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ICT in Business and the Public Sector

Implications of Organizational Agility on Human Resource Management – The Human Side of Agile Transformations

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MASTER'S THESIS

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Acknowledgements

Abstract

Research background: The purpose of this study was to shed light on the relatively unexplored area of the implications of organizational agility and agile transformations on human resource management (HRM).

Purpose: Drawing on existing literature - which is little to nonexistent - the study focused on challenges and solutions for human resource management in the context of organizational agility.

Research Approach: This study conducted a purposefully sampled grounded-theory study. The data came from 19 valid expert interviews. 12 of those interviewees were practitioners of the field whereas seven were consultants or coaches. The interviews were on average 45:03 minutes, which resulted in a total of 14 hours and 18 minutes.

Findings: The results show that organizational agility has implications for recruiting, culture change in leadership styles and behaviors, people, communication, and collaboration, learning, training, and development, organizational design, career management and paths, (cross-functional) alignment, performance management/reviews, and IT environment and infrastructure.

Limitations: The limitations target mainly the shortcomings that come with selecting a qualitative research methodology, data transformation, subjective influence, the small sample size, and an "HRM-Lens" of the interviewees.

Practical implications: The practicing stakeholders of this thesis are recommended to focus HRM on the tasks of culture change and organizational design. It is also recommended that HRM be aligned with an organizational agile transformation with a view to the challenges and solutions explored.

Originality/value: The present study attempts to address multiple gaps of literature and in doing so makes important contributions to the field. The study extends the limited research on the understanding of the implications of organizational agility and agile transformations on Human Resource Management. This study is the first one to provide a detailed understanding which HRM domains are impacted and challenged by organizational agility and agile transformations.

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1 Introduction

1.1 Background and Research Motivation

"[...] but in the end, it's people who make the difference between success and failure"
(Fowler and Highsmith 2001). In the value chain of an organisation, Human Resource Management (HRM) is one of the essential support activities (Porter 1985). If we listen to the great leaders of our modern Western and Eastern hemisphere, or examine the relevant literature on HRM, we quickly realise that HRM and the general development of superior employees and members of the organisations are indispensable for the success of the organisations. It does not matter whether the organisation is a business organisation, a non-profit organisation or another institution: The organisation will always be dependent on the skills and commitment of its employees to stand out from its competition. In the present, the competence of so-called knowledge workers, with a higher attitudinal commitment is particularly crucial (e.g., Carleton 2011 and Benson and Brown 2007). European countries in particular are currently facing a shortage of skilled workers in various sectors. This means that the struggle for highly qualified employees is increasing and recruiting has even become an industry in its own right. The skills shortage in Europe manifests itself particularly in the I(C)T sector (Campanella 2015, Sellhofer 2000, and C. E. Moe and Sein 2001). This phenomenon makes it particularly important for organisations to understand their employees, offer them perspectives and retain them in the long term in the sense of a sustainable mindset geared towards long-term success (Canaj, Bogaerts, and Verbruggen 2021, Coetzee 2018). However, one point that can attack this mindset and the understanding of the employees is the strong change in the business landscape currently. Currently, the business landscape is changing in such a way that it tends to face increased uncertainties in the areas of product requirements, product offerings, customer needs and market dynamics and trends (Denning 2013, Schien 2007, Highsmith 2009). Because of these uncertainties and the drive for continuous innovation, organisations need to respond quickly and flexibly to change in order to compete. The answer to these uncertainties is the introduction of agile models, frameworks, and methodologies to combat uncertainties in all directions through flexible and rapid response time (Schien 2007, Highsmith 2009). The problem with regard to human resource management, however, is that it should now also be designed to be as flexible and reactive as possible, which has the effect that traditional human resource management approaches are now challenged by organizational agility.

1.2 Relevance and Importance

Literature on Human Resources Management (HRM) had its beginnings in the 1950s (McMackin and Heffernan 2021). Through the steady, continuous, and diverse research contributions and streams, the relevance of the field has been constantly

proven. Furthermore, this steady stream of literature into the 2020s suggests that researching HRM is relevant through constant change. It is continuously relevant because HRM is part of the HR strategy, which influences staff performance, sustainability and longevity, and satisfaction/employee relations. (e.g., Welty 2009 Ranasinghe and Sangarandeniya 2021, Tsui and Duanxu 2002). Thus, HRM is part of the success concept of an organisation which makes them more effective and efficient