-portal. During the interview itself, the various themes were treated according to the structuring of the interview guide. The first questions were shorter where the respondents were given the opportunity to describe their background as an agile coach and common reasons why companies contact them for help. As previously mentioned, open-ended questions were asked throughout the interview to allow each respondent to reflect on their answers and be free to decide what they considered most important to highlight. This laid the foundation for the rest of the interview where the respondents were encouraged to reflect on their own perceptions and experiences of agile organisations, agile transformations as well as success factors and challenges linked to these, without the interviewers interrupting or correcting the respondents. All data collected was saved and handled according to Umeå University's policy.

4.3 Qualitative data analysis

There are a number of different methods to use, but a few clear rules to follow in the analysis of qualitative data (Bell et al., 2019, p. 517). The difficulty with qualitative research lies in the fact that a large amount of data containing unstructured language is to be analysed (Bell et al., 2019, p. 518). The purpose with the analysis is to understand the basis of the data and the meaning, and variations derived from the participant's own words (Magnusson & Marecek, 2015, p. 83). The two most common methods of analysis are thematic analysis and grounded theory (Bell et al., 2019, p. 517).

Thematic analysis is about, as the name suggests, finding themes in the transcribed data based on repetitions, indigenous typologies or categories, metaphors and analogies, transitions,

similarities or differences, linguistic connectors, missed data or theory-based factors (Bell et al., 2019, p. 519). As long as themes are relevant to the study, themes can also be identified according to other criteria (Bell et al., 2019, p. 519). The outlined procedure of thematic analysis does not usually occur in a simple linear progression, instead it is likely to occur in a concurrent and recursive fashion (Saunders et al., 2019, p. 652). However, there are some guidelines for the procedure to follow. The first step is to get familiar with the data through transcribing (Saunders et al., 2019, p. 652). The second stage is coding the data (Saunders et al., 2019, p. 653). Coding the data means grouping the data into categories that share similar characteristics (Collis & Hussey, 2014, p. 162). The codes can consist of a word or short phrases that symbolically sum up or visualise specific attributes, that thus create a bridge between the data collected and the researcher's analysis and interpretation of it (Collis & Hussey, 2014, p. 162). The third stage, searching for themes and recognising relationships, is seen as the next step to coding, but which in fact begins already during the coding process (Saunders et al., 2019, pp. 656-657). It is during this step that patterns in the coded material are found, shaping different themes (Saunders et al., 2019, p. 657). Refining themes and testing propositions follows next (Saunders et al., 2019, p. 658). This is where themes are re-evaluated and reorganised.

Grounded theory is part of a wider methodological approach, seen as an emergent and systematic research strategy (Saunders et al., 2019, p. 668). It is usually devoted to social science where you want to generate new theories in your research area (Saunders et al., 2019, p. 668). Grounded theory means that the theories formulated by the research must be well anchored in empirical investigations that are made in ordinary situations in reality (Bell et al., 2019, p. 522). In this way, you can see grounded theory as backwards, instead of testing theories in reality, you formulate theories based on what you observe in reality (Saunders et al., 2019, p. 668). The elements of the method includes the early commencement of data collection, concurrent collection and analysis of data, development of codes from the data, and the use of constant comparison, self-memos, theoretical sampling, theoretical saturation and theoretical sensitivity, leading to the development of a theory grounded in the data (Saunders et al., 2019, p. 668). In short, this approach is iterative, or recursive, which means that data collection and analysis proceed in tandem, repeatedly referring back to each other (Bell et al., 2019, pp. 521). Grounded theory is a recognised method of analysis well suited for small-scale research (Saunders et al., 2019, p. 669). This means advantages such as a clear procedure and great opportunities to adapt to different data collection methods (Saunders et al., 2019, p. 668). Applying it to this study would thus have meant a great adaptability regarding the data collection method, as well as a clear working structure.

This study is based on a thematic analysis method where appropriate themes have been identified using a combination of the interview guide and the respondents' stories, with the research questions in mind. Because this analysis is a method that is very open and permissive for the authors themselves to create the workflow, and is considered suitable to apply in a thesis at the undergraduate level such as this, as it is a more simple method compared to other analysis methods (Saunders et al., 2019, p. 652). The authors' focus can thus be attributed to the creation of a detailed analysis, rather than following a lot of strict rules.

As soon as the interviews began, the data was transcribed in between appointments as the interviews progressed. This entailed reviewing the recordings of the interviews as well as thoroughly going over and correcting the provided transcripts. In the second stage of coding the data, the themes from the interviews were used (agile organisations and transformations,

success factors and challenges, and the role of agile coaches). In this stage of the coding, success factors and challenges and what the agile coach did began to mix, as they were inverted versions and reactions to each other, see tables 4a-4e. This made it hard to separate them and instead, new themes were formed. What was most indicative in this study's identification process were the topics that the coaches on their own initiative chose to talk about within the themes of the interview guide, and which they repeatedly highlighted as critical or challenging. To ensure that the data was in line with the research questions, the information was compared to the questions continuously in the process. The identified themes were:

- 1) Agile organisation
- 2) Mindset and misconceptions
- 3) Basic requirements
- 4) Employees engagement
- 5) Coaching leadership and management

Continuously in the coding of the transcripts, the interview segments were categorised according to these five themes, allowing to collect excerpts and quotes on recurring topics (see appendix 4). Some of these citations were included as representative for the group of participants and others in order to highlight specific or outlying opinions. These opinions were selected to provide suitable examples of discussed issues and to provide deeper explanations of the topics. In the reorganising of the data in these new themes, the order of the initial themes (agile organisation, success factors, challenges and agile coaches role) were kept within. The patterns within the themes laid the groundwork for the analysis and discussion provided in chapter 6.

4.4 Ethical considerations

According to Collis and Hussey (2014, p. 30) the term ethics refers to the moral values or principles that form the basis of a code of conduct. All academic studies, regardless of research area or method, must take ethical considerations into account. This becomes extra important in qualitative studies that involve human participants (Saunders et al., 2019, p. 254). Research ethics is concerned with how research is carried out and how the results or findings are reported (Collis & Hussey, 2014, p. 30). Bell et al. (2019, pp. 114-123) presents a number of ethical considerations that should be taken into account:

- 1) No participant may be harmed, whether physically or mentally.
- 2) All participants must agree to participate and know what the research is about.
- 3) Participants' privacy must not be violated.
- 4) Participants must not be deceived or omitted from information.

When conducting the study the authors pledge to ensure that no harm, physically or psychologically, would come to the participants. In this study, all respondents were clearly informed about the purpose, focus and conditions of the study, through the communication by email (see Appendix 2 and 3) as well as in the interview introduction. As the data collection is based on anonymity and confidentiality for both the respondents as individuals and for the organisations that the respondents as consultants have worked with, or are currently working with, it can be argued that the respondents' integrity and privacy to be well protected. Before the interviews began, the respondents were asked for their consent to participate in the study. They were informed of their rights to withhold or withdraw their answers, or to end the

interview entirely if they wished, without giving reasons. The respondents were also asked for permission to record the interviews and transcribe what was said using intended tools in Microsoft Teams, which also ensured that the transcription was carried out correctly and that the respondents' interview answers were reproduced as accurately as possible in the study. All these recordings with associated transcripts were handled and stored in accordance with GDPR and Umeå University's policy for personal data storage and were deleted completely after the study's completion and pass-degree. The respondents were finally informed of access to the finalised study in Digitala Vetenskapliga Arkivet (DiVA). As per request, they too would be informed when this study was available for public reading or be sent directly to them.

5. Empirical findings

This chapter provides a compilation of the data material collected and is presented in text with a summarising table at the end of each segment. Divided according to identified themes and in connection to the research themes, the data is presented with exemplifying excerpts and summaries.

5.1 Structure of content

During the interviews, similar statements and discussions were made by the respondents, which allowed for sectioning of ideas and themes in relation to success factors and challenges. Many of the success factors and challenges were discussed by the respondents as invertible. The absence of one success factor can equal a challenge, which explains the reasoning behind the themes, and not discussing them separately. Following the factors the related actions of the agile coaches is presented under each categorisation. Just as in the case with presented critical success factors and challenges in the theoretical chapter, this categorisation in this chapter aims to simplify the overview of the topics discussed by the respondents. The structure of the themes in which the data is presented follows the categories listed below and concludes the interview themes of success factors and challenges in connection to agile transformations (see chapter 4.3 Qualitative data analysis for more information on the categorisation).

- 1) Agile organisation
- 2) Mindset and misconceptions
- 3) Basic requirements
- 4) Employees engagement
- 5) Coaching leadership and management

Each theme is initially presented with success factors connected to the area, followed up by challenges on the same topic and lastly what the agile coaches do to aid and assist the organisation regarding said success factors and challenges. The exception is the theme ‘Agile Organisations’, which does not contain any challenges and actions as it shapes what characterises an agile organisation and what organisations should strive for in their transformation. Each section concludes with a summary table with highlighted success factors, challenges and actions. Some actions were repeated by the respondents under different themes and in response to several success factors and challenges, they are therefore mentioned repeatedly. The same applies for the success factors and challenges that were mentioned several times as equivalent to others. Some success factors, challenges and actions are missing corresponding factors and are therefore blank in the tables. This does not mean that correspondent factors are non-existing but simply that they were not mentioned during the interviews.

5.2 Findings

5.2.1 Agile organisation

According to Tokyo’s definition of an agile organisation, the agile organisation is team-oriented with strong shared values and team spirit. Around the teams on which the organisational structure rests, there should be support and empowerment, allowing the teams to operate and collaborate among each other. Both Copenhagen and Amsterdam expressed

indications and similar ideas of how the ideal support system should operate for the teams to be able to perform their best. To explain this, Amsterdam said: *“The team has an environment that supports them to be successful. The support is about ensuring that you understand what needs to be solved, what are the challenges and problems that the teams need to try to find their way through and that the environment also ensures that the conditions for the teams to act effectively together are constantly improved.”* Copenhagen too, talked greatly of the support and understanding from the surroundings of the team.

Jakarta put emphasis on shared beliefs and the culture among the teams. Especially, as collaborative and shared responsibility within the agile organisation generates value for both the employees and customers and, by extension, the organisation. Jakarta defined the agile organisation and this phenomena as: *“you have a strong culture of collaboration, if you are successful, where you constantly think of a shared responsibility for how we can ensure that we deliver a good solution that provides value for the customer, users and our organisation as well.”* Talking about value for the organisation as a result of value to the customers and employees resurfaced several times in other interviews as well, which is shown later on. Tokyo and Madrid argued similarly that employees who work together happily, will ensure successful further improvement and change for the organisation, as the agile organisation continuously alters and evolves in the business environment. Copenhagen and Melbourne both stressed that operating in an unpredictable and complex environment, the agile organisation must be able to change and change again. That in fact, evolving and changing continuously is the basis of the method of agility, as is discussed subsequently.

Based on the focus of teams within the agile organisation, networks of teams and team of teams are all formed and work to deliver value to the customer as their primary focus. As Amsterdam said during the interview: *“You keep the teams in the centre of attention and their interaction with the customer so as to focus on creating optimal conditions for the team to be able to serve the customer in the best possible way”*. By proximity to the customer and getting to know their needs well, agile organisations are able to deliver what the customer wants, and do it fast. This characteristic of the agile organisation was confirmed and expressed by Munich as: *“... [the] ability to deliver solutions to real needs. And addresses them with accuracy and with high efficiency. It does not take too long but you have the ability to be responsive. There is a dynamic exchange between customers' needs and your offer.”* The exchange and communication between customers and teams is accordingly important for the agile organisation to be able to deliver value accurately, that focus should lie with the customers. In line with the above, Jakarta expressed comparable definitions of the agile organisation as one with *“razor sharp customer focus”* throughout the entire organisation, not just within the teams. Nor could the customer centric view solely exist within tech or IT for the organisation to be successfully agile. Tokyo was eager to stress the same point as Jakarta several times, the agile customer focus is the whole business' business.

As the need for the agile organisation stems from the external pressure of fast changing and unpredictable business environments, the agile organisation needs to be dynamic and responsive to these changes. Amsterdam continued to argue for this dynamic structure together with the need to understand the problems facing the teams and what is required to solve these as part of the structure. Madrid identified the ability to change and adjust, with fast time to market and great ability to solve problems throughout the organisation as the most prominent characteristics of the agile organisation by the following statement: *“[the organisation has] a very proactive approach, problem-solving behaviour from many in the organisation, i.e. everything from team members to all leaders at different levels.”* By this

statement, Madrid also backed Jakarta regarding the culture of shared responsibility. Synchronised and in harmony, both Madrid and Jakarta explain that proof of success for true agility in the entire organisation is if the team members, managers and the organisation as a whole continue to evolve after an agile coach has left. Jakarta also pointed out that the agile organisation has the ability to evaluate and learn from their mistakes. The agile organisations also strive, and have the capacity, to validate if the right things are being done. According to Jakarta, this is possible with the help of technological innovation but also in regards to how technological innovation is made, if the organisation can evaluate the innovation process whilst its happening, they are evolving to become agile.

In line with Jakarta's evaluation and learning criteria, Melbourne too defines an agile organisation by having the ability to respond to market changes and learn along the way. Melbourne said: *"How should we as an organisation work and live in a world of high complexity? Yes, well you have to try once, evaluate, learn from what you have done and the feedback you get, take a new approach and try again."* Melbourne continued to explain how it is crucial for organisations to increase their ability to change and adjust to the context and surrounding world, change is never-ending and that this is what the agile organisation does in order to stay relevant. As shown before, evolving and changing continuously is the basis of the methodology of agility and like Munich said and previously touched upon, the agile organisation has a high degree of ability to add value in a dynamic exchange, as shown before.

Finally, the agile organisation is, according to Copenhagen: *"... engaging and inclusive where all are working together, participating and team of teams are aligned with the common goals"*. Jakarta expressed that there is a strong culture of cooperation that creates value for customers, users and the organisation itself. With shared responsibility and by empowering and trust, the agile organisation believes that their employees are capable of managing and accomplish their own work. This, Jakarta continued, enables the agile organisation to build people and not products. The meaning of the statement was that education, learning and coaching is important for the people to evolve and improve, because when that happens, customers receive viable value and organisations succeed purposefully. In contrast to non-agile, agile organisations truly appreciate and contrive the value of people, Madrid argued. By automation and lesser focus on repetitive tasks such as time reports, agile organisations allow more focus to be spent on complex tasks which the employees are actually specialised in handling. With this redirection of focus, agile organisations create a sense of pride, as Amsterdam put it: *"...there is a culture of quality and craftsmanship so that as individuals in an agile organisation, you feel pride in the quality you create."*

In this process to become agile and undergo transformation was according to Melbourne a non-linear process and something according to Copenhagen, Tokyo and Amsterdam something that occurs evolutionary. As Amsterdam said, there are different ways and one to avoid would be the big bang approach: *"... the first is a variant [of agile transformation] that I may not believe in and that I have not yet seen implemented successfully. It becomes easy to try to transform the entire organisation all at once through a big bang implementation by applying predetermined patterns on how we should work."* Amsterdam personally favoured an evolutionary approach, which every single respondent agreed with. In addition, Melbourne expressed why looking at the transformation as something with a start and a finish would be troublesome: *"... when it comes to change processes nowadays, you will never be finished. The trick for successful companies is to become good at being changeable."*

Table 4a. Agile Organisation empirical success factors

Success factors

Supportive environment around the team

Shared beliefs, culture and collaboration among the teams

Customer-centric view and value adding.

Ability to deliver solutions to real needs

Fast and flexible delivery

Ability to learn and established feedback loops

5.2.2 Mindset and misconceptions

Success factors

When the respondents were asked why they usually got contacted by organisations and what they had to work with early on in transformation processes, the answers all concerned mindsets, misconceptions and visions of agile and by the organisations. Like many other respondents, as is evident, Jakarta said that vision is crucial for an agile transformation's success. The vision is argued by Amsterdam and Copenhagen, important in the beginning of the transformation journey as well as further down the line. Management must keep reminding employees of this vision so that it is not forgotten along the way. Expressed by Copenhagen, management might as well be nagging and repeating the vision to a fault to keep in employees mind's the reason why the organisation is in fact undergoing a transformation in the first place.

Amsterdam continued with the importance of the next step to visualise the problems and work with them. According to Amsterdam the vision should include and symbolise more than just the result, it should symbolise the mentality and the reason for the change: *"The key structure is to set a guiding direction of principles that describe how we should be in the future. For example, operate with fast flow, have customer-orientation, have leadership based on developing leadership foundation and so on. Then you get guidance in the transformation work that you then start with and that change work is built around that structure so that everyone is included with the ability to find what we can do in our context that helps us get to the desired principles."* Ultimately, the guiding vision might be revised during the process, but should nevertheless be present from the start. Likewise, Munich said that organisations need to determine what effect and result they want to achieve with the agile transformation process and effectively visualise that picture internally.

Shifting the mindset of the organisation from traditional ways of working to truly encompassing the agile was the next big step for many. Munich stressed how the business should only be equal to customers and employees, not superior to them. Melbourne and Copenhagen both explained how during the transformation, organisations should not expect to be able to deliver as usual. Any transformation, as the word suggests changing something majorly, will conclusively take attention and production capacity from other tasks and cost a lot of money. As Melbourne explained it: *"To realise that this takes capacity from us. It is not only that the transformation costs money, but it costs power from all employees within the*

organisation because you throw them into uncertainty. This means that we do not have the full capacity to deliver or do our usual job.” The organisations’ focus must therefore be on the ability to change, according to Amsterdam, and let go of the “*Year cycle tyranny*”. The year cycle tyranny according to Amsterdam is where planning and budgeting is based on annual cycles whilst the conditions for the operations end of the organisation change excessively faster than a year or a quarter. For the agile transformation to be successful, organisations need to break free from old structures and replace them flexibly by capacity to plan and follow up on an ongoing basis rather than following the calendar year. Amsterdam said: “*As we are used to a certain organisational structure, perhaps divided into functions, it is challenging to understand and accept that it is not optimal. Especially [challenging is it] if those responsible for the transformation have not yet experienced what agile is all about. You do not really understand and then you cannot accept it either.*” This was, according to both Munich and Amsterdam, a large portion of the challenges in the beginning of, and sometimes throughout, the transformation process.

Challenge

According to some of the respondents, the reasons behind organisations' desire to change are sources of misconceptions. Two of them were Jakarta and Melbourne, who argued that the firm is doing it wrong if the organisation commenced an enormous transformation just because everyone else is doing it. Melbourne said that with the wrong motivation, the risk of failure is imminent, and that the reason is commonly FOMO (fear of missing out): “*Everyone else is agile so we want to be agile too*”. Another respondent arguing the same line was Amsterdam. The risk, according to Amsterdam, is that when organisations hear simple buzzwords about different agile methods, they begin to implement it just because management pushes the agile framework and methods onto the organisation and onto the employees. When an organisation is pushed by the management and low employee engagement is in the opinion of Jakarta something you call mushroom management. Unless the reason for the transformation is embedded with the employees, no management nor agile coach can help the transformation. Jakarta continued: “*... external experts and best practice can help you a bit on the road, but you have to do the work yourself and include the people within the organisation.*” Concluding, everyone in the organisation has to be involved and motivated in order to be able to create a change that will last and continue to develop over time, Jakarta said. When organisations try to apply predetermined patterns or implement finished frameworks, the changes fall through as soon as the external coaches and thereby the motivation, leave, in the opinion of Amsterdam and Jakarta. Melbourne said that since there is not one method that fits all, agile should be viewed as “*... a mindset, a method, a tool, it cannot solve problems by itself*”. Melbourne also explained how agile method is context dependent and better fits into a particular context that can be categorised as complex problems. One common misconception as to how and when agile is actually useful. The challenge for coaches is to make organisations understand that it is when they are in a complex problem domain that agile is compatible, and how they have to work to operate within a changing world.

When discussing the perception of time, Munich, among others, presented how the misconception of the transformation being finished after the implementation stage makes the ongoing and important work of evolution stagnate. Jakarta, compliant with Munich, said: “*One of the biggest mistakes organisations make is to view the agile transformations as a project with a start and an end.*” There is no finish line in agile and can therefore not be considered a temporary project. Time continues to be a challenge as Amsterdam and Tokyo said that equally dangerous for further evolution is wanting to change too quickly.

Additionally, Amsterdam explained: *“The biggest mistakes are probably that you are too stressed, that you want to hurry up and then you do not take the time to change at a pace that you are capable of, but also not to reflect and learn about what the transformation actually means. You just rush in somewhere.”*

Jakarta mentioned organisations sometimes create such a big change that the energy runs out and the change stagnates when agile coaches leave, which too, is a way of rushing. Melbourne gave nuance as to how this rushing through might happen and why it fails: *“It is very common to give a lot of support at the beginning of the change journey and then stop training and coaching. But if you think of early adopters, early and late majority and so on, then once you get to late majority and laggards at the end here, those who have not grasped the concept yet and do not want to. Then you have the least support from agile coaches when it's time for those who need it the most.”* Suggestively, the work for education, coaching and support should continue even after the pilot is finished and consequently be planned and budgeted for as well. Melbourne explained that early adopters, so too those for agile pilots, are usually eager to try out new things and easily motivated. These people will need coaching regarding how to operate, but will soon be running on their own. The ones who often need more convincing, coaching, help and resources, are the majority, late majority and laggards. The risk is for the pilot to determine how much coaching and resources the transformations project might need, when in fact, it will need much, much more.

Action

As agile coach and consultant Amsterdam explained, the job usually entails, broadly speaking, to clarify and help implement the agile concept since organisations are missing desired results after conducting business in a traditional way. Exemplified as an action, Copenhagen's first recommendation for any organisation undergoing an agile transformation or coaches aiding them in the process, was to create a shared vision for the change which would motivate and explain the need for the transformation. The words Amsterdam used was to hold on, referring to a shared vision. This was explained: *“Just because you set the structure [for the transformation], it will not work painlessly. Then we begin to make visible all the problems that exist, which already existed before, and do something about them. But then you need to take that energy, hold on, so that you are not surprised by the problems and lose faith in what you do”*. Tokyo concurred and said the job is over all aiding in vision formulation, guiding, educating and coaching but presented where the coach usually starts: *“First. Talk about why [an agile transformation]. That, it's probably the most important thing for everyone. That you know why you are making a change. Second. Guide and educate. And by guide I mean coaching.”* Jakarta has worked with the vision in a similar way by communicating the vision and encouraging organisations to be transparent with their vulnerability to the employees and themselves. This would generate understanding as well as ambition. Madrid wanted to communicate this vision not only internally but externally as well.

Madrid added in regards to the main assignment by stating: *“As coach you must be attentive and have the ability to adjust the plan according to the real situation and circumstances. It is not a linear process.”* This would be an example of the guiding role mentioned by previous coaches as well. Munich argued the difference between guiding the organisation and the misconception of the coaches doing the job for the organisation, arguing for organisations to be involved in itself to shape the transition according to its own needs: *“The point of getting external help is not for anyone else to make the change for you, because it is your own*

responsibility. Ownership needs to be on those who make the transfer, i.e those who need the transfer in the organisation”.

Jakarta and Melbourne both said as coaches to approach the transformation process through mapping and interviewing the employees from different departments and levels in the organisation to create a shared image, an overview, of the situation. Different departments have different issues, and different levels have different experiences of what the issue might be. In this interviewing and mapping process, Jakarta said that the work preferably should be done together with someone on the inside with the ability to continue the work even after the agile coach is gone. Jakarta explained: *“Either I do it with a [n external] colleague. /... / But usually I try to find someone who is employed internally. A coach for example, someone who will be involved and really be able to take this further in the organisation even after you leave.”* If only external coaches get into the problem identification, it can lead to the internal employees being disconnected from the change and transformation. Melbourne, working in the same way as Jakarta, explained the next step as to map and define the actual problem, once it is mapped the job is to turn the problem around and find out what success means, i.e. define what it would be like when the main problem would be no more. Melbourne also stressed the importance of employees from different departments and levels in the organisation during this process just because what senior management says is the problem is not necessarily the most important problem to solve looking at the entire organisation. The mission for the coach is therefore to leave no stone unturned in the search for a greater understanding and create a shared view. During this process, Melbourne said *“...it cannot be done as a linear process, we have to continuously find lots of feedback loops and that's how we should work.”*

Table 4b. Mindset and Misconceptions empirical success factors, challenges and agile coaches actions

Success factors	Challenges	Actions by agile coach
Shared vision	Vision is detached from reality	Investigate and map old ways of working together with the organisation and clarify.
Communication and transparency to employees	-	Visualise the pain-points. Leave no stone unturned in the search for a greater understanding and shared view
Shifting the mindset and accepting uncertainty	Legacies of old structures	Coach management and shift focus from the processes to the desirable effect
-	Begin the transformation for the wrong reason	Identify the organisations' "why"
Involve the organisation as a whole	Push instead of pull	Tailor and help the implementation of the agile concept
-	View the transformation as	Find and involve someone

	a project	internally employed who will take the mindset further in the organisation
-	Wanting to change too fast	Help to set aside time for change and lower expectations on production capacity during the change Point out and bring awareness that it is expensive to make drastic changes

5.2.3 Basic requirements

Common among all respondents, some factors were seen as outright crucial for any transformation to take place at all. These factors have been grouped into leadership, people and technology. There are many other aspects involving these groupings of course, but some were seen by the respondents as absolutely vital to take into consideration and are therefore presented here. Additional connections or aspects of the groupings can be found elsewhere under some of the other themes as well, but as they are considered deal breakers if not addressed, so they are deserving of their own theme.

Success factors

The first make it or break it grouping was leadership and management onboard. Argued by Amsterdam, *“As I’ve said before, the leadership at the top must be behind the change and also embark on developing their own leadership according to what they want to develop towards. It is absolutely necessary.”*. As is separately discussed in the theme of coaching leadership and management, this was something all of the respondents agreed on. The amplitude of an agile transformation requires awareness and buy in from leadership at top level. To what extent this buy-in comes, is what can be discussed, but there is no doubt regarding the necessity for management participation.

Management's involvement addresses the issue of funding and as Munich argued, to ensure there is funding that corresponds to the scale of the desired change. Melbourne pointed out the difficulty to defend the method if the management is not willing to set aside time and other resources for it. Arguably, when transformations stop, it is often the funding that is the problem. In order to set aside corresponding funds, Tokyo advocated a close cooperation between management, agile coaches and the operations to map the current situation accurately early on and find the problems and the pain points within the organisation. Further, especially the time aspect reappeared among other of the respondents. Amsterdam ushered how management must create space for improvement and development. In order to balance business and change, management must allow for and accept a lower capacity level during the transformation. Copenhagen followed up with how it is management's responsibility to free up time during the day for people to be able to work with the change.

It is easier to become agile if every part of the organisation is involved, even crucial, according to Melbourne. Including HR in the process is one way presented by Amsterdam to get the support you need. Madrid said that you cannot force people to change, they have to

want it themselves and that it is hard to transform an organisation under stress. When focusing on the people within the organisation, strive to remove stress, lower the level of ambition for production momentarily and it would be easier.

Challenges

Highlighted by some respondents (Amsterdam, Copenhagen, Tokyo and Madrid), was the challenge for many organisations embarking on their transformation journey: old technology parks and systems. Amsterdam and Tokyo insinuated both how old technology and systems slows processes down, decreasing the motivation as well as it simply makes it impossible to live up to fast expectation and iterative improvement. If the architecture does not allow for fast sprints or releases, then changing to agile mindsets will not help development forward. Stated bluntly by Madrid, organisations sometimes should not even start with the processes, instead they should start with the culture, architecture and competence as you cannot take agile and just put it on top of everything else if everything else is not working. This was a consequence of poor management support, according to Madrid.

Copenhagen had experienced stress regarding the change and therefore repeatedly stated how managers must understand that other things might have to wait during a transformation. As put by Melbourne: *“For the company, the entire organisation, to be agile, the other functions must also keep up with it and understand it. /... / Because if management says that, no, you do not get money to do this, we do not intend to invest in this. Yes, well then it's hard. Then you will not go further than that a bunch of middle managers in an IT department will be very crowded and have to fight to be able to explain that, yes but we do not have time to do this as you want to do, because we are changing our working method for scrum...”*. On the same line of thought, Jakarta argued to include HR early in the transformation as they usually have experience and knowledge regarding coaching and development of middle management and leaders in general.

Actions

As agile coaches set out in the beginning, HR is encouraged to join in early, Amsterdam continued, together developing guidelines for the long term and based on a clear vision. Assisted by HR, the agile coaches focus on training and preparing management for the agile transformation. Both Amsterdam and Copenhagen spoke about the training essence, which is addressed further under coaching leadership and management. Amsterdam also wanted to shift focus from the processes to the desirable effect. Kindred to, Tokyo recommended creating a vision and a clear goal, defining what effects the organisation wants to achieve and thereafter communicating what is happening, for whom and why. No surprises should come from management for the people within the organisation, focus should be on inclusion and understanding. Madrid added to this aspect of creating visions that it is not only what you are saying in the beginning that is most important, it is what you do and how you act when problems or obstacles arise during the transformation journey. Madrid said that the vision is a tool, to aid on the why and create understanding, *“... but the continuous motivation gets tested with every new obstacle.”*

Copenhagen and Melbourne both counselled to find out where the pain-points are, and work evolutionary through the organisation. After the investigation and mapping you have to rank the most important things to start with. It could well turn out to be as Madrid explained, another approach and start with the technical tools and make them agile before you start to change the processes. Madrid once heard and repeated *“Agile is like chess. There are few rules, but an infinite number of moves.”*, which would summarise the transformational

challenges and lead to organisations taking external help from agile coaches. Madrid and Copenhagen liked to encourage change among employees through problem solving which could create motivation, by giving them a chance to breathe before the, sometimes challenging, transformations begin. Melbourne added in regards to competences among employees: *“Dare to trust your staff. They are adults, you hired them because they have smart brains. Make sure you let them do their job and what they are best at.”* Melbourne also pointed out that it is not a linear process, you have to do it step by step and learn while doing it. As an agile coach, Melbourne has had to remind organisations that it is not the delivery itself that is the most important thing, it is the effect on the customers.

Table 4c. Basic Requirements empirical success factors, challenges and agile coaches actions

Success factors	Challenges	Actions by agile coach
Management buy-in	Management passivity	Prepare the leaders through training
Management support	Lack of funding, time and resources	Cooperation between management, agile coaches and the operation to map the current situation accurately
Shared vision	Vision is detached from reality.	Investigate and map together with the organisation and clarify.
Involve the organisation as a whole	-	Encourage involvement, including HR and other support functions
Stress relief	Lack of funding, time and resources	Create time and space to work with the change
Employee empowerment	-	Trust the staff. Empowerment of employees and coaching
-	Old technology parks and systems	Review technology

5.2.4 Employee's engagement

Success factors

An area, or factor, seen as a common denominator for successful agile transformations is the level of engagement or passivity among the people. High engagement and how to build it within the organisation was focused on from different perspectives by the respondents. The employees ability to control and influence their own work was argued by Amsterdam to build engagement and *“... focus on creating the opportunity for teams to start experimenting and find a way forward.”* Similarly the importance for leaders to give allowance for trial and error for teams to aspire, was said by Copenhagen to create engagement. Jakarta and Munich agreed with Amsterdam in that employees appreciate to influence their own work and to have the opportunity to experiment with their own tasks creates engagement. Melbourne explained how team autonomy can engage employees and aid in the agile transformation. Melbourne said autonomy could be operated like: *“... you have a product orientation in your company*

rather than a function orientation. You then give them the opportunity to drive product development in their 'company within the company'. Gives in turn a higher degree of commitment". By moving decision making to where the information is located, Melbourne argued, creates engagement through autonomy. Amsterdam also argued for similar autonomy, through a philosophy that sees people as people and that they are capable. In contrast to the others, Tokyo argued that transparency and follow-up encourages teamwork more than anything else. By creating a feeling of togetherness, it will in turn generate engagement.

Challenges

Inverted to control and influence; Amsterdam, Copenhagen, Munich and Jakarta argued that lack of control and influence over their own work, no room for experimentation nor trial and error, effectively carries people into passivity and dissatisfaction, equal to great challenges. In turn, leaders experience frustration seeing their teams being passive and this was pushed by Copenhagen. Jakarta presented the support for creating engagement as a common challenge, if the right conditions are not created, no time is freed up or the right tools are missing, motivation can, and probably will, decrease. According to Munich and Tokyo, leadership can create passivity among employees when they do not take into account the real needs of the organisation, does not involve the employees and it becomes apparent when the vision does not correspond with the conditions in the organisation. Like Tokyo put it: *"The team easily becomes critical of working in the agile way. If you have gone out and said 'oh, now we will be so fast, now we will deliver often', then you cannot practise it."* Tokyo also shed light on the challenge of dependence between teams which slows down and complicates the process. Excessively long lead times drive engagement into rock bottom fast. One challenge connected to engagement and misconceptions was presented uniquely by Jakarta as the issue with pilot testing. Jakarta explained that the people who are usually on their toes and generally active are the ones who often jump on these pilots. This may create problems when others, late majority or laggards, are then expected to do the same work with the same, or even less, support. They might in fact require more support and education than the pilot. If all the energy has been directed towards the pilot then there may not be resources or energy left for the rest of the organisation, where it turns out, the energy is actually needed. Jakarta continues, as attention to particular departments or groups may create engagement among the people within the group of focus, it might at the same time cause the opposite effect with the people outside of the focus group. Passivity might arise as teams see how focus is directed towards everyone else, and never towards them.

Actions

The agile coaches had different solutions and focused on different areas to build engagement, but building engagement was commonly the focus of actions. For example, Amsterdam stressed the importance of being present on-site to best be able to coach the organisation. Visualise the current situation which everyone in the organisation can agree on. Through this method, Copenhagen agreed buy-in from leadership comes, and that no change will be possible without leadership on board, and subsequent engagement from employees will follow. Amsterdam liked to facilitate workshops and ceremonies during the transformation. Tokyo mentioned the same thing as external support, it is important to facilitate ceremonies and spend time in teams and aid management and scrum masters so they can continue the work after the coaches leave.

Madrid said actions to focus on groups, people or departments with low energy, find so-called pain points, to help them with their needs. Contradictory, Jakarta wanted to *"... work with the willing and the rest will follow"*. Jakarta also acknowledged the need for education and

support to the organisations entirety and assist where the problem was located, to help the people solve their problems. In fact, several of the respondents liked to focus on pain points similarly. The agile coach should continue with education and development even after the pilot to address the needs of late majority and laggards. The continuous education and assistance through trial and error helps the teams to evolve. Munich liked to create momentum by solving problems that people care about, and Madrid tried to help them solve their problems, which will give them confidence to further change and engage.

Table 4d. Employee's engagement empirical success factors, challenges and agile coaches actions

Success factors	Challenges	Actions by agile coach
Employee empowerment	Employees lack of control and influence over their own work	Create the opportunity for teams to start experimenting and find ways forward.
Team autonomy	-	Create the opportunity for teams to start experimenting and find ways forward. Move decision making to where the information is located
Learning, trial and error	-	Give allowance for trial and error. Help teams and people solve their own problems to give them confidence
Pilot testing	Misjudged pilot testing	Give allowance for trial and error. Help teams and people solve their own problems to give them confidence

5.2.5 Coaching management

Success factors

Was there ever a cardinal factor for success, all of the respondents were in agreement, management support is it. Leadership and management on all levels, from top management down to informal leaders within the teams themselves, and all middle managers in-between must be onboard with the change. Copenhagen, as stated before, stressed the importance of buy-in from leadership. Jakarta expressed that management support is crucial for success: *“Support is needed from top management in the organisation. /... / If there is no one in the company management who is passionate about this, then there will be very little chance of success.”* Melbourne said to make sure management is onboard and Madrid added the perspective of the in-official leaders' will to change is important too. So, when management is in, Amsterdam said that, presence and engagement in the change must come from leaders, for employees to feel the involvement. Copenhagen wanted leaders to show good examples, show by doing, and Munich agreed with leading by example. Munich also mentioned the management support unites the image of what the organisation wants to achieve and that

change leadership is built through trust. The factor of psychological safety as a success factor was mentioned by Copenhagen and Madrid as well. Madrid added that managers must allow and accept for learning to occur to a greater extent: *“There must also be what is usually called this psychological safety. It's ok to try and it gets wrong sometimes and we learn something from it. So we take a new approach and then it becomes more right and so on”*.

Challenges

The learning was emphasised as a challenge specifically for managers, as they are, according to Amsterdam, far away from the feedback loops compared to the teams. The lack of direct and indirect feedback to managers makes it more difficult for them to adopt and adjust to the agile mindset. Jakarta pointed out that there is little education for middle managers on the market, how they can change their leadership style and therefore it is hard to understand how to do this 'coaching leadership' in practice, implicating a challenge. This coaching leadership for their ability to coach themselves and their teams was stressed by Copenhagen, as it is easy to ruin and destroy delicate trust among teams and employees, both to the process and the vision of why. Further connected to leadership was passivity by Copenhagen, as it is a challenge for change when leaders sometimes feel they are excluded from the transformation, that it does not affect them and they therefore stand passive on the sidelines. Munich added to the same aspect, that an agile transformation is an extensive investment and there is no guarantee that it will succeed which therefore makes the trust key for future development. Tokyo later expressed that, *“If you do not have the support from the management, you will soon, as it were, run into obstacles /.../ that you introduce foot shackles, and with foot shackles, we will not be able to run”*. Quite unanimously the respondents argued that the transformation is impossible to succeed if the management is not onboard and if they are not willing to change their own way of working. All of Copenhagen, Madrid, and Melbourne used the word “impossible” when describing any change, let alone agile transformation, without management onboard.

Actions

Ultimately the first action for the agile coaches, stressed by Copenhagen, is as a coach to get buy-in from leadership. In the same spirit, Madrid said the mission includes to coach leaders in their leadership style so they can find their own way and for the teams *“... be able to create joy and less stress.”* Munich addressed a similar thought, by enhancing management's understanding of its own role in the transformation in order to get them aligned with the pressing needs of the organisation. The focus, according to Munich, is to prepare the leaders *“It is important to train leaders. Proactive to a change, you want to have trained the leadership before. So that they partly see what is happening so that they can proactively act on what is happening and not end up in the backwater, they feel like a natural part and know how to drive change. They feel safe with how to work with transparency and communication to many. They have trained their ability to make decisions under uncertainty.”* This issue was as true for formal leaders as for informal leaders according to Tokyo, as they too, impact people around them and their motivation. This means that the agile coach as an action may need to work with leadership/motivation even among informal leaders in order to ensure collective motivation. One way presented by Jakarta was to include HR in these questions, to assist middle management as coaching is new and hard for managers but usually something HR has worked with for a long time. Jakarta also distinguished the type of aid that was given from the agile coach to teams and managers dependent on who asked for it: *“Like a colleague once said to me, if a team asks me to coach them, then I coach them and help them get better with their way of working. If a manager asks me to coach a team, then I coach the manager.”*

Additionally, as an important action, Amsterdam wanted to, together with management, identify obstacles and problems in order to understand, address, and support teams with different issues. In this process managers should join as they too are part of the teams. Because agile transformations might be both extensive and expensive, Melbourne would like to point out and bring awareness to this fact: “*It is expensive to make drastic changes and it is important for managers and employees alike to realise*”. Melbourne continued to explain that as a coach, this is something that must be communicated to the organisation early on in the process or the misconception might have dire consequences for all involved.

Table 4e. Coaching Management empirical success factors, challenges and agile coaches actions

Success factors	Challenges	Actions by agile coach
Management buy-in	Management unwilling to change	Prepare the leaders through training
Leaders lead by good examples	Leaders are far away from the feedback loops	Enhancing management's understanding of its own role in the transformation
-	Little or no specific education for middle managers	Coach middle managers specifically and include HR
Management support	Lack of funding, time and resources	Coaching and support management to create engagement

5.3 Summary of empirical results

The *agile organisation* was recurring as to what to aspire for during an agile transformation and when an organisation would be considered agile. What was highlighted as prominent characteristics was, among other things, customer-oriented, flexible and cooperation between the teams. *Mindset and misconceptions* were commonly stated as both major success factors and challenges and something agile coaches worked a lot with in many organisations. A shared vision was one of the mentioned success factors, and in contrast a major challenge if the vision did not correspond to the reality of the organisation. *Employee's engagement* and *coaching leadership* were two overrepresented areas in which keys for successful transformations lie according to all respondents and ultimately where a lot of the coaches focused their energy. Both employee engagement and coaching leadership and management carried weight in cases where transformations had been unsuccessful, or failed, which gave insights to challenges during a process and why coaches focused on these areas. Team autonomy, transparency and leading by example were highlighted as important success factors and lack of control of employee's own work and leadership passivity, as challenges. The *basic requirements* were extracted as its own theme due to the gravity of some factors which would be repeated by, if not all, then the majority. The interpretation was that all respondents found the basic requirements to be immensely important, and the reason for differentiation of the responses would be because of varying lines of thought during the interviews; not disagreement to the necessity of the basic requirements. What was highlighted

as crucial success factors were management buy-in and trust in employees together with the challenges of management passivity, lack of funding, time and resources, as well as old technology parks.

6. Analysis and discussion

This chapter addresses the empirical findings in comparison to existing literature and theory. In section 6.1 the characteristics of an agile organisation and what drives a transformation is addressed and compares the empirical data to existing theory. This is in order to provide context of the following segments and be able to discuss the data in relation to the research questions. Section 6.2 attends to the research question: *What challenges and critical success factors do agile coaches identify for a successful transformation process?* Identified critical success factors and challenges from the empirical findings are stated compared with the literature. Finally in section 6.3 the actions by agile coaches are analysed in relation to the research question: *How do agile coaches aid and assist organisations during an agile transformation process?* Actions identified in the data are discussed alongside existing theory.

The analysis of the critical success factors and challenges began with a comparative screening between the empirical data and the emphasised success factors and challenges in the previous literature. The purpose of the screening was to identify, in step one, which factors were discussed by the respondents that also were discussed in the literature. Step two was to separate the success factors and challenges that had a corresponding equivalent in the literature, from those that lacked an equivalent. Those who lacked a corresponding success factor or challenge were considered to be uniquely expressed by the respondents and thus also the unique contribution to the theoretical agile research area. Discussing the factors separately was therefore justified, thus explaining this separation. Step three was to discuss each individual critical success factor and challenge individually to identify any similarities or nuanced differences compared to the literature.

The second objective of this study was to shed light on the actions which agile coaches take to aid and assist organisations during agile transformations. The empirical findings were categorised in the themes according to success factors and challenges identified from the data in Chapter 5. In connection to all success factors and challenges, actions by the agile coaches emerged in the data. So even as the success factors and challenges addressed different themes, the actions which the agile coaches took appeared to be focused in three distinct areas depending on what issues were addressed by the action and whom it affected. The 20 actions identified in the data are discussed in relation to theory as either related to a success factor or challenge, implicit or explicit. In some cases the actions are exemplified by literature as a separate factor. In other cases where theory is missing in regards to a certain action, this is highlighted to respective action. This discussion finally resulted in the general discussion in section 6.4, where obvious similarities or possible differences were summarised.

6.1 Agile organisation and transformation

6.1.1 Agile organisation

The ambition for any agile transformation is to be operating as an agile organisation in the future. To be able to create a picture of what that entails, the respondents were asked to define the agile organisation. They all agreed the agile organisation has a customer-centric view and prioritises value adding for the customer before anything else and that it should be convoid

throughout the entire organisation. The agile organisation should also have the ability to deliver solutions to real needs experienced by the customer. In Holbeche's (2018b, pp. 11-13) definition of the agile organisation, customer satisfaction is too one characteristic why accelerated innovation speed should address customer needs. This customer focus is commonly repeated in theory and in agreement with the respondents opinion of importance (Power et al., 2001, p. 262).

The respondents added the characteristic of fast and flexible delivery which goes hand in hand with the ability to learn and establish efficient feedback loops in order to deliver mentioned customer value. The rapid delivery and key feedback loops has anchoring in theory as continuous learning and improvement capacity (Joroff et al., 2003; Brosseau et al., 2019, p. 2; Holbeche, 2018a; Denning, 2018a, p. 5; De Smet et al., 2018, p. 12). The learning was highlighted by the respondents as a necessity for the agile organisation operating in an unpredictable world. Possessing the ability to change and adjust dynamically is not only for the customer according to theory either, but for survival in the competitive environment as well (Holbeche, 2018b, p. 12). This too, was argued by the respondents, as the agile organisation needs to be dynamic and responsive to the changes in the environment in which the organisation operates.

The final leg on which the agile organisation stands, according to the respondents, are the teams and valued employees which the organisation should revolve around. The surrounding environment for the teams should be supportive and easily consulted if need be. The team of teams as well should be working openly with shared beliefs, shared culture and collaboration among the teams, argued by the respondents. In parable, the team and people focus too is agreed upon within the literature (Beck et al., 2001; Denning, 2018a, p. 5; Bresciani et al., 2021, p. 171; Appelbaum et al., 2017).

6.1.2 Agile transformation

It became clear that there is no step by step instruction the respondent wanted to provide organisations with, as all of the respondents adjusted and varied in their services and assistance between different cases. This was in line with the theory which repeatedly argued the complexity in transformations and no copy-paste solution exists (Denning, 2018c, p. 5; Dickert et al., 2016, pp. 96, 104). Although, different approaches were touched upon by some of the respondents even if the exact steps were missing.

All of the respondents discarded the approach of transforming an entire organisation all at once, as *big bang* or *all in* would suggest. Additionally it was argued by the respondents that the transformation is something never to be entirely finished as the evolution should continue as long as the surroundings change. This would challenge the view by theory as transformation as something occurring in steps, with a pre-phase and finish (Parizi et al., 2014, p. 248). However, viewing an organisation transforming evolutionary as never ending is discussed in the 'Agile Organisation' segment above.

The respondents took a greater stance in the opinion of not wanting to describe the agile transformation process in terms of steps and phases. As literature explained agile transformations as unique cases, some general conclusions of steps or actions were still presented. In this phase dividing, respondents disconnected from literature and replaced the phase perspective with stepless areas of action.

These areas are discussed in 6.3 ‘the role of agile coaches’, under the areas of *mapping and visualisation*, *aiding management* and finally *aiding teams*. Mapping and visualisation has similar elements as the literature preparation phase, but not solely. Aiding management included similarities to both the adaptation phase and the adjustment phase in the literature, but with a greater emphasis on continuous education and support towards management whilst at the same time reminded more of preparation than anything else. Finally aiding teams, just like aiding management, had components of all three literature mentioned phases but was presented as a crucial single area to work with by the respondents. An aspect which could contribute to this differentiation could be the gap between academics and practitioners. The respondents, practising and experiencing the transformations, become greatly aware of how much back and forth any transformation goes. Academics on the other hand, usually come in and describe the agile transformation when it is finalised and are therefore able to describe it in steps and phases.

The respondents all avoided describing the agile transformation as something organisations could plan for and carry out in a step-by-step manner. However, the actions mentioned by the respondents and categorised under mapping and visualising could all be viewed as something actionable in the beginning of an agile transformation, as some of the literature has called it the preparation phase (Parizi et al., 2014, p. 248). Following the work in preparations come adaptation and adjustment phases (Parizi et al., 2014, p. 248; Smart, 2018, p. 58; Denning, 2018c, p. 7) which link to some of the actions presented as aiding management and/or aiding teams and building employee engagement. In the order the respondents presented some of the actions agile coaches take during a transformation, resonated with examples and actions defining the different phases. The possibility to think of the actions as steps following each other is the reason for the presented order in 6.3 as long as it is accompanied by the awareness of a non-linear process and a lot of moving back and forth. In working through the organisation and all departments and teams, talking about the transformation process, several of the respondents were hesitant to use the terminology “transformation process” with the risk of viewing it in a step-by-step sort of way. Some of the respondents pointed out that the agile transformation is not a linear process, nor should it be portrayed as one. Even though theory presents steps, previous literature agrees the transformation itself is a non-linear process (Denning, 2018c, p. 7; Smart, 2018, p. 59). The organic transformation is a way which ensures that the agile way of working is tailored to the organisation's conditions and needs and consolidates the philosophy in the employees' consciousness (Denning, 2018c, p. 7).

6.2 Identified success factors and challenges by agile coaches

In Table 5 and 6, the success factors and challenges identified from the empirical findings and the previous literature are visualised. The table presents the factors from the empirical data next to the corresponding factor identified in the literature. The box was left blank if no corresponding factor in the literature existed. The success factors with a corresponding success factor in the literature will be further discussed in section 6.2.1, and the challenges with a corresponding challenge in the literature will be discussed in section 6.2.2. The success factors and challenges that lacked a corresponding success factor or challenge, considered new ones, is discussed in section 6.2.3.

To demonstrate similarities and differences, each success factor and challenge from the empirical findings is further discussed in the respective section from the respondents'

perspectives, and weighed together and compared with the corresponding factors in the literature.

Table 5. Comparing empirical and theoretical success factors

Success factors from the empirical	Success factors from the literature
Shared vision	Create a vision and strategy for the transformation
Communication and transparency to employees	Communicate the change intensively, internally and to external stakeholders
Shifting the mindset and accepting uncertainty	Change of mindset of the workforce Change organisational culture/create an agile mindset
Involve the organisation as a whole	Align the organisation to the needs of “agile”
Stress relief	Decreased number of projects per one employee
Employee empowerment	Empower employees to make their own decisions
Learning, trial and error	Provide pieces of training for employees
Team autonomy	Project teams can self-organise
Pilot testing	Start with a pilot to gain acceptance Gather insights from a pilot
Management buy-in	Top management buy-in and support
Management support	Top management buy-in and support
Leaders lead by good examples	-

Table 6. Comparing empirical and theoretical challenges

Challenges from the empirical	Challenges from the literature
Begin the transformation for the wrong reason	-
Push instead of pull	Top down mandate creates resistance
View the transformation as a project	-
Wanting to change too fast	-
Legacies of old structures	Keeping the old bureaucracy
Old technology parks and systems	-
Employees lack of control and influence over their own work	Old commitments kept
Management passivity	-
Vision is detached from reality	-
Misjudged pilot testing	Pilot testing
Leaders are far away from feedback loops	-
Management unwilling to change	Management unwilling to change
Lack of funding, time and resources	Lack of coaching, lack of training
Little or no specific education for middle managers	Middle managers' role in agile unclear

6.2.1 Success factors

Shared vision

Creating a common vision for the agile transformation and the organisation as a whole is a significant success factor that emerged in the collected empirical data, as all respondents discussed its importance. This includes specifying what the organisation strives for and the desirable effect of the change. Having a clear and common vision that everyone understands can serve as a landmark and motivation in times when challenges or problems arise, which several respondents argued will happen sooner or later. Without a clear vision, it is much easier for the various members of the organisation to get lost in the agile world, resulting in the transformation being less successful. Creating a common vision is also something that is discussed in the literature, but to a much lesser extent. In the study conducted by Naslund & Kale (2020, p. 499), creating a vision and strategy for the transformation is grouped under the category 'transformation planning', which was a success factor category which received relatively little attention in the study. Something both the respondents and the literature agree on, however, is that clarifying the vision should be the primary focus before the transformation begins. What sets the literature apart from the respondents is that the agile

coaches further highlighted that the vision should be continuously repeated so it is not forgotten. The previous literature mainly highlighted vision creation as a task during the planning phase of the transformation (Naslund & Kale, 2020, p. 499), meaning a clear distinction from the respondents.

Communication and transparency to employees

Communication and transparency to employees, regarding both vision and problems, is the second success factor highlighted in the empirical findings. Communication about the vision is just as important at the beginning of the transformation, to motivate the change and explain the need for it, as during the transformation process to remind why it is implemented. Some respondents highlighted that this should be communicated both externally and internally for all stakeholders to understand the meaning. They argued that if management handles problems in the same transparent way as the vision, employees can gain a better understanding of the transformation, which can act as a motivation boost. This also sets a good example for the agile way of working that further establishes an inclusive and understanding organisation, argued by some of the respondents. Previous studies also confirm the importance of transparent communication and that it can increase motivation for employees, called 'communicate the change intensively, internally and to external stakeholders' in Naslund & Kale (2020, p. 494). In the literature it is emphasised more generally where a transparent communication should permeate the entire organisation and all processes and not only vision and problems. Both parties thus emphasise this as a crucial success factor.

Shifting the mindset and accepting uncertainty

To be able to adopt the agile working methods it is necessary to shift the mindset of both management at all levels and employees. If people are provided with the right conditions to understand the agile philosophies, motivation for the transformation may increase and thus the chances of success. The first step in this was discussed by the respondents as letting go of old structures, the so-called waterfall structure, and allowing other mindsets and working methods. For this to be possible, some of the respondents emphasised that a certain degree of acceptance of uncertainty is required. They further argue that management must lower expectations of an unchanged productivity during the transformation process. When major changes are implemented, it will take capacity from production for several reasons and thus cost a lot of money, which is a natural and necessary part of the process according to the respondents. During these types of transformations, the focus should therefore be on changing, developing and learning rather than delivering good numbers. One unique thought from Amsterdam was discussed as the need of breaking free from the "year cycle tyranny", which refers to developing a planning and budgeting system based on more flexible templates than according to annual cycles. It is not possible to carry out a successful agile adoption if these basic systems are not adapted to the new ways of working. Dikert et al. (2016, p. 103) also stressed the importance of shifting mindset, through the category 'change organisational culture/create an agile mindset', as well as Naslund & Kale (2020, p. 497) by 'change of mindset of the workforce'. Similar thoughts as Amsterdam can however not be found in the literature. Instead a greater focus is on attaching the philosophy through a feeling of togetherness by focusing on the agile values and different agile events (Dikert et al., 2016, p. 103). If everyone speaks the same language and celebrates each other's successes, this togetherness can be consolidated in all parts of the organisation and thus collaborations across departmental boundaries are easier to achieve (Dikert et al., 2016, p. 103). Although both the respondents and the previous literature discuss "shifting mindset" as crucial, the different parties have different focus in discussing the factor. The literature highlighted the

importance of a cohesive feeling, and the respondents stressed to a greater extent the acceptance of uncertainty and change of basic systems.

Involve the organisation as a whole

All respondents argue that it is easier to become agile if the whole organisation is involved in the transition. If, for example, top management or HR is not involved, it can be difficult to get the right support and sufficient resources to succeed with one's job. It can also generate that the organisation works towards different goals and implements different measures that counteract the shared vision. Some respondents argue for HR's role in the transformation as they often possess important skills and experience of coaching and developing leaders in general, which makes them important assets. Dikert et al. (2016, p. 103) also stressed the importance of involvement of the organisation as a whole, but put it as 'engage everyone in the organisation', where engaging people broadly can create acceptance for the transformation (Dikert et al., 2016, p. 103). When all parties are involved and actively participate in designing their own work, better results have also been reported in cases (Dikert et al., 2016, p. 101; Naslund & Kale, 2020, p. 497). An agile transformation should thus be a matter of concern for everyone within the organisation to be able to carry out the transformation in the best way, which both the respondents and the previous literature thus agree upon. A major difference in these thoughts, however, is that the literature places less emphasis on HR and its role in the agile transformation. That HR's competence can be useful but is easily forgotten in this way was also something some respondents emphasised.

Stress relief

Partly linked to shifting mindsets, stress relief is highlighted as an important success factor in the empirical data. If the management pushes for that the production rate will be unaffected during the transformation, the employees can start feeling stressed. The respondents argued that stress makes it difficult to receive the agile frameworks and, instead of acceptance, can create resistance to implementation. Some respondents argued that you cannot force people to change if they do not want to and highlighted the importance of stress relief. By helping the employees to solve problems, you can give them space to breathe and time for reflection, which instead can create motivation and ease the transition. In Naslund & Kale (2020, p. 496) common thoughts can be identified where there are cases that have shown that fewer projects per person can have a positive effect on the transformation. If it feels easy, it is easier to implement change. Something that both parties agreed upon.

Employee empowerment

As mentioned above, a transformation cannot be successful unless the employees are on board. One of the most important success factors that was emphasised by the respondents was the importance of giving employees the opportunity to control their own work and be given a mandate to make decisions. Several respondents talked about the issue of management not daring to trust their employees and let them do what they are best at, their job. By moving decision making to where the information is located and empowering the employee, it creates engagement through autonomy. Autonomy, both individually and in teams, is something that is highly desirable in the agile way of working. It is to some extent considered as a cornerstone that supports the remaining parts of the philosophy, making it vital, according to some respondents. The crucial role of employees in a successful transformation is something that the literature also places a lot of emphasis on (Naslund & Kale, 2020, p. 494; Kalenda et al., 2017, p. 17). Empowering employees is a great source of motivation and effective work, making it crucial for an agile transformation, confirmed by both the respondents and previous literature (Naslund & Kale, 2020, p. 494; Kalenda et al., 2017, p. 17).

Learning, trial and error

The importance of learning for creating engagement is discussed by several respondents (i.e. Amsterdam, Copenhagen, Jakarta and Munich) and is seen as a crucial success factor. According to the respondents, this includes both management and employees. A focus on creating the opportunity for teams and individuals to experiment and find their own way forward is engaging. Similarly the importance for leaders to give allowance for trial and error for teams to aspire. Several respondents agreed that employees appreciate to influence their own work and to have the opportunity to experiment with their own tasks, resulting in increased engagement. These statements are confirmed by the literature with the factor 'provide pieces of training for employees', who emphasise that the agile approach is learned best by doing (Dikert et al., 2016, p. 102; Naslund & Kale, 2020, p. 495; Khoza & Marnewick, 2021, p. 177; Livermore, 2008, p. 34), making learning and employee buy-in crucial. Naslund & Kale (2020, p. 495) adds that learning should be seen as a continuous process, which further emphasises the respondents' discussion about experimental work as it can enable innovation, prevent damage from occurring and the techniques being implemented incorrectly. It is thus a matter of creating a permissive environment where employees are allowed to "learn by doing" in order to practically find the most effective way of working for them. Apparently, both the respondents and the literature agree on this. One difference in this view, however, is that the respondents also highlight the importance of management's training and education in agile. The literature is largely focused on the employees, leaving the management standing outside.

Team autonomy

Team autonomy is another success factor that, according to the respondents, may contribute to increased engagement among employees. Just as with the identified factor 'employee empowerment', team automation is about the teams having the opportunity to control their own work, make decisions and adapt the agile tools to their own unique needs. What distinguishes these two factors, however, is that team autonomy implies that each team should have the opportunity to run their 'own' company within the framework of the larger company. Also meaning that the function-divided organisation should be erased in order to make room for a more interdisciplinary way of working. In addition to commitment, one respondent believed that this makes room for the more human aspect of the agile philosophy, that is to see people as people and that they are capable. Team autonomy was also emphasised as an enabler for greater commitment and motivation in the previous literature, named as 'project teams can self-organise' (Dikert et al., 2016. p. 103). This is because the teams themselves better understand the purpose and usefulness of the methods when they have the opportunity to adapt it to their own working needs. It can thus encourage innovation and continuous improvements as employees are challenged to think in new ways (Dikert et al., 2016. p. 103). Dikert et al. (2016, p. 103) highlighted this success factor in the context of projects, which the respondents did not touch at all. The respondents spoke more from an organisational perspective, which highlights a difference in the approach. However, the content of the identified success factors conveyed the same meaning, where team autonomy was seen as crucial for an agile transformation.

Pilot testing

Some respondents emphasised starting small and allowing the agile frameworks to grow evolutionarily in the organisation, instead of changing the entire organisation at once. In the literature, this is discussed as conducting pilot tests (Dikert et al., 2016, p. 102). It is about one or more smaller teams get to know the tools and evaluate how it works in the context in

which they operate before scaling it to the whole organisation, named 'start with a pilot to gain acceptance' and 'gather insights from a pilot' (Dikert et al., 2016, p. 102). However, both the respondents and previous literature agreed that these smaller introductions, or pilots, can provide valuable insight into how it is to work according to the new working methods, and act to increase motivation if they are successful. Especially one respondent emphasised that people that join these pilots can inspire others in the organisation to also join the journey. Meaning, if others see that it goes well for some teams and that they do a lot of exciting things, more people also want to try it out. The literature further stressed pilot testing as an important learning experiment (Dikert et al., 2016, p. 102), which the agile coaches did not discuss to the same extent. They saw it as an opportunity to test the methods, but stressed the benefit to inspire others more.

Management buy-in

All respondents argued that management has a very important role in an agile transformation. A basic factor for the transformation to be implemented successfully is the management buy-in. Here, the respondents highlighted the importance of management standing behind the change and adapting their leadership according to what they want to develop towards. Management buy-in is also emphasised in the previous literature (Dikert et al., 2016, p. 99; Naslund & Kale, 2020, p. 494; Kalenda et al., 2017, p. 17). To get this buy-in, the literature, together with the respondents, argued to start by management being trained in the agile practices to understand its core values and what such a transformation may entail (Dikert et al., 2016, p. 99, Naslund & Kale, 2020, p. 494). If management fully understands the agile mindset and its benefits, the leaders can hold on to the agile frameworks if employees begin to doubt or question its usefulness, which facilitates the transformation and the establishment in the organisation (Dikert et al., 2016, p. 99). These thoughts thus complement and confirm each other. As can be seen, the difference is that respondents also promote that adjustments in leadership signal buy-in, which cannot be found in the literature.

Management support

Added to management buy-in, management support was the success factor all respondents agreed on as crucial for a transformation. This is what fundamentally unites the vision and image of what the organisation wants to achieve. This support includes all leaders and management on all levels, from top management down to informal leaders within the teams themselves, and all middle managers in-between. When management is onboard, presence and engagement in the change must come from leaders, for employees to feel the involvement. Some respondents argued for management involvement to ensure that there is funding that corresponds to the scale of the desired change. The time aspect was added where the importance of setting aside time for improvement and development was argued. In order to balance business and change, management must allow for and accept a lower capacity level during the transformation. This is partly linked to what the respondents discussed as psychological safety and which is important for the employees' learning process. Together, they believe that without support from management, this is difficult to achieve.

Even in the literature, management support is by far the most mentioned success factor (Dikert et al., 2016, p. 99; Naslund & Kale, 2020, p. 494; Kalenda et al., 2017, p. 17; Khoza & Marnewick, 2021, p. 177; Russo, 2021, p. 52:28; Livermore, 2008, p. 34). Just as with management buy-in, the management training is important to be able to assist with the right support and resources for the employees, and to remove obstacles when they arise (Dikert et al., 2016, p. 99, Naslund & Kale, 2020, p. 494). Kalenda et al. (2017, p. 17) confirmed the respondents' thoughts about management involvement as crucial to ensure that necessary

resources are made available, but stressed it may ensure the implementation to be consistently adopted throughout the organisation too. However, this involvement should be made visible as it may engage the employees and be motivating (Dikert et al., 2016, p. 99, Kalenda et al., 2017, p. 17), where the respondents exemplified this visibility through physical presence. Consequently, both previous literature and the respondents agree about the importance of management support to get the right resource for the transformation to be successful. The agile coaches are more specific in their explanation of what resources the management provides, but both parties emphasise its crucial importance.

6.2.2 Challenges

Push instead of pull

Another major challenge highlighted by the respondent is if management tries to push the agile frameworks into the organisation, referred to as mushroom management by one respondent. Meaning employees are not involved in the decisions made but are overshadowed by management commands. Furthermore, the respondents discussed that this pressure from management rarely leads to lasting changes. The same applies if you try to apply predetermined patterns or finished frameworks, where the illusion of a transformation risks collapse as soon as the agile coaches or other support disappears. In order to achieve lasting change, all parties within the organisation must be involved and committed. These thoughts are supported by the previous literature where this problem is discussed as a reason for how resistance to change among employees can be created, named 'top down mandate creates resistance' (Dikert et al., 2016, p. 94; Parizi et al., 2014, p. 246). It is important that the plans for the transformation are presented in a good way early on, where the employees are invited to participate in the design of the new organisational structure and the new working methods. In this way, the organisation can avoid the "fake agile" trap, which means that the methods are only implemented as yet another tool among many others, and not as the philosophy it was originally intended to be (Denning, 2018c, p. 7). Consequently, the respondents and the literature agreed on the mentioned challenge and the problems that may arise.

Legacies of old structures

When an organisation is transformed to become agile, legacies of old structures can imply great challenges. Legacies in this context primarily refers to reporting and planning based on annual cycles and old organisational structures and bureaucracy. To become an agile organisation, breaking free from these structures to replace them with more flexibility by capacity to plan and follow up on an ongoing basis rather than following the calendar year, is a necessity. Something that was argued by some respondents as difficult for those people who have not yet understood the agile meaning, or implemented the new ways of working. Something that was stated as crucial to be able to normalise the concept. Dikert et al. (2016, p. 96) discussed similar thoughts with the challenge named 'keeping the old bureaucracy'. In the study, however, the focus was on the organisational structure and not reporting and planning, which the respondents highlighted to a greater extent. What impact budgeting and other more administrative structures have on agile transformations is thus apparently lacking in the previous literature.

Employees lack of control and influence over their own work

To some extent linked to 'legacies of old structures', the employees' lack of control was discussed among the respondents as a major challenge. The agile philosophy is largely based on team autonomy, which creates problems to follow the working methods if people are not

allowed to operate on their own. The respondents argued that lack of control and influence over their own work, no room for experimentation nor trial and error, effectively carries people into passivity and dissatisfaction, which in the literature is confirmed by Parizi et al. (2014, p. 246). Dikert et al. (2016, p. 96) further reported cases where old commitments were retained despite the transformation, which led to the new agile practices being ignored, a challenge named ‘old commitments kept’. However, this coherence between the respondents and previous literature indicates that lack of control over one's own work can result in less motivation to adopt the agile practices, and requires a change in management mindset to prevent.

Misjudged pilot testing

In addition to the success factor, pilot testing can present challenges for a transformation as well. This view was presented uniquely by Jakarta as explained that the people who are usually on their toes and generally active are the ones who often jump on these pilots. This may create problems when others, late majority or laggards, are then expected to do the same work when the test environment and education has left. If all energy has been put on the pilot, it may not be resources and energy left for the rest of the organisation, where it turns out, the energy is actually needed the most. Jakarta continued, as attention to particular departments or groups may create engagement among the people within the group of focus, it might at the same time cause the opposite effect with the people outside of the focus group. As mentioned above, some literature (Dikert et al., 2016, p. 102) argued for the positive effect pilot testing may create, opposing Jakarta's thoughts. Russo (2021, p. 52:28), however, confirms Jakarta's thoughts where the results of the study demonstrated difficulties in planning these types of projects. Thus, there are studies that both confirm and oppose these thoughts, meaning that there are corresponding challenges in the literature.

Management unwilling to change

The respondents argued that the transformation is impossible to succeed if the management is not onboard and if they are not willing to change their own way of working. All of Copenhagen, Madrid, and Melbourne used the word “impossible” when describing any change, let alone agile transformation, without management onboard. They exemplified by describing how a number of leaders they met have had a positive attitude towards the agile working methods as long as it is a matter for the teams and they do not need to change themselves and their leadership style. When problems occur, it can sometimes be lack of self-awareness or resistance to change among management that is the problem that must be addressed, rather than problems in the teams. Something that was stressed by almost all respondents. The problem with management unwilling to change is a challenge that also has been highlighted in the previous literature, corresponding to the same name, as it can result in a clear failure for a transformation (Dikert et al., 2016, p. 96). As has been mentioned before, everyone, and especially management, has to be onboard for the transformation to be successful.

Lack of funding, time and resources

Since management support was the success factor highlighted by all respondents as crucial, the lack of management support poses major challenges that directly reflect the achievable success in its presence. When management does not support the agile transition, there is a risk that insufficient resources will be allocated. There is also a risk that the transformation will be seen as a project, and not a continuous work, that only costs a lot of money and which the management therefore wants to finish as soon as possible. The transformation will consequently be pushed, which means that no time for reflection and development will be

available, with short-term changes and little employee engagement as a result. Further, lack of time can also be linked to what the respondents emphasised regarding the management's expectations of unchanged production level during the transformation. Making management understand that the same level of production cannot be maintained during major changes can imply a major challenge in itself. The respondents further highlighted that time must be dedicated to learning and education, which can result in an affected production rate. The literature also emphasised these thoughts partially, but only highlighted the challenges of 'lack of coaching' and 'lack of training', and the problems that can occur because of that (Dikert et al., 2016, p. 99; Naslund & Kale, 2020, p. 497). The time aspect was left out completely, as well as the challenge of insufficient funding. The challenge of lack of funding, time and resources thus has a partly corresponding challenge in the literature, but which omits certain parts that were uniquely expressed by the respondents.

Little or no specific education for middle managers

The last, but not least, challenge emphasised was the lack of education for middle managers. The respondents pointed out that there is little education for middle managers on the market, how they can change their leadership style and therefore it is hard to understand how to do this 'coaching leadership' in practice. This coaching leadership, for their ability to coach themselves and their teams, was stressed by one respondent, as it is easy to ruin and destroy delicate trust among teams and employees, both to the process and the vision of why to transform. This is further confirmed by Dikert et al. (2016, p. 96) who stressed that middle managers are in a position to undermine the entire transformation if they do not participate in and understand the agile method, proving the importance of middle managers' support. Some respondents added to the same aspect, that an agile transformation is an extensive investment and there is no guarantee that it will succeed, which therefore makes the trust key for future development. The corresponding challenge in the literature is named 'middle managers' role in agile unclear' (Dikert et al., 2016, p. 98). This challenge focuses specifically on the fact that an agile transformation, where autonomous teams are desirable, can generate problems for middle managers as the meaning of their new role becomes less clear (Dikert et al., 2016, p. 98). Additionally, even though the literature did not explicitly discuss lack of education for middle managers as a challenge, lack of education is discussed in more general terms, which leaves room for a free interpretation where it thus can be assumed that the middle management's education is also included in these discussions. However, the agile coaches are unique in specifically highlighting education and coaching for middle management in order to learn how to best coach their teams.

6.2.3 New success factors and challenges

Leaders lead by good examples

As the only new success factor, 'leaders lead by good examples' was identified in the empirical data. In addition to having the management's buy-in and support, the respondents discussed that it is important that leaders act as a good role model, which includes both official and in-official leaders. The respondents argue for this in partly different ways, stressed as physical presence to show involvement and engagement from leaders, show good examples, show by doing and leading by example. A corresponding factor in the literature could not be identified, leaving this identified success factor as unique.

Begin the transformation for the wrong reason

The reasons to change to a more agile way of working comes with many misconceptions and challenges for the organisation. According to some respondents, a big challenge is if

organisations commence a large transformation just because everyone else is doing it, which implies the wrong reason to change. With wrong motivation, the risk of failure is imminent. One common reason for this was emphasised by one respondent as fear of missing out (FOMO). Other reasons highlighted by other respondents were that organisations hear simple buzzwords about different agile methods and think that they have to adopt it too, without thinking about why. This lack of 'why' can pose major challenges when problems or obstacles arise along the way. If the organisation does not know what the driving factor for the transformation is, it is difficult to maintain momentum and continue to develop, meaning a risk that people will return to old ways of working instead of adopting the agile methods and mindset. There is no identified corresponding challenge in the literature. What is discussed by Dikert et al. (2016, p. 97), however, is that reverting to old ways of working could be the result if challenges in the transformation occur. This is because of the complexity of agile transformations, highlighting the respondents arguments of thinking through the cause of it as important.

View the transformation as a project

There are major challenges linked to the time aspect where the respondents highlighted the danger of seeing a transformation as a temporary project with a start and an end. According to all respondents, there is no finish line for agile transformations. Having this view, the development risks stagnate after one is considered to have crossed the finish line. The long-term perspective of continuous learning and improvement, as promoted within the agile philosophy, is thus lost. This challenge is not highlighted in the literature, leaving a corresponding challenge unsaid.

Wanting to change too fast

Another challenge connected to the time aspect and stressed by the respondent is wanting to change too fast. As explained, if management is too stressed and wants to accelerate the change, the time for reflection and learning is lost. The transformation is conducted in a pace that the employees are incapable of, something that may drain the energy and the motivation. The respondents also discussed the phenomenon that management can be eager to get started with their transformation, adding a lot of resources and support in the beginning, but which becomes less and less as time progresses. This can create big problems as people tend to adopt change at different paces. When people that are prone to change jump on pilots or similar, there is a lot of support. When it is time for those who dislike change, most of the support has already been removed, leaving these late adopters under uncertain conditions. Suggestively, the work for education, coaching and support should continue even after the pilot is finished, and consequently be planned and budgeted for as well. This phenomenon of wanting to change too fast is not discussed in the literature, nor that there is often insufficient support later on during the transformation. Further leaving these thoughts as distinctive and without corresponding challenge in the literature.

Old technology parks and systems

An agile transformation touches every facet of an organisation, including people, processes, strategy, structure, and technology. Despite this, poor technology parks and deficient systems were something the respondents stressed as a major challenge for agile transformations. Some respondents insinuated how old technology and systems slows processes down, decreasing the motivation as well as it simply makes it impossible to live up to fast expectation and iterative improvement. If the architecture does not allow for fast sprints or releases, then changing to agile mindsets will not help development forward. Further, no corresponding challenge can be found in the literature. However, Dikert et al. (2016, p. 98),

discussed agile tools are missing features that may result in inefficient processes, named requirements engineering challenges (see Appendix 5). Apparently, both parties discuss technical limitations, but with a different focus. Despite this, it sends signals that technology is an important part of agile transformations and that it involves many challenges. The challenges highlighted by the respondents are, however, deviating from the existing literature.

Management passivity

In turn to the employee's passivity because of lack of control, leaders may experience frustration seeing their teams being passive, creating passivity for management as well. Arguing by some respondents, uninspiring leaders who are not able to inspire their employees thus create a vicious circle where the motivation of the employees is difficult to rebuild. Further connected to leadership and passivity, some respondents stressed that it is a challenge when leaders sometimes feel they stand outside of the transformation, that it does not affect them and they therefore stand passive on the sidelines. Something that further highlights the importance of involving all people, departments and functions in the organisation in an agile transformation. Reasons for passivity were further discussed as absence of the right conditions, no time is freed up or the right tools are missing, with decreased motivation as a consequence. In the previous literature there is little discussion about management passivity. Dikert et al. (2016, p. 94), however, stressed general resistance to change according to lack of learning and understanding of the agile concepts, both among employees and management. It was nevertheless not mentioned whether this relates to passivity among management, or not. The interpretation that resistance to change was equated with passivity could thus not be justified in this study, consequently, management passivity as a challenge identified from the empirical data thus lacks a corresponding challenge in the previous literature.

Vision is detached from reality

According to some respondents, passivity among employees can be created if the vision is detached from reality. Some reasons for this were stressed by the respondents as management does not take into account the real needs of the organisation, nor involve the employees. One respondent explained this as the team easily becomes critical of working in the agile way when management announces that the new working methods will generate speed and increased productivity, but the real situation in the organisation does not allow this to happen. This builds up a frustration where the employees are expected to perform at a certain level, but do not get the right tools and conditions to do so. Reasons for this are linked to all the other challenges that have been discussed in this chapter, such as old technology, lack of education and resources, wanting to change too fast, pushed frameworks into the organisation and resistance to letting go of old legacies. This challenge is something that is not discussed in the literature to the same extent. Indirectly, it is discussed how internal and external coaches complement each other to create a clear vision and identify and solve problems through support of both management and employees (Dikert et al., 2016, p. 102). However, this can be seen more as a solution to how this distorted picture between vision and reality can be corrected, rather than a challenge many organisations are exposed to. The challenge of vision being detached from reality thus also lacks a corresponding challenge in the literature.

Leaders are far away from feedback loops

Learning was emphasised by some respondents as a challenge specifically for managers, as they are further away from the feedback loops, compared to the teams. The lack of direct and indirect feedback to managers makes it more difficult for them to adopt and adjust to the agile mindset. A problem that to some extent is also explained under the category 'management passivity', where leaders sometimes can feel that they stand passive outside the change and

that it is an issue that does not concern themselves. This slows learning down, and the transformation overall. In Dikert et al. (2016, p. 96) lack of learning is also stressed as a challenge for an agile transformation. However, there is a difference in which perspective the previous literature choosed, compared to the respondents. Dikert et al. (2016, p. 96) focused on the consequences of inadequate learning among employees, and the respondents put more focus on the leaders and the consequences of inadequate learning among them. The previous literature did not discuss the so-called feedback loops, which thus appears as a unique thought emphasised by the respondents, explaining the lack of a corresponding challenge in the literature.

6.3 The role of the agile coach

As the actions identified in the data all addressed a success factor or challenge in one of three particular areas or affected the same parts of the organisation, the actions were divided into these three areas. These areas seemed to be where the agile coaches spent more time and energy and continuously returned to throughout the transformation process. Consequently, the actions are discussed in relation to respective area of:

- 1) Mapping and visualisation
- 2) Aiding management
- 3) Aiding teams

In the data, 20 actions of the agile coaches have been identified, all of which connect to one of these areas: *mapping and visualisation*, *aiding management* and *aiding teams*. Many of the actions correspond and relate to one another, but are still deemed relevant on their own to be discussed respectively in one of the three areas.

6.3.1 Mapping and visualising

Investigate and mapping

Investigate and map together with the organisation to clarify their needs was according to some of the respondents, an early task the agile coach would be faced with for an agile transformation to take place. The mapping would investigate the old way of working, finding out where the issues are and how the teams are operating together, what works and what does not. This action was directly connected to the success factor of creating a shared vision for the organisation. Theory has categorised this action for the coach as part of implementation by choosing and customising the agile approach. The action to map the old way of working specifically is mentioned as one of the the most important factors within the category of implementation (Dikert et al., 2016, p. 101; Naslund & Kale, 2020, p. 495). Explaining how this mapping is conducted, interviews of the employees from different departments and levels in the organisation takes place according to the respondents. Opposingly, theory only mentions external aid, such as agile coaches, to be simply helpful in this process (Dikert et al., 2016, p. 102) but excludes the actual act of investigation as such. It was also argued for inclusive processes and the need for it, that together with management the agile coach should identify obstacles and problems in order to understand, address, and support teams with different issues. In this process managers should join as they too are part of the teams. Through this action by the agile coaches, the vision for the transformation is ensured to be connected and in relation to the actual issues facing the organisation. The investigating and mapping role of the agile coach is highly relevant to address one of the new challenges

identified and missing in theory, as vision is detached from reality through the transformation. Contribution to both theory and practitioners is thus motivated.

Visualise pain-points

A consequence of the interviewing process and mapping for the agile coaches is collecting knowledge of experienced issues in the organisation. A majority of the respondents counselled to find out where the so-called pain-points are early on and work evolutionary through the organisation to identify them and later address them. Next action to take would be to visualise the pain-points and communicate to the rest of the organisation. One immediate action to the visualisation would be to express the organisations' vulnerability through transparency about the pain points towards employees. This would continue as communication regarding where the emergent need is and where resources would be located. Argued in the literature is the need for creating an understanding and ease any worrying and uncertainty where the change might happen and what as an employee to expect (Dikert et al., 2016, pp. 92-94). By visualising the pain-points as the respondents expressed it, the organisation and employees would understand and have the opportunity to accept the transformation. This was backed by theory similarly (Dikert et al., 2016, p. 94; Parizi et al., 2014, p. 246). By leaving no stone unturned in the investigation and the search for a greater understanding the respondents stressed the investigation for the role of the agile coach.

Identify the organisations “why”

In establishing the reason for the change in connection to both mindset and common misconception according to some of the respondents, finding the “why” was an efficient tool to use. It was said that organisations need to determine what effect and result they want to achieve with the agile transformation. Defining the goals for the transformation is mentioned early on in terms of the three phases of a transformation in theory (Parizi et al., 2014 p. 248). When this desired outcome is formalised, the communication of reason can begin. The respondents wanted to work with the why early on too. Theory has argued the importance as an acceptance of the agile values can increase the understanding of why the transformation is carried out, reducing resistance to change and thus creating motivation for the transition as a possible result (Dikert et al., 2016, p. 103; Parizi et al., 2014, pp. 248; Smart, 2018, p. 57). It was argued that unless the reason for the transformation is embedded with the employees the risk of failure is daunting. To create a shared vision for the change would motivate and explain the need for the transformation for the organisation. As the successful transformation sooner or later affects the organisation in its entirety the vision is according to the respondents something that aids in the communication and especially when different representatives from different parts of the organisation have been included in the process, the respondents argued. Theory too, argued this would be a success factor when the organisation as a whole in the transformation (Dikert et al., 2016, p. 101; Naslund & Kale, 2020, p. 497). Establishing the organisations why is consequently an important action by the agile coach and addresses the issue of transformations occurring for the wrong reason or motive.

Tailor implementation

Continuing in the transformation process, it is part of the agile coach's job to tailor and help the implementation of the agile concept. When the why and the pain-points are crystallised, the customisation of implementation can start to take place according to the respondents, which was backed up by theory (Stray et al., 2021, p. 6816). It was also stressed by the respondents for organisations to remember that agile is a method and not in itself a goal or necessarily a solution to any problem. Theory similarly urged that the vision rather than concept, is a tool, to aid on the why and create understanding, not the solution (Dikert et al.,

2016, p. 102). Implementation tailoring would include adjustments to structures and methodology as well as education, and fall on the agile coach according to the respondents.

Engage internal agile

Among the experienced respondents who have been through several transformation initiations, a recommended approach of combining both external and internal agile coaches was highlighted. Finding and working together with an internal agile coach would ensure further development of the agile concept even after the external coaches leave. As the transformation becomes the focus of both internal and external aid but one will remain, it addresses the issue of the transformation being viewed as a project and ending as soon as the external aid leaves. The involvement of internal coaches should be initiated through the investigation and mapping according to the respondents, to contribute to both different perspectives on situations, but also compiling knowledge of the transformation. This view of the perfect mix needed for a successful transformation was backed by theory as it is considered that both internal and external coaching be needed, (Naslund & Kale, 2020, p. 493; Dikert et al., 2016, p. 102; Russo, 2021, p. 52:28). It was by theory described as a complementary relationship in a transformation to ensure that a clear vision is created and problems are identified and solved through support of both management and employees (Dikert et al., 2016, p. 102). Engaging the internal agile assists in the understanding and view of the transformation as ongoing. The role of the external agile coach here to include the internal agile coach in the investigating and mapping and consistently work alongside each other, not just through a particular part of the transformation, is however new to theory and deemed by the respondents a necessary act.

Time management and lower expectations

It was argued by some of the respondents that it falls on the agile coaches to help set aside time for change to occur. To lower expectations on production capacity during the change both among management and employees. Agreed upon by theory to be a challenge is under the category of lack of investment examples such as too high of a workload and keeping old commitments (Dikert et al., 2016, p. 96). This includes helping teams and managers prioritise the tasks and among the workload. Since overworked and stressed people do not have the ability to change their behaviour and learn new things it is important for the coaches to assist in this work (Dikert et al., 2016, p. 96). This includes getting management onboard and aware too that the deliverance will be lower and therefore they must lower expectations as well. Expecting the same delivery while pursuing an agile transformation will either disappoint management or stress out employees. This too, is a new action to theory as the agile coach keeps the transformation speed manageable for both teams and management.

Raise awareness

In the process prior to implementation it was argued to be the coaches responsibility to express, point out and bring awareness to the fact that it is expensive to make drastic changes, which is as true for an agile transformation as any. The total vastness of an agile transformation was by the respondents implied to require management to grasp before commencing. What theory seems to agree on too is the complexity of a transformation (Livermore, 2008, p. 35; Russo, 2021, p. 52: 3; Harraf et al., 2015, p. 684). Although, whether it would be the job of the agile coach to express all and any challenges they might face on the way, including the possibility of running up a large bill, is not mentioned. On the other hand, it is easy to ask who else will be responsible for this realisation? With the agile concept as a tool, the agile coach helps to work evolutionarily through the organisation. In

this process, the respondents as consultants try to find and involve someone(s) internally employed who will take the mindset further in the organisation.

Review technology

Before any transformation can commence according to some of the respondents, the technology must be possible to work with iteratively and flexibly. The respondents advocated reviewing technology and systems. The organisation must start with the technical tools and make them agile before they can start to change the processes and structures. As no processes will be possible to work agile if the technology and systems will not allow it. Meaning if the architecture does not allow for fast sprints or releases, then changing to agile mindsets will not help development forward. The issue and challenge of old and inapt technology was frequently mentioned by some of the respondents but a very low priority in the literature regarding the agile transformation. When theory spoke of structures and architecture it referred to mindset, systems of dependencies and the organisations offer and product portfolio (Dikert et al., 2016, p. 98). Interestingly, this factor was mentioned frequently by the respondents but not in literature. Especially interesting is it as the technology was viewed by the coaches as something the organisation must look over themselves rather than something the agile coach would oversee. All the respondents did have a background in software development, but so does agile methodology and could therefore be argued to be inclined to discuss technology as a relevant challenge. The agile coaches role is thus simply review, not build, implement nor replace technology.

6.3.2 Aiding management

Shift focus

In the transformation process, the respondents explained the agile coaches role as coaching of management to encourage holding a clear vision for the transformation. This would require management to shift focus from the processes and delivery to the desirable effect with the transformation to the vision. The effect for the customer should be the focus rather than the delivery of product, so it is true for organisations undergoing transformation; the effect must be the focus not the transformation itself. Grasping the agile framework and mindset and focus of the transformation, theory argued that management contributes through one important success factor of accepting uncertainty as obstacles will arise (Dikert et al., 2016, p. 99; Khoza & Marnewick, 2021, p. 177). For this task the vision is a tool, to aid on the why and create understanding, and like the respondents explained it will be tested with every new obstacle. By continuously repeating the vision and desired effect, management establishes a relevant focus for the change. Dikert et al. (2016, p. 99) along with Kalenda et al. (2017, p. 17) aligned with the respondents and put emphasis on management visualising their commitment as an important factor. The agile coach must therefore highlight, remind and ensure that management is focusing on established vision, and not the transformation itself.

Prepare

The agile coaches initial interaction with general management would be to prepare the leaders for the transformation through training, according to the respondents. This training included general knowledge of agile as mindset and method as well as explaining their coaching role compared to traditional management roles. In theory, these preparations are in line with the agile coaches endeavour to prime management for the transformation (Denning, 2018c, pp. 4-5). Through coaching and helping management, agile coaches are able to assist leaders when they try to find their own way to be agile for their teams. Buy-in from management can too consequently be generated from the education. To further encourage

management buy-in, the respondents stressed the importance of getting management to partake in the mapping of issues experienced by different parts of the organisation. Although the respondents had different priorities regarding education vs. visualisation, management buy-in was the common end goal. Likewise, theory argued management support to be the most important category of success factors, and management buy-in and support for the frameworks to be the most important factor in that category (Dikert et al., 2016, p. 99; Naslund & Kale, 2020, p. 494; Kalenda et al., 2017, p. 17). As the preparations would generate both buy-in and framework support, this was by the respondents to be one crucial action for agile coaches to engage in. Although, despite the discussion of buy-in as a success factor, the preparations to make management engaged, educated and included to avoid passivity seems to be new in theory. By the respondents crucial action and thus relevant contribution for practitioners.

Cooperate

During the investigations and mappings the importance was stressed by some of the respondents, that employees from different departments and levels be included in the process. The mapping of the current situation hence would require full cooperation between management, agile coaches and the operations to do it accurately early on, agreed upon by both respondents and theory (Stray et al., 2021, p. 6820). Reappearing in the data was the mission to coach leaders in their leadership style so they can find their own way and for the teams to find the time for change and be less stressed. Agile coaches should urge organisations to be transparent with their vulnerability to the employees and themselves in order to compile an accurate picture of where they stand before the commence an agile transformation. The importance of buy-in from management and so too did the literature on several scores (Dikert et al., 2016, p. 99; Naslund & Kale, 2020, p. 494; Kalenda et al., 2017, p. 17; Khoza & Marnewick, 2021, p. 177; Russo, 2021, p. 52:28; Livermore, 2008, p. 34). It was pointed out that no transformation will ever be successful or long lasting if management is not willing to set aside time and other resources for it. The job for the agile coach is therefore to encourage communication from employees to management addressing pain-points, and from management to employees, further in the transformation process of vision and priorities. As agile coaches guide the way, the work is done by everyone.

Encourage involvement

Advocated in the data is involvement by HR early on. Both as part of the organisation's general transformation and as assistance in education and coaching to managers and teams alike. Supporting functions like HR and finance should be part of agile from the start, the respondents argued, as they are able to set guidelines for the rest of the organisation's operations. In theory, the investigation is mentioned to lead up to adjustments and aid management and the different teams (Dikert et al., 2016, p. 101; Naslund & Kale, 2020, p. 495) but not explicitly including management, HR nor anyone else in the process of investigation and mapping but rather the first mentioning of inclusion would be during implementation. Because theory does not mention cooperation in this regard it is not enough to assume theory would prefer employees, management or internal coaches to be excluded, it only differs from the explicit inclusion mentioned by some of the respondents. What theory does mention is the need for adaptation of the agile approach to the individual units within the organisation (Dikert et al., 2016, p. 101). Inclusion and cooperations with HR was discussed in theory too as a responsibility particularly important for the agile coaches (Parizi et al., 2014 p. 248). Including all different parts of the organisation, not solely HR, was backed by several others in existing literature as well (Dikert et al., 2016, p. 98; Pawel, 2017, p. 192; Kalenda et al., 2017, p. 16; Parizi et al., 2014, p. 247) and it points to someone

needing to invite everyone for a discussion, possibly, the agile coach. Theory would not mention the inclusion of specific actors such as management, employees or others during the investigation (Dikert et al., 2016, p. 101; Naslund & Kale, 2020, p. 495). It might therefore be of importance to highlight this action mentioned by the respondents as it was by them deemed both efficient and effective. Some literature did on the other hand back involvement and inclusion, explaining it to be necessary for several stakeholders, such as practitioners, top and middle management, and customers, to collaborate and be involved (Gandomani & Nafchi, 2015, p. 204).

Enhance understanding

Although, as some respondents argued, the coach will not be able to convince anyone to join in, they can address issues and provide the tools for management to understand the need for transformation and their impact. Enhancing management's understanding of its own role in the transformation might, according to one respondent, get them aligned with the pressing needs of the organisation and be what makes or breaks the effort. If management fully understands the agile mindset, they can hold on to the agile methods and frameworks if employees begin to doubt or question its usefulness, which makes it easier for the change management to be established in the organisation (Dikert et al., 2016, p. 99). The respondents explained their role as agile coaches to *coach* management in order to improve management's ability to coach the teams and the rest of the organisation. In contrast, theory expresses the need for management to *learn* (Dikert et al., 2016, p. 99, Naslund & Kale, 2020, p. 494), rather than being coached, and therefore leaving it unsaid as to how they would accumulate this ability. When literature does mention coaching, it is usually in terms of coaching teams rather than management, compared to the respondents who repeatedly mentioned coaching management as one of their most common assignments. Arguably, it could be said that existing literature views collecting knowledge and gaining practical understanding of the process is the responsibility of internal management and not an external service agile coaches provide. But as the challenge of management being far away from feedback loops is addressed through enhancing their understanding of management role in the transformation, this action by agile coaches contributes to the understanding of agile coaches role for practitioners and theory alike.

Coach middle managers

The coaching of middle managers specifically was something that became clear in the empirical data and said was lacking generally. The respondents encouraged agile coaches to assist in this area as learning how to coach was experienced as especially challenging for middle managers. One of the reasons for the challenge was argued that managers are kept far away from feedback loops. The action for the agile coach is to assist in establishing those loops closer to home for managers. Middle managers must be especially responsive and sensitive to when the feedback actually comes, the respondents said to be key for future improvements among managers. Sensitivity and response from management and coaches alike moving on in the transformation process is highlighted by theory as well (Parizi et al., 2014 p. 248; Stray et al., 2021, p. 6821). The coaches sensitivity as to from whom the request for help comes is an example of that responsiveness managers should strive for. Coach the team when they ask for it, coach the manager when the manager asks for the team to be coached. Another aspect to assist specifically middle managers and what the agile coaches do is through HR involvement. HR's insight to where urgent pain points might be as well as experience in supporting middle managers in their daily challenges is provided to the drivers of the agile transformation and therefore drives the transformation forward. The agile coach must therefore include both the middle managers themselves and HR in the process of

assisting middle management.

Engage and support

To work with leadership and create motivation among both formal and informal leaders is a continuous job for the agile coaches. The respondents all worked unabated with management to improve their own coaching and leadership style. Coaching and support management to create engagement among employees was rarely but in a few cases expressed by the respondents in an explicative way. For example actions were advocated to engage management and guide them into how they must create space for improvement and development and that the coaching entailed looking at the team cases at hand and moving or removing tasks in order to create space. The agile coaches role according to some theory is during this guiding phase to be available for any and all questions that arise connected to agile mind set both during adaptation but momentarily during adjustment phase as well (Parizi et al., 2014 p. 248; Stray et al., 2021, p. 6816; Naslund & Kale, 2020, p. 495). By steering the coaching management early on and consistently, the coaches ease the adaptation phase (Parizi et al., 2014 p. 248). Some of the respondents expressed their first task as agile coaches just to be present on site, hence aligning perfectly with existing theories in their pursuit of engaging and supporting management and future agile organisations. Being on site would accordingly, be the most efficient way to find out those pain points. By theory, it is encouraged to expand managerial knowledge for them to be able to help teams and to remove obstacles when they arise (Dikert et al., 2016, p. 99, Naslund & Kale, 2020, p. 494) but not explicitly by agile coaches on scene. The need for physical presence is inconsistently criticised too as limitations of agile, when coaching and working together requires close relationships both physically and in the process at the same time as working becomes more remote (Mahanti, 2006, p. 204).

6.3.3 Aiding teams

Create time and space

Creating time and space for improvement and development was according to the respondents a common follow up to the first presence on site for the agile coach. As stressing for delivery would be counterproductive in the sense of an agile transformation process. The agile coach should then help the teams set aside time for change and urge management to lower expectations on production capacity during the change. The teams should strive to remove stress, lower the level of ambition for production momentarily and it will be easier. This factor is not explicitly mentioned but indirect referring to seeing the agile transformation as an evolutionary process, where the processes and tools over time adapts to the organisation's unique conditions, the management and the different teams (Dikert et al., 2016, p. 101; Naslund & Kale, 2020, p. 495). Encouragement to evolution could be interpreted as accepting of the transformation taking time and resources. Addressing the change among the teams and small scale as part of the larger value chain, is therefore actionable by the agile coach according to the respondents. As this has been discussed before it is briefly mentioned again that theory backs the lack of investment in the transformation in terms of time or excessive workloads directly impinging the agile transformation (Dikert et al., 2016, p. 96). The mapping has thus led to different priorities and the coach assists the team in regards to what to act on, on team level and organisational.

Empower

Coaching the teams and the people in the organisation was almost as frequently mentioned as coaching management by the respondents and identifying the pain points was argued to be

the start of the coaching of teams. It was repeatedly referred to the inclusion of teams in actions on what to do next correlated to engagement and transformation effect. Theory agrees on the aspect of team autonomy (Naslund & Kale, 2020, p. 497; Dikert et al., 2016, p. 101) although it does not mention how to create the condition. The agile coaches should thus assist the teams to work forward as well as encouraging the managers to dare to trust their staff. In their coaching, teams and managers will follow. Another way agile coaches might advise management to build engagement among employees is to move decision making to where the information is located. Explained how team autonomy can engage employees and aid in the agile transformation. This means less coaching the team and more coaching management but has a direct effect on team aspiration. It was argued to create engagement through autonomy. Continuing on the aspect of autonomy, through a philosophy that sees people as people and that they are capable, engagement grows with empowerment according to both respondents and theory (Campanelli & Parreiras, 2015, p. 86). As shown before, this is backed equally in theory as team autonomy creates a greater commitment and motivation (Naslund & Kale, 2020, p. 497; Dikert et al., 2016, p. 101). The respondents only differed in the way they spoke of responsibility of the agile coaches, teams and managers together. It was argued by the respondents, as attention to particular departments or groups may create engagement among the people within the group of focus, it might at the same time cause the opposite effect with the people outside of the focus group. The actions taken by the agile coaches should be explained and transparent as to why and what is planned for in the future and in line with theory (Naslund & Kale, 2020, p. 494). The agile coach should work in this transparent communicative way and encourage others to do the same.

Experiment

Several of the respondents agreed that employees appreciate to influence their own work and to have the opportunity to experiment with their own tasks creates engagement. The employees ability to control and influence their own work was argued by the respondents to build engagement and find a way forward. By partaking in team planning the respondents argued the agile coach can encourage the team to start experimenting with ways forward suitable to them. As theory concludes, it can thus encourage innovation and development as employees are challenged to think in new ways (Dikert et al., 2016, p. 101). The explicit engagement by agile coaches in the process is in theory missing such as the respondents ushered in the coaches involvement. Correlation to both empowerment and trial and error, the actions of the coaches working closely with the teams is evident in the empirical data. Including the teams in their own development has proven successful in several other cases (Naslund & Kale, 2020, p. 497). Team autonomy creates a greater commitment and motivation as the teams themselves understand the purpose and usefulness of the methods and have the opportunity to adapt it to their own working needs (Dikert et al., 2016, p. 101). As theory has shown, better results have been reported in cases where teams have been highly involved in designing their own practices according to their own specific needs (Dikert et al., 2016, p. 101), which refers to team autonomy (Naslund & Kale, 2020, p. 497).

Facilitate ceremonies

The respondents also liked to facilitate workshops and ceremonies in their role as agile coaches during the transformation. As external support, it is important to facilitate ceremonies and spend time in teams and aid management and scrum masters so they can continue the work after the coaches leave. These actions are backed in theory, learning as a continuous process is the next factor that can contribute to maintaining motivation over time (Dikert et al., 2016, p. 102; Naslund & Kale, 2020, p. 495). Assisting the scrum masters and teams during agile ceremonies can entail, according to the respondents, reflections on what

the team can help each other with, challenge the agenda or outright steer the ceremony in a different direction.

Trial and error and problem solving

Explicitly explained by some of the respondents, helping the teams solve their own problems gives them confidence and creates momentum to further evolve and improve themselves and their environment. This could entail listening, listing and reprioritizing, according to the respondents. Partly done through mapping, engaging on site to help the teams through active solutions or facilitating workshops or ceremonies could aid the teams. Exactly how to help the teams solve their problems is not touched upon by theory but inclusion, as mentioned before, is highly discussed as crucial for organisational development (Dikert et al., 2016, p. 101; Naslund & Kale, 2020, p. 495). Other theory confirms the need for adaptation and customisation and indirectly mentions the presence to comprehend the true need for each department and team (Dikert et al., 2016, p. 101; Naslund & Kale, 2020, p. 495). The respondents further argued, even if it addresses the needs of the teams and employees, coaching management to give allowance for trial and error in day-to-day practices makes for the team to aspire. The learning and continuous support to the teams and the organisation even after pilots are finished is further education key. This is to assist late majority, laggards and others to their needs and as management should not get fooled by early adopters to represent the needs of the entire organisation. The continuous education and assistance through trial and error helps the teams to evolve.

6.4 Concluding discussion

In the comparison between the empirical data and the previous literature, only the success factor *'leaders lead by good examples'* appeared to be unique with no corresponding factor in the literature. However, although the remaining factors from the empirical findings could be found in the literature, there were some distinct differences in how they were discussed. The respondents argue for the vision's importance throughout the transformation, while the literature only emphasised it as an important factor in the initial planning phase. Regarding the success factor *'shifting the mindset and accepting uncertainty'*, the respondents were unique in their thoughts regarding the so-called "year cycle tyranny", despite the fact that they otherwise agreed on the importance of shifting mindset. The literature was instead more focused on creating a sense of community to consolidate the new way of thinking. When the success factor of *'involve the organisation as whole'* was discussed, both parties agreed on its importance even if the respondents argued for the importance of HR in agile transformations assertively. For instance, the respondents argued that HR often possess relevant skills to be able to support management in their leadership, something that is often forgotten, and which can be confirmed by the fact that these thoughts are not found in the literature. Further, when the respondents emphasised the success factors *'stress relief'*, *'learning, trial and error'* and *'management buy-in'*, they presented more detailed and practical examples of how these success factors are expressed, compared to in the literature. Although they describe similar thoughts, the respondents' emphases can thus contribute with a more explanatory picture of the factors. As an example, the respondents highlighted the importance of lowering the expected production level during the agile transformation in order to create space for learning and reflection. Something that is neither confirmed nor contradicted in the literature. In these arguments, it should be mentioned that the literature largely emphasises efforts for the employees, while the respondents mostly argued for the management in their reasoning, a distinct difference that is deserved to highlight. Finally, *'pilot testing'* was something that the literature largely argued was crucial to the success of a transformation. The respondents

confirmed these thoughts, but said that it should be seen more as inspiration for the agile transformation, than something that is crucial.

Significantly more differences between the literature and the empirical findings could be identified among the challenges compared to success factors. The new challenges that the respondents discussed and which could not be found in the literature were: *'begin the transformation for the wrong reason'*, *'view the transformation as a project'*, *'wanting to change too fast'*, *'old technology parks and systems'*, *'management passivity'*, *'vision is detached from reality'*, and *'leaders are far away from feedback loops'*. However, the challenges that were both discussed by the respondents and the previous literature also contained some nuanced differences, leaving three challenges as extra distinctive. Regarding the first challenge of *'legacies of old structures'*, both the respondents and the literature discussed the problem with maintained bureaucracies. A significant difference was, however, the respondents' thoughts about reporting and planning based on annual cycles, stressing the importance of adjusting this structure to more continuous planning and follow-up on an ongoing basis. Something that appeared as unique as the literature was more focused on the management and physical organisational structure. *'Lack of funding, time and resources'* was the second challenge that excelled, where the literature and respondents agreed upon the challenge of lack of training and coaching. Additionally, the respondents also highlighted the challenge with lack of time and funding, not found in the literature. The third challenge identified in the empirical data, *'little or no specific education for middle managers'*, was partly discussed in the literature but where a bigger focus was emphasised on middle managers roles being unclear. This was something the respondents did not emphasise much. Instead, they focused on the middle managers' lack of training in how they should best coach their employees. A relatively distinctive difference that complements the ideas about middle managers are easily forgotten in agile transformations.

The actions of the agile coaches identified in the data were divided into the three areas. In the area of mapping and visualisation eight actions were identified in the data. These actions were: investigating and mapping, visualising pain-points, identifying the "why", tailor implementation, engaging internal agile, time management and lower expectations, raising awareness, reviewing technology. In the area of aiding management seven actions were identified: shift focus, prepare, cooperate, encourage involvement, enhance understanding, coach middle managers, engage and support. In the area of aiding teams five final actions were identified: create time and space, empower, experiment, facilitate ceremonies, trial and error and problem solving.

The literature and the coaches often highlight and discuss the same things and important actions for steering towards success factors or overcoming challenges, but contrary to the respondents the literature rarely says *who* should be responsible for these actions. The difference in the empirical findings is that the coaches take on many of these responsibilities as something they assist with during a transformation, and this might be why it was easier for them to assign the responsibility. Like the respondents explained their role as agile coaches to *coach* management in order to improve management's ability when theory expressed the need for management to *learn*, rather than being coached, and therefore leaving it unsaid as to how they would accumulate this ability. In spite of being part of the solution to many of the problems facing organisations during their agile transformation according to the respondents, external help and agile coaches is rather seen in the literature as one possible part of success factors. In light of their alleged significance, agile coaches should possibly be singled out in theory as a clear success factor. Existing literature presents agile coaches as part of 'training

and coaching/employees'. To mirror the respondents view of agile coaches' importance they should rather be elevated to become its own success factor category as they assist in more ways than one. Perhaps updating the theory of agile transformations accordingly would result in relevant external help coming in early in the process with mandate and assistance from internal agile coaches to work through the organisation during an agile transformation.

7. Conclusion and contributions

In this chapter, an attempt to provide answers to the study's research questions is made by presenting highlights of findings together with conclusions from the analysis and discussion. Consequently, the theoretical, managerial and societal contributions are discussed before the study's limitations and suggestions for further research concludes the chapter.

7.1 General conclusion

The aim of this study was to explore the agile transformation process from the perspective of agile coaches. By understanding the challenges and critical success factors facing an organisation during an agile transformation process, insight into their role and what actions they take to assist the organisation was provided. As previous research has asked for more perspectives in order to validate and develop theories further, this study concluded to target the agile coach since this particular perspective was underrepresented in literature. In this, the following research questions were posed;

- 1) *What challenges and critical success factors do agile coaches identify for a successful transformation process?*
- 2) *How do agile coaches aid and assist organisations during an agile transformation process?*

Consequently the study is based on seven semi-structured interviews of seven agile coaches from one Swedish consulting firm specialised in agile transformations. The respondents were targeted based on their expressed experience of agile transformations and in combination with personal referrals. During the interviews, the focus was on the concept of agile organisation, how an agile transformation process works, what success factors and challenges they as agile coaches identify and finally through what actions the agile coaches aid and assist organisations undergoing agile transformations. The collected data and results from held interviews were later discussed based on categories of the different success factors and challenges identified in relation to the actions of the agile coach.

7.1.1 Success factors and challenges from the perspective of agile coaches

What became evident after collecting the empirical data, many identified by the respondents' success factors and challenges were the same or similar as the ones identified by existing theory. The success factors the respondents discussed and emphasised as important for an agile transformation were: *'shared vision'*, *'communication and transparency to employees'*, *'shifting the mindset and accepting uncertainty'*, *'involve the organisation as a whole'*, *'stress relief'*, *'employee empowerment'*, *'learning, trial and error'*, *'team autonomy'*, *'pilot testing'*, *'management buy-in'*, and *'management support'*. One critical success factor appeared uniquely stressed by the agile coaches, *'leaders lead by good examples'*, identified as a new critical success factor. Compared to the previous literature, there were some success factors that were highlighted with some distinct differences by the respondents. For instance, regarding the success factor *'shifting the mindset and accepting uncertainty'*, the respondents were unique in their thoughts regarding the so-called "year cycle tyranny". The respondents also argued for the importance of involving the HR-department in agile transformation, explained by their relevant skills. The respondents further contribute with a more explanatory picture of the factors, as well as an emphasising efforts for management instead of employees, who was emphasised to a greater extent in the literature.

Moreover, the challenges identified in the empirical findings were: *'push instead of pull'*, *'legacies of old structures'*, *'employee lack of control and influence over their own work'*, *'misjudges pilot testing'*, *'management unwilling to change'*, *'lack of funding, time and resources'*, and *'little or no specific education for middle managers'*. As with the case of success factors, there were some challenges mentioned by the respondents which did not have a corresponding challenge in the literature, therefore seen as new challenges. Those were: *'Begin the transformation for the wrong reason'*, *'view the transformation as a project'*, *'wanting to change too fast'*, *'old technology parks and systems'*, *'management passivity'*, *'vision is detached from reality'*, and *'leaders are far away from feedback loops'*. Distinguished from the literature was the respondents' argument for adjusting the structure of planning and budgeting based on annual cycles, to a more continuous planning and follow-up on an ongoing basis in relation to legacies of old structures. They also highlighted the challenge with lack of time and funding, as well as the importance of focusing on middle managers' training in order for them to best coach their employees.

7.1.2 How agile coaches aid and assist organisations in agile transformations

Adding to existing theory the respondents described a similar need for the agile coaches services as previous literature. Our findings did however, expand the scope for what those services entailed. Second, our findings deviated from existing literature in the way the partition of actions of agile coaches was distinguished. As the literature has described the actions in *steps* and *phases*, our data treated the same or similar actions but appeared to be more suitably categorised in *areas* rather than steps or phases. Rather than being addressed in similar order every time like the phase partition, the area partition was more fluent and accommodating to the unique needs of each agile transformation.

Our findings show that agile coaches assist the organisations in myriad ways focused in the three areas; *mapping and visualising*, *aiding management* and lastly *aiding teams*. Mapping and visualising included the actions: investigating and mapping, visualising pain-points, identifying the "why", tailor implementation, engaging internal agile, time management and lower expectations, raising awareness, reviewing technology. This was done through interviews, cooperation and inclusion of the organisation in its entirety. The area of aiding management included the actions: shift focus, prepare, cooperate, encourage involvement, enhance understanding, coach middle managers, engage and support. Through targeted and particular education, coaching and challenging the existing management in their way of operating, agile coaches could prepare, motivate and include management for successful transformations. Actions in the area of aiding teams included: create time and space, empower, experiment, facilitate ceremonies, trial and error and problem solving. This was done through on site presence, listening, education, removing obstacles, facilitating agile ceremonies and workshops, encouraging experimentation in the teams and moving decision-making to the teams.

The actions described by the respondents were similar to the literature in that the necessity for agile coaches was described as essential for a successful transformation in both cases. What differed is how the respondents viewed the actions in terms of who was responsible for the implementation, where the respondents put larger emphasis on the agile coaches involvement. As some actions related to success factors or challenges uniquely presented by the respondents, the action itself came out as contributing to theory and practitioners.

7.2 Contributions

7.2.1 Theoretical contributions

As was mentioned in the study's introductory chapter, the research of agile is well covered in some areas, such as IT and software development, but less researched in others. The area of agile transformations, especially with associated success factors and challenges, has to a great extent also been researched, with the study conducted by Dikert et al. (2016) as the most prominent. Despite this, there was a demand for a more nuanced picture of the agile transformation processes, as each individual transformation case is unique. For example Kumar et al. (2019, p. 218) asked for supplemented studies conducted in other ways as well as in other contexts. Agile coaches have further been highlighted as important, and sometimes even crucial, key people in agile transformations. What has not been studied, however, is in what way the coaches aid and assist organisations in their agile journey, and why they therefore are described as such an important success factor.

This study provides empirical data from seven semi-structured interviews with agile coaches, and contributes to the provision of insight on the assistance of these professionals in agile transformations. A mapping of the agile coaches' actions and focus in an agile transformation was created, which complements the more general picture currently existing in the literature. As the actions of agile coaches are discussed within the areas investigating and mapping, aiding management and aiding teams, a more nuanced picture is presented of how they assist organisations. Exemplified through targeted and particular education, coaching, on site presence, listening, removing obstacles, facilitating agile ceremonies and workshops these actions help organisations address and avoid critical success factors and challenges for a smooth agile transformation.

Jalali & Wohlin (2012, p. 658) further argued for an increasing need for research that incorporates different factors from different perspectives when agile as a method is to be implemented. When screening the research area, the authors of this study could not identify widespread research on crucial factors for agile transformations from the perspective of agile coaches, although emphasised as important assets. This study thus contributes to success factors and challenges for agile transformations stressed by experienced agile coaches. One new identified critical success factor in the empirical data was: leaders lead by good examples. The new challenges identified were: begin the transformation for the wrong reason, view the transformation as a project, wanting to change too fast, old technology parks and systems, management passivity, vision is detached from reality, and leaders are far away from feedback loops. The agile coaches' external view and broad knowledge in different industries thus broaden the otherwise more IT-oriented image of agile. By highlighting similarities and differences the comparison between existing literature and our findings both confirm and nuances the field of critical success factors and challenges during an agile transformation. This provides both an updated picture of the research area, as well as creating the basis for further research in the field.

This study therefore (1) contributes to broadening the research area with more knowledge about the agile coach as a profession, (2) nuancing the picture of success factors and challenges linked to agile transformations through the new perspective of agile coaches, and to (3) gain new insight to this yet, underexplored area of agile coaches within the research field of organisational agile.

7.2.2 Practical contributions

This study sat out to, in addition to theoretical contribution, provide inspiration for managers for the use of agile coaches. By showing examples and discussion, and providing insights to important preparations and actions during an agile transformation, in the future this study will assist managers in their planning and preparations. Hopefully the nuanced insights can result in fewer misunderstandings and counteract dissonance within organisations prior to and during agile transformations thanks to expanded managerial understanding.

To other agile coaches, managers and consultants in adjacent fields alike, this study can serve as an illustration of what to address and how to address it in specific transformation cases. In relation to some newly identified challenges such as viewing the transformation as a project, actions like working closely with internal agile coaches is explored. The collaboration should derive from the beginning of investigation and mapping until the external coaches leave. This particular action can help the transformation and agile mindset continuously grow within the organisation and improve the long term development.

Also suffice as a comparison between different coaches' approaches and conducts which could be of interest for the coaches who participated themselves to review. As all of the respondents were interested in receiving the finalised report, their wish could be viewed as yet another indication of this study addressing an existing need. This thesis has through analysis and discussion contributed to the expansion of the field of agile coaches' role in an agile transformation and could possibly even serve as an advertisement of the work that they do for someone interested in becoming a coach themselves.

7.2.3 Societal Contributions

By greater understanding of the agile coaches role and the improved quality of agile transformations and with this study further contribute to society as a whole. Successful agile organisations will better be able to adjust and survive in a fast changing business environment than before. The ability to adjust to any and all future crises and challenges, which today is a prerequisite for survival, agile organisations will contribute to long term economic goals and future employment and therefore continuously contribute to society both financially and socially. By increasing the number of flexible and stable organisations with customer-centric mindsets and people orientation, society will be offered products and services the customers actually desire and need while at the same time value people in the organisation and other stakeholders.

On the organisations quest to become agile, this study might also ease the transformation process as the insights for critical success factors and challenges along with the use of agile coaches during an agile transformation is highlighted. Given that the transformations are successful, this study could help to improve economic stability as the transition costs and liability goes down for individual organisations. Finally, organisations valuing their employees and other stakeholders might prove to be increasingly attractive as employers and contribute to society in their own way.

7.3 Limitations and future research

As with all research, this study contains some limitations which should be highlighted. First of all, the general limitations of qualitative research methods are that they are usually based on a small sample. This creates a subjective and in-depth understanding of individual

subjects, from a relatively small group of respondents. It is therefore difficult to generalise the results to a larger population. The results of the study can thus be considered to contribute valuable information to the research area of agile coaches' role in agile transformations processes and can serve as inspiration for further research. However, it can not be considered representative of all transformations, all agile organisations and other contexts that are outside the scope of this study.

Second, this study adopted the perspective of agile coaches, excluding other stakeholders' perspectives on the work of agile coaches. This gave a one-way view of the topic as such. As the agile coaches were encouraged to discuss their own work and its significance, it is important to highlight the reservation that the answers may be partial in favour of the agile coach profession. No validation from the respective organisations discussed was made and therefore the effect and result must be considered speculations. The data obtained can thus not be considered representative for all stakeholders' perceptions, nor the agile area as a whole. More research is consequently required for the results to be valid.

Finally, the agile coaches who participated in the study worked at the same consulting firm, or had recently done so. This could have affected the answers given as it may reflect the values of the particular organisation. It is therefore recommended that similar studies be conducted at other agile consulting firms to compare the results.

In order to further broaden and nuance the agile research area, the proposal for further research is to examine agile transformations from other stakeholders' perspectives, suggestively internal coaches as this thesis has addressed external agile coaches. Alternatively, to compare different stakeholders' views on success factors and challenges. To move away from the transformation in order to understand the variance of agile, future research could include reviewing and comparing born agile organisations to transformed agile organisations as they adapt under different conditions. As discussed by some of the respondents, a big challenge for agile transformations is being stuck in old structures, leaving this area open for further research. Finally, to investigate how organisations can break free from the "year cycle tyranny", by reviewing the potential need for a transition from annual budgeting and planning to a conduct adjusted to an agile setting.

8. Truth criteria

For the study to be accepted as credible to others, it is important to evaluate the degree of quality. Reliability and validity are two factors that can be used for this cause (Saunders et al., 2019, p. 216). Validity is about ensuring that the researcher has really measured what was intended to be measured, and reliability is about results being constant for repeated measurements (Saunders et al., 2019, pp. 213-214). However, there are conflicting opinions as to whether these two criteria are suitable for interpretive qualitative studies or not (Bell et al., 2019, p. 363; Saunders et al., 2019, p. 216). Saunders et al. (2019, p. 216) argue for them being inappropriate to use from both a philosophical and technical perspective, as qualitative studies with interpretive assumptions are based on the view that reality is socially constructed and multifaceted affected by both respondents perception of reality and the researchers. When the criteria reliability and validity are applied to qualitative studies, such as this one, they might suggest lesser quality of the study. Because of this thesis exploring nature where the purpose was to examine the respondents' individual experiences and perspectives, highly subjective answers were collected. The answers would probably generate different results if the study was to be repeated with other respondents. The data could still be of high quality, but risk being viewed as less so when using reliability and validity criteria. As a response measure, alternative quality criteria were therefore developed by Guba & Lincoln (1985, cited in 1994, p. 114), named *credibility*, *transferability*, *dependability*, *confirmability*, and in addition *authenticity* as a complementary factor to trustworthiness. Due to their more appropriate quality assessment of qualitative studies, these were chosen to be applied to evaluate this study and is consequently discussed below.

8.1 Credibility

This is the parallel criterion to internal validity (Guba & Lincoln, 1994, cited in Saunders et al., 2019, p. 217). Credibility is about ensuring that the representation of the respondents' socially constructed realities is in line with what the respondent intended (Guba & Lincoln, 1994, cited in Saunders et al., 2019, p. 217) and the findings can be considered plausible (Korstjens & Moser, 2018, p. 121). To ensure the credibility of this study, all interviews were recorded and transcribed directly using the tools provided by Microsoft Teams. After each interview, both authors helped each other go through the transcripts thoroughly while listening to the recordings. If certain statements were difficult to discern, the authors took the time to try to identify specific words at a slower pace so that the respondents' answers would not be distorted. Further, a thorough analysis was developed that accounted for negative cases by refining the analysis in order to obtain the best possible explanation of the studied phenomenon. In this, the authors' reflective reviews were an important part where a continuous dialogue between them ensured that the respondents' reflections corresponded to what was intended. The authors' views were continuously reconciled with the transcripts along with the recordings so that selected quotations were not placed in the wrong contexts in the study's analysis.

8.2 Transferability

In the attempt to understand and analyse the role of agile coaches and interpret the meaning of the responses, a thick description is required to fully grasp the context from which the respondents derive. Transferability is according to Guba and Lincoln (1994, p. 114) paralleling external validity and the thick description regards extensive depiction of the culture and assumptions surrounding the respondents. The purpose of which is for the reader

to understand their behaviour and reasoning (Korstjens & Moser, 2018, p. 121; Bell et al., 365). The description then offers the reader an opportunity to assess if the study can be applicable, or transferred, to another setting than the one researched in this particular study. To present the respondents as thoroughly as possible without revealing their identities, the background given is only covering their professional history, as can be seen in chapter 4.2.3. Educational degrees, gender, age and origin has been left out as the authors deemed it excessive to the study in depicting the context. The degree of transferability of this study to another setting is left for the readers to judge. As we have looked at one Swedish consultancy firm, it could be assumed similar consultancy firms could make use of our findings too. With some international experience represented amongst the respondents, the findings could possibly be transferred to both Swedish firms and firms in adjacent countries alike. Additionally, by studying agile coaches the picture is quite comprehensive on agile transformations due to their aggregated experiences across various assignments compared to studying one single organisation. This provides a broad understanding of the success factors and challenges on the quest to become agile which would serve as a compiled science based on immense experience of approximately 70 years of collected experience among the respondents. This thesis has strived for rich and adequate description of context to suffice in the assessment of transferability.

8.3 Dependability

Further ensuring trustworthiness of the study, is reviewing the dependability (Guba & Lincoln, 1994, p. 114; Bell et al., 2019, p. 365). In this case, complete recordings - thanks to the interviews being held online includes both visuals and audio-, transcripts of the interviews and personal notes have been kept. In any case of uncertainty of context or exact expression, the authors have been able to both go back in notes and transcripts but also review the entire segment of the interview if need be. Due to regulation and university policy these data sets are not shared with peers, but accessed only by the authors themselves, supervisor and potentially examiner. Still, the authors have made an effort to be transparent of the process and decisions made in what to use or discard in regards to method, analysis and research topic itself as it is accounted for in chapter 1, 3 and 4, as should be (Korstjens & Moser, 2018, p. 122; Bell et al., 2019, p. 365). In Chapter 1 the need for the study is accounted for together with aspiring contributions. The research philosophy and approach is accounted for and discussed in Chapter 3 to highlight the motivations for particular method usage and relation to the phenomenon and our findings. Finally, in Chapter 4, the reader is able to follow the thesis procedure, sample motives and data collection. The audit trail is altogether existing and possible to control and therefore able to grant this study high dependability.

8.4 Confirmability

Confirmability addresses the issue of bias in regards to the trustworthiness of the study (Guba & Lincoln, 1994, p.114). While conducting semi-structured interviews digitally and in person it will not be possible to remain completely objective or impartial. What confirmability can do is discuss conduct in good faith and keeping personal values from overflowing the interviews or conclusions and theoretical contributions (Bell et al., 2019, p. 365). Directed by the interview guide, and both authors present at all times during the interviews, precautions were made from personal values steering the respondents in off directions. Although the interview guide does not automatically ensure safe guard from personal bias, it increases the chances to stay neutral. Found in Appendix 1 is the interview guide which remained the same through all interviews and can be compared to the empirical data by the reader. The analysis

has shown clear connections to the respondents and the data with citations and discussed collectively by the authors to provide the study high confirmability. Excerpts and their respective theme which the analysis later followed can be found in Appendix 4.

8.5 Authenticity

The criteria of authenticity has no parallel criteria in reliability and validity, but is specifically designed for constructivist / interpretivist research (Guba & Lincoln, 1994, p. 114). It includes a set of elements: fairness, ontological, pedagogic-, catalytic- and tactical authenticity (Guba & Lincoln, 1994, p. 114), where fairness means that the study represents the opinions and ideas that the respondents demonstrated. In this study, a true representation of the answers given was always sought, as well as balancing the depiction of answers from different participants. Ontological and pedagogical authenticity implies that respondents are given a better understanding of their own and others' social situation, something that the respondents can be argued to be, after reading the results of this study (Guba & Lincoln, 1994, p. 114). In addition to taking part in the academic perspective on agile coaches' work in agile transformations, as well as crucial success factors and challenges, they are given a relative benchmark against their industry colleagues. Additionally, the author's own interpretations, bias and effect on conclusions will be considered to some degree inevitable although the ambition was throughout to process the thesis as professional as possible. Further, catalytic and tactical authenticity is about whether the study assists the participants with the information and tools needed to take required actions (Guba & Lincoln, 1994, p. 114). For this study, it can be argued that the findings and conclusions drawn could be empowering for the respondents as they get the opportunity to take part of other agile coaches' thoughts on success factors and challenges, as well as their actions according to these. Conclusively, it is argued that the academic contribution from this study can serve as an inspiration for more agile coaches within the agile sphere.

References

- Ackermann, M., Schell, S. & Kopp, S. (2021). How Mercedes-Benz addresses digital transformation using Holacracy. *Journal of Organizational Change Management*, 34(7), 1285-1299.
- Appelbaum, S.H., Calla, R., Desautels, D., & Hasan, L. (2017). The challenges of organizational agility: part 1. *Industrial and Commercial Training*, 49(1), 6-14.
- Beck, K., Beedle, M., van Bennekum, A., Cockburn, A., Cunningham, W., Fowler, M., et al. (2001). *Manifesto for Agile Software Development*. <http://agilemanifesto.org/>. [Retrieved 2022-02-01].
- Bell, E., Bryman, A., & Harley, B. (2019). *Business research methods*. 5th edition. Oxford: Oxford University Press.
- Boehm, B., & Turner, R. (2005). Management challenges to implementing agile processes in traditional development organizations. *IEEE Software*, 22(5), 30-39.
- Bresciani, S., Ferraris, A., Romano, M., & Santoro, G. (2021). *Building a Digital Transformation Strategy*. In Digital Transformation Management for Agile Organizations: A Compass to Sail the Digital World. Bingley: Emerald Publishing Limited.
- Brosseau, D., Ebrahil, S., Handscomb, C., & Thaker, S. (2019). *The Journey to an Agile Organization*. McKinsey. <https://www.mckinsey.com/business-functions/people-and-organizational-performance/our-insights/the-journey-to-an-agile-organization#>. [Retrieved 2022-02-24].
- Business Agility Institute. (2021). *The Business Agility Report 2021- Rising to the challenge*. Business Agility Institute. <https://api.businessagility.institute/storage/files/download-research/BAI-Business-Agility-Report-2021.pdf> [Retrieved 2022-02-22].
- Campanelli, A.S., & Parreiras, F.S. (2015). Agile Methods tailoring – A systematic literature review. *Journal of Systems and Software*, 110, 85-100.
- CEB Global. (2016). Making change management work. CEB Global <https://www.cebglobal.com/content/dam/cebglobal/us/EN/best-practices-decision-support/human-resources/pdfs/making-change-management-work-whitepaper1.pdf> [Retrieved 2022-02-24].
- Chow, T., & Cao, D.B. (2008). A survey study of critical success factors in agile software projects. *Journal of Systems and Software*, 81(6), 961-971.
- Cloke, G. (2007). GET YOUR AGILE FREAK ON! Agile Adoption at Yahoo! Music. *Agile Conference 2007 (AGILE)*, 240-248.
- Cockburn, A., & Highsmith, J. (2001). Agile software development, the people factor. *Computer*, 34(11), 131-133.
- Cohen, D., Lindvall, M., & Costa, P. (2004). An introduction to agile methods. *Advances in Computers*, 62(03), 1-66.
- Collis, J., & Hussey, R. (2014). *Business Research*. 4th edition. Hampshire: Palgrave Macmillan Higher Education.
- Conboy, K., & Carroll, N. (2019). Implementing Large-Scale Agile Frameworks: Challenges and Recommendations. *IEEE Software*, 36(2), 44-50.
- De Smet, A., Lurie, M. & George, A. St. (2018), *Leading Agile Transformation: The New Capabilities Leaders Need to Build 21st-Century Organizations*. McKinsey. <https://www.mckinsey.com/business-functions/people-and-organizational-performance/our-insights/leading-agile-transformation-the-new-capabilities-leaders-need-to-build-21st-century-organizations>. [Retrieved 2022-02-24].

- Denning, S. (2016). Agile's ten implementation challenges. *Strategy & Leadership*, 44(5), 15-20.
- Denning, S. (2018a). How major corporations are making sense of Agile. *Strategy & Leadership*, 46(1), 3-9.
- Denning, S. (2018b, November 4). The 12 Stages Of The Agile Transformation Journey. *Forbes*.
<https://www.forbes.com/sites/stevedenning/2018/11/04/the-twelve-stages-of-the-agile-transformation-journey/?sh=3d6d008a3dd4>. [Retrieved 2022-02-22].
- Denning, S. (2018c). The ten stages of the Agile transformation journey. *Strategy & Leadership*, 47(1), 3-10.
- Denning, S. (2019). Lessons learned from mapping successful and unsuccessful Agile transformation journeys. *Strategy & Leadership*, 47(4), 3-11.
- Dikert, K., Paasivaara, M., & Lassenius, C. (2016). Challenges and success factors for large-scale agile transformations: A systematic literature review. *The Journal of Systems and Software*, 119, 87-108.
- Dybå, T., & Dingsøyr, T. (2008). Empirical studies of agile software development: a systematic review. *Information and Software Technology*, 50(9-10), 833-859.
- Gandomani, T.J., & Nafchi, M.Z. (2015). An empirically-developed framework for Agile transition and adoption: A Grounded Theory approach. *The Journal of Systems and Software*, 107, 204-219.
- Glenn, M. (2009). *Organisational Agility: How Business Can Survive and Thrive in Turbulent Times*. Economist Intelligence Unit, s.l.
- Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In: N. K. Denzin & Y S. Lincoln eds. *Handbook of qualitative research*. 2nd edition. Thousand Oaks, California: Sage. pp. 105–116.
- Harraf, A., Wanasika, I., Tate, K. & Talbott, K. (2015). Organizational agility. *The Journal of Applied Business Research*, 31(2), 675-686.
- Holbeche, L.S. (2018a). Organisational effectiveness and agility. *Journal of Organizational Effectiveness: People and Performance*, 5(4), 302-313.
- Holbeche, L.S. (2018b). *The agile organization: How to build an engaged, innovative and resilient business*. Kogan Page Publishers.
- Ikonen, M., Kettunen, P., Oza, N., & Abrahamsson, P. (2010). Exploring the Sources of Waste in Kanban Software Development Projects. *IEEE Explore*, 376-381.
- Jalali, S., & Wohlin, C. (2012). Global software engineering and agile practices: a systematic review. *Journal of Software*, 24(6), 643-659.
- Joroff, M.L., Porter, W.L., Feinberg, B., & Kukla, C. (2003). The agile workplace. *Journal of Corporate Real Estate*, 5(4), 293–311.
- Kaisti, M., Rantala, V., Mujunen, T., Hyrynsalmi, S., Konnola, K., Makila, T., & Lehtonen, t. (2013). Agile methods for embedded systems development - a literature review and a mapping study. *EURASIP Journal on Embedded Systems* 2013(1), 1-16.
- Kalenda, M., Hyna, P., & Rossi, B. (2017). Scaling agile in large organizations: Practices, challenges and success factors. *Journal of Software: Evolution and process*, 30(10), 1-24.
- Khoza, L., & Marnewick, C. (2021). Challenges and Success Factors of Scaled Agile Adoption – A South African Perspective. *The African Journal of Information Systems*, 13(2), 164-182.
- Korstjens, I. & Moser, A. (2018). Practical Guidance to Qualitative Research. Part 4: Trustworthiness and Publishing. *European Journal of General Practice*, 24 (1), 120-124.

- Kumar, R., Singh, K. & Jain, S.K. (2019). Agile manufacturing: a literature review and Pareto analysis. *International Journal of Quality and Reliability Management*, 37(2), 207-222.
- Lindvall, M., Muthig, D., Dagnino, A., Wallin, C., Stupperich, M., Kiefer, D., May, J., & Kahkonen, T. (2004). Agile software development in large organizations. *Company*, 37(12), 26-34.
- Livermore, J.A. (2008). Factors that significantly impact the implementation of an agile software development methodology. *Journal of Software*, 3(4), 31–36.
- Magnusson, E., & Marecek, J. (2015). *Doing Interview-based Qualitative Research: A Learner's Guide*. Cambridge: Cambridge University Press.
- Mahanti, A. (2006). Challenges in enterprise adoption of agile methods - a survey, *Journal of Computing and Information Technology*, 14(3), 197-206.
- Marinho, M., Camara, R., & Sampaio, S. (2021). Toward Unveiling How SAFe Framework Supports Agile in Global Software Development. *IEEE*, 9, 109671-109692.
- Misra, S.C., Kumar, V., & Kumar, U. (2010). Identifying some critical changes required in adopting agile practices in traditional software development projects. *International Journal of Quality & Reliability Management*, 27(4), 451-474.
- Naslund, D., & Kale, R. (2020). Is agile the latest management fad? A review of success factors of agile transformations. *International Journal of Quality and Service Sciences*, 12(4), 489-504.
- Paasivaara, M., Lassenius, C., Heikkilä, V., Dikert, K., & Engblom, C. (2013). Integrating global sites into the lean and agile transformation at ericsson. *Global Software Engineering (ICGSE), 2013 IEEE 8th International Conference on*, 134-143.
- Paasivaara, M., Behm, B., Lassenius, C., & Hallikainen, M. (2018). Large-scale agile transformation at Ericsson: a case study. *Empirical Software Engineering*, 23, 2550-2596.
- Parizi, R.M., Gandomani, T.J., & Nafchi, M.Z. (2014). Hidden Facilitators of Agile Transition: Agile Coaches and Agile Champions. In: *2014 8th Malaysian Software Engineering Conference (MySEC)*. Langkawi, Malaysia, September 23-24. Available via: <https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6986022>. [Retrieved April 5, 2022].
- Pawel, P. (2017). Agile transformation in project organization - issues, conditions and challenges. In: *Sixth International Scientific Conference on Project Management in the Baltic Countries*. Riga, Latvia, April 27-28.
- Power, D.J., Sohal, A.S., & Unive, M. (2001). Critical success factors in agile supply chain management. *International Journal of Physical Distribution & Logistics Management*, 31(4), 247-265.
- Qu, S. Q., & Dumay, J. (2011). The qualitative research interview. *Qualitative research in accounting & management*. 238-264.
- Russo, D. (2021). The Agile Success Model: A Mixed-methods Study of a Large-scale Agile Transformation. *ACM Transactions on Software Engineering and Methodology*, 30(4), 52:1-52:46.
- Saunders, M., Lewis, P., & Thornhill, A. (2019). *Research methods for business students*. 8th edition. Harlow; New York: Pearson Education.
- Schwaber, K., & Sutherland, J. (2020). *The Scrum Guide*. <https://scrumguides.org/>. [Retrieved 2022-02-21].
- Smart, J. (2018). To Transform to Have Agility, Don't Do a Capital A, Capital T Agile Transformation. *IEEE Software*, 35(6), 56-60.
- Sommer, A.F. (2019). Agile Transformation at LEGO Group. *Research Technology Management*, 62(5), 20-29.

- Stray, V., Tkalic, A., & Moe, N.B. (2021). The Agile Coach Role: Coaching for Agile Performance Impact. In: *Proceedings of the 54th Hawaii International Conference on System Sciences*, 2021. Available via: <https://arxiv.org/ftp/arxiv/papers/2010/2010.15738.pdf>. [Retrieved April 6, 2022].
- Sugimori, Y., Kusunoki, K., Cho, F., & Uchikawa, S. (1977). Toyota Production System and Kanban System Materialization of Just-in-Time and Respect-for-Human System. *International Journal of Production Research*, 15(6), 553–564.
- Torraco, R. J. (2005). Writing integrative literature reviews: Guidelines and examples. *Human resource development review*, 4(3), 356-367.
- Wrike (n.d.). What is Agile Transformation? *Wrike*. <https://www.wrike.com/agile-guide/agile-transformation/>. [Retrieved 2022-02-22].
- Zakrzewska, M., Jarosz, S., Piwowar-Sulej, K., & Sołtysik, M. (2022). Enterprise agility – its meaning, managerial expectations and barriers to implementation – a survey of three countries. *Journal of organisational change Management*, 1-23.

Appendices

Appendix 1: Interview guide

Theme	Questions and follow up questions	Objectives
A. 5 min	Background and Experiences as Coach	Understand their perspective and differentiate from others.
1.	Could you please start by introducing yourself and briefly about your background?	To understand their experiences and how they differ from other interviewees.
1.1	Can you tell us about your experience with agile transformations?	
2.	Could you tell us about why organisations usually contact you and ask for your help?	To understand for what reasons organisations hire agile coaches.
2.1	What do they usually want to achieve?	
B. 10 min	Agile Methods / Agile Organisations	Gain insight to different agile methods and their pros and cons
1.	Could you tell us about the agile methods you work with the most?	Get insight to the different agile methods they work with the most.
2.	What would you say is the most apparent benefit of working agile?	Understand their attitude towards and insight in agile methods.
3.	How would you define/describe an agile organisation?	Understand what the agile coaches think is the most essential characteristics of an agile organisation
4.	What would you say is the biggest challenge for organisations working agile?	Understand their attitude towards and insight into agile methods.
C. 15 min	Agile Transformation Process Success factors	
1.	Could you describe the process of an agile transformation?	
1.1	Could you tell us about which role you usually take during a transformation process? When you enter, what you do first, and second, etc.	Understand the agile coaches role during the transformation process.
2.	Can you tell us about what factors you see as crucial for a transformation to be successful?	Identify critical success factors.
3.	Have you ever experienced a truly successful	Get insight to what CSF that actually made the

	transformation?	transformation process successful.
3.1	What was it that made it successful?	
D. 15 min	Agile Transformation Process Challenges	
1.	Can you tell us about what the biggest challenges in a transformation process are according to you?	Identify crucial challenges.
2.	If you were to give one or more advice to other organisations that are going through an agile transformation, what would it be then?	Possibility for the interviewee to add anything they think have been missed.
3.	In your experience, what are common mistakes organisations make during an agile transformation process?	Get insight into common mistakes and how agile coaches use their experience to prevent those.
3.1	Can you give a specific example of how you as a coach work to prevent organisations from making those mistakes?	
4.	Have you ever experienced a transformation process that failed?	Get insight into what challenges made the transformation process unsuccessful.
4.1	Why did it fail according to you?	
E. 5 min	Concluding Open Questions	Leave room for the respondent to add additional information
1.	Is there anything else you would like to add in addition to what we already have talked about?	Possibility for the interviewee to add anything they think have been missed.
2.	For future research, what areas do you see as underdeveloped?	Fun fact if there is time to spare.
3.	Do you know any agile coaches you would recommend us to contact for the purpose of this study?	

Appendix 2: Request for interview participation

Hej [**Namn**]!

Skulle du vilja ställa upp på intervju om agila transformationer?

Vi är två Civilekonomstudenter vid Umeå Universitet som skriver examensarbete inom change management och agile transformations. Nu hoppas vi få möjlighet att fördjupa oss i just agila transformationer och upplevda framgångsfaktorer och utmaningar under den typen av omställning till en agil organisation, ur ditt perspektiv som coach.

Det vi söker är en agil coach som varit delaktig i en eller flera agila transformationer där hela organisationer ställt om från traditionellt arbetssätt till agilt.

Intervjun skulle vi gärna hålla online under vecka 14 och 15 (4-14/4) och den beräknas ta ca 1h. Men vi anpassar oss efter dina behov och möjligheter.

Deltagande i studien är självklart frivilligt och anonymt.

Är du den vi söker? Då berättar vi gärna mer och tar ett kortare samtal inför intervjun för att lära känna varandra lite bättre.

Med vänliga förhoppningar om att vi snart hörs,

Moa Lidman

[telephone number removed]

[email address removed]

Linnéa Berg

[telephone number removed]

[email address removed]

Appendix 3: Information letter to participants

Hej [**Namn**],

Här kommer lite information inför vår kommande intervju den [**veckodag, datum. Tid**]. Intervjun kommer ske genom Microsoft Teams. Länk till mötet finns längst ned i mailet.

Som tidigare nämnt undersöker vår studie hur externa agila coacher hjälper och bistår organisatoriska agila transformationer. Syftet med studien är att undersöka agila transformationsprocesser utifrån agila coaches perspektiv, för att bidra med utanför organisationer ackumulerad kunskap till det relativt nya forskningsområdet rörande agila transformationer.

Som förberedelser inför intervjun vill vi ge dig en kort överblick av dess innehåll, med avsikten att göra intervjun så fokuserad och tidseffektiv som möjligt. De huvudsakliga ämnen vi kommer att behandla är:

- Din bakgrund och erfarenhet som agil coach
- Agilt arbetssätt som filosofi
- Framgångsfaktorer för agila transformationer
- Utmaningar i agila transformationer
- Utrymme för dig att lämna övriga kommentarer

Vi vill vidare betona att ditt deltagande i studien är frivilligt, konfidentiellt och anonymt. Du har rätt att avböja specifika frågor eller att avbryta intervjun helt om så önskas. Med ditt muntliga godkännande önskar vi att spela in intervjun. Vänligen läs igenom bifogad information gällande GDPR och hur vi enligt Umeå universitets policy hanterar personuppgifter. Återkoppla gärna vid eventuella frågor.

Vi är tacksamma för att ni vill delta och vi hoppas att vår studie kommer att vara givande för er. Om så önskas kommer ni få tillgång till den slutliga rapporten, som kommer att publiceras i Digitala Vetenskapliga Arkivet (DiVA) i mitten av juni månad.

Vi ser fram emot vårt samtal!

Med vänliga hälsningar,

Linnéa Berg

[telephone number removed]

[email address removed]

Moa Lidman

[telephone number removed]

[email address removed]

Appendix 4: Transcript excerpts

Transcript excerpt (Agile Organisation)	Categorisation and interpretation
<p>Amsterdam “The team has an environment that supports them to be successful. The support is about ensuring that you understand what needs to be solved, what are the challenges and problems that the teams need to try to find their way through and that the environment also ensures that the conditions for the teams to act effectively together are constantly improved.”</p> <p>Jakarta “you have a strong culture of collaboration, if you are successful, where you constantly think of a shared responsibility for how we can ensure that we deliver a good solution that provides value for the customer, users and our organisation as well.”</p>	<p>The agile organisation and support around the team</p>
<p>Amsterdam “You keep the teams in the centre of attention and their interaction with the customer so as to focus on creating optimal conditions for the team to be able to serve the customer in the best possible way”</p> <p>Munich “... [the] ability to deliver solutions to real needs. And addresses them with accuracy and with high efficiency. It does not take too long but you have the ability to be responsive. There is a dynamic exchange between customers' needs and your offer.”</p> <p>Jakarta “razor sharp customer focus”</p>	<p>The agile organisation, customer-centric view and value adding</p>
<p>Madrid “[the organisation has] a very proactive approach, problem-solving behaviour from many in the organisation, i.e. everything from team members to all leaders at different levels.”</p> <p>Melbourne “How should we as an organisation work and live in a world of high complexity? Yes, well you have to try once, evaluate, learn from what you have done and the feedback you get, take a new approach and try again.”</p>	<p>The agile organisation with dynamic approach</p>

Transcript excerpt (Agile Organisation)	Categorisation and interpretation
<p>Copenhagen "... engaging and inclusive where all are working together, participating and team of teams are aligned with the common goals"</p> <p>Amsterdam "... there is a culture of quality and craftsmanship so that as individuals in an agile organisation, you feel pride in the quality you create."</p>	The agile organisation with people focus and pride
<p>Amsterdam "... the first is a variant [of agile transformation] that I may not believe in and that I have not yet seen implemented successfully. It becomes easy to try to transform the entire organisation all at once through a big bang implementation by applying predetermined patterns on how we should work."</p> <p>Melbourne "... when it comes to change processes nowadays, you will never be finished. The trick for successful companies is to become good at being changeable."</p>	Becoming the agile organisation

Transcript excerpt (Mindset and misconceptions)	Categorisation and interpretation
<p>Amsterdam "Just because you set the structure [for the transformation], it will not work painlessly. Then we begin to make visible all the problems that exist, which already existed before, and do something about them. But then you need to take that energy, hold on, so that you are not surprised by the problems and lose faith in what you do"</p> <p>Amsterdam "The key structure is to set a guiding direction of principles that describe how we should be in the future. For example, operate with fast flow, have customer-orientation, have leadership based on developing leadership foundation and so on. Then you get guidance in the</p>	The mindset of agile transformation by creating a shared vision

Transcript excerpt (Mindset and misconceptions)	Categorisation and interpretation
transformation work that you then start with and that change work is built around that structure so that everyone is included with the ability to find what we can do in our context that helps us get to the desired principles.”	
<p>Melbourne “To realise that this takes capacity from us. It is not only that the transformation costs money, but it costs power from all employees within the organisation because you throw them into uncertainty. This means that we do not have the full capacity to deliver or do our usual job.”</p> <p>Amsterdam “Year cycle tyranny”</p>	Shifting mindset and expectations of delivery
<p>Amsterdam “As we are used to a certain organisational structure, perhaps divided into functions, it is challenging to understand and accept that it is not optimal, especially if those responsible for the transformation have not yet experienced what agile is all about. You do not really understand and then you cannot accept it either.”</p>	The mindset for agile transformation by structure
<p>Melbourne “Everyone else is agile so we also want to be agile too”</p> <p>Jakarta “... external experts and best practice can help you a bit on the road, but you have to do the work yourself and include the people within the organisation.”</p> <p>Melbourne “Agile is a mindset, a method, a tool, it cannot solve problems by itself”</p>	Misconceptions and reasons for agile transformation
<p>Jakarta “One of the biggest mistakes organisations make is to view the agile transformations as a project with a start and an end”</p> <p>Amsterdam “The biggest mistakes are probably that you are too stressed, that you want to hurry up and then you do not take</p>	Misconception about transformations as project or process

Transcript excerpt (Mindset and misconceptions)	Categorisation and interpretation
<p>the time to change at a pace that you are capable of, but also not to reflect and learn about what the transformation actually means. You just rush in somewhere.”</p> <p>Melbourne “It is very common to give a lot of support at the beginning of the change journey and then stop training and coaching. But if you think of early adopters, early and late majority and so on, then once you get to late majority and laggards at the end here, those who have not grasped the concept yet and do not want to. Then you have the least support from agile coaches when it's time for those who need it the most.”</p>	
<p>Tokyo “First. Talk about why [an agile transformation]. That, it's probably the most important thing for everyone. That you know why you are making a change. Second. Guide and educate. And by guide I mean coaching.”</p> <p>Madrid “As coach you must be attentive and have the ability to adjust the plan according to the real situation and circumstances. It is not a linear process.”</p> <p>Munich “The point of getting external help is not for anyone else to make the change for you, because it is your own responsibility. Ownership needs to be on those who make the transfer, i.e those who need the transfer in the organisation”</p> <p>Jakarta “Either I do it with a [n external] colleague. /... / But usually I try to find someone who is employed internally. A coach for example, someone who will be involved and really be able to take this further in the organisation even after you leave.”</p> <p>Melbourne “...it cannot be done as a linear process, we have to continuously find lots of feedback loops and that's how we should work.”</p>	<p>Working with the mindset and misconceptions</p>

Transcript excerpt (Basic requirements)	Categorisation and interpretation
<p>Amsterdam “As I’ve said before, the leadership at the top must be behind the change and also embark on developing their own leadership according to what they want to develop towards. It is absolutely necessary.”</p> <p>Melbourne “For the company, the entire organisation, to be agile, the other functions must also keep up with it and understand it. /... / Because if management says that, no, you do not get money to do this, we do not intend to invest in this. Yes, well then it's hard. Then you will not go further than that a bunch of middle managers in an IT department will be very crowded and have to fight to be able to explain that, yes but we do not have time to do this as you want to do, because we are changing our working method for scrum...”</p>	Required of leadership
<p>Melbourne “Dare to trust your staff. They are adults, you hired them because they have smart brains. Make sure you let them do their job and what they are best at.”</p>	Required in terms of employees
<p>Madrid “...but the continuous motivation gets tested with every new obstacle.”</p> <p>Madrid “Agile is like chess. There are few rules, but an infinite number of moves.”</p>	Additional comment on the theme

Transcript excerpt (Employees engagement)	Categorisation and interpretation
<p>Amsterdam “... focus on creating the opportunity for teams to start experimenting and find a way forward”</p> <p>Melbourne “... you have a product orientation in your company rather than a function orientation. You then give them the opportunity to drive product development in their 'company within the company'. Gives in turn a higher degree of commitment”</p>	Engagement through autonomy

Transcript excerpt (Employees engagement)	Categorisation and interpretation
<p>Tokyo “The team easily becomes critical of working in the agile way. If you have gone out and said that 'oh, now we will be so fast, now we will deliver often', then you cannot practise it.”</p> <p>Jakarta “... work with the willing and the rest will follow”</p>	Actions that generates response of passivity or engagement

Transcript excerpt (Coaching leadership and management)	Categorisation and interpretation
<p>Jakarta “Support is needed from top management in the organisation. /... / If there is no one in the company management who is passionate about this, then there will be very little chance of success.”</p> <p>Tokyo “If you do not have the support from the management, you will soon, as it were, run into obstacles /.../ that you introduce foot shackles, and with foot shackles, we will not be able to run”</p> <p>Melbourne “It is expensive to make drastic changes and it is important for managers and employees alike to realise”</p>	Top management involved and enabling
<p>Madrid “There must also be what is usually called this psychological safety. It's ok to try and it gets wrong sometimes and we learn something from it. So we take a new approach and then it becomes more right and so on”</p> <p>Madrid “... be able to create joy and less stress.”</p>	Leadership building culture
<p>Munich “It is important to train leaders. Proactive to a change, you want to have trained the leadership before. So that they partly see what is happening so that they can proactively act on what is happening and not end up in the backwater, they feel like a natural part and know how to drive change. They feel safe with how to work</p>	Supporting and coaching management

Transcript excerpt (Coaching leadership and management)	Categorisation and interpretation
<p>with transparency and communication to many. They have trained their ability to make decisions under uncertainty.”</p> <p>Jakarta “Like a colleague once said to me, if a team asks me to coach them, then I coach them and help them get better with their way of working. If a manager asks me to coach a team, then I coach the manager.”</p>	

Appendix 5: Compiled list of success factors and challenges

Success factors - collected from: Dikert et al., 2016; Naslund & Kale, 2020; Kalenda et al., 2017; Khoza & Marnewick, 2021; Livermore, 2008; Russo, 2021

Management

- Changes in management style and decentralised decision-making
- Communicate that change is non-negotiable
- Communicate the change intensively, internally and to external stakeholders
- Convince employees that agile will bring the desired results
- Create and communicate positive experiences in the beginning
- Define concrete checkpoints for large scale changes in business direction
- Empower employees to make their own decisions → autonomy
- Focus on innovation
- Give employees the right balance of oversight and autonomy
- Make management support visible
- Make the change transparent
- Management is educated on agile
- Middle management has a clearly defined role in the transformation
- Show strong commitment even if problems occur
- Top management buy-in and support
- Turn institutional skills into new products and businesses
- Willingness to take risks
- Withstand external pressure to follow traditional waterfall processes

Choosing and customising the agile approach

- Adapt agile practices to fit the individual context
- Check for legislative restrictions which might impair the use of agile methods

Conform to a single agile approach

- Continuous, evolutionary, step-by-step implementation and continuous learning
- Customise the agile approach carefully
- Find agile experienced pockets in the organisation and learn from them
- Keep it simple
- Map to the old way of working to ease adaption

Training and coaching/Employees

- Ability to “go beyond standards” while improving effectiveness, quality and innovativeness
- Ability to build trustworthy relationships
- Decreased number of projects per one employee
- Developers possess social, analytical, and presentation skills
- Employee buy-in
- Employees motivated to teamwork and knowledge sharing
- Ensure availability of resources with engineering knowledge
- Focused on acquiring and maintaining highly qualified employees
- Increase in technical abilities and skills
- Maintain motivation of employees in the new teams and roles
- Provide pieces of training for employees
- Resistance to change

Change leaders

- Establishing agile leadership and enablement teams
- Facilitate internal and external coaching
- Include persons with previous agile experience
- Involving change agents and agile champions

Start with agile supporters

Communication and collaboration

- Arrange social events
- Cherish agile communities
- Engage everyone in the organisation
- Implement new communication tools + flow
- Increased collaboration and transparency
- Knowledge sharing

Culture

- Agile will change company “rules” and this needs to be managed well
- Change of mindset of the workforce
- Change organisational culture/create an agile mindset
- Concentrate on agile values
- Knowledge and expertise are recognized values of the organisation

Teams

- Ensure business knowledge within development teams
- Having development teams at the same location (no remote communication necessary)
- Implement distributed teams
- Integrate team management within the team
- Keeping teams small in size
- Leaders representing values of effective and innovative teamwork are part of the team
- Project team engagement
- Project teams can self-organise
- Subject matter experts as part of the team
- Teams focus on specific features
- Coach teams as they learn by doing

Operational processes

- A change of tasks on the fly
- Adjustment of the processes

Build a common backlog

Customer involvement

Distinguish critical tasks

Implement project management and control

Invest in learning to refine the requirements

Prioritisation of the tasks

Prioritise technical excellence

Synchronisation between agile and waterfall processes

Role definition and deployment

- Define, align and communicate new roles for employees
- Recognize the importance of and changes within the product owner role
- Rotate the role of scrum master between employees

Incentives and measures

- Align measures with evolving practices throughout the transformation
- Develop consistent measures throughout the organisation
- Establish personal performance evaluation by the scrum team
- Establishing incentives to adopt agile methods
- Innovation and commitment to knowledge sharing are part of performance appraisal criteria
- Measure the transformation according to the desired outcomes
- Provide development and growth opportunities for employees
- Set ambitious “stretch” goals

Organisational structure

- Achieving symbiosis between formal and informal organisational structures
- Align the organisation to the needs of “agile”
- Map the organisational structure to the real needs of customers
- Preserving existing software product lines
- Restructure long-established teams to create an “awakening” effect
- Set up a product owner team

Use a common agile framework for the whole organisation

Transformation planning

- Assess costs, benefits and risks of the agile transformation before the start
- Create a vision and strategy for the transformation
- Preparing well for the first program increment planning event
- Set business goals

Tools

- Anticipate and manage interdependencies between affected software systems
- Invest in system improvements

Make tools available which allow teams to transition their work procedures

Technical solution

Use existing platforms if they can be adapted to future evolving needs

Piloting

- Start with a pilot to gain acceptance
- Gather insights from a pilot

Challenges - collected from: Denning, 2016; Denning, 2019; Dikert et al., 2016; Kalenda et al., 2017; Khoza & Marnewick, 2021; Pawel, 2017, Parizi et al., 2014

Change resistance

- General resistant to change
- Scepticism towards the new way of working
- Top down mandate creates resistance
- Management unwilling to change

Lack of investment

- Lack of coaching
- Lack of training
- Too high workload
- Old commitments kept
- Challenges in rearranging physical spaces

Agile difficult to implement

- Misunderstanding agile concepts
- Lack of guidance from literature
- Agile customised poorly
- Reverting to the old way of working
- Excessive enthusiasm

Coordination challenges in multi-team environment

- Interfacing between teams difficult
- Autonomous team model challenging

Global distribution challenges

Achieving technical consistency

Different approaches emerge in multi-team environment

- Interpretation of agile differs between teams
- Using old and new approaches side by side

Hierarchical management and organisational boundaries

- Middle managers' role in agile unclear
- Management in waterfall mode
- Keeping the old bureaucracy
- Internal silos kept

Requirements engineering challenges

- High-level requirements management largely missing in agile
- Requirement refinement challenging
- Creating and estimating user stories hard
- Gap between long and short term planning

Quality assurance challenges

- Accommodating non-functional testing
- Lack of automated testing
- Requirements ambiguity affects QA

Integration non-development functions

Other functions unwilling to change
Challenges in adjusting to incremental delivery pace
Challenges in adjusting product launch activities
Rewarding model not teamwork centric



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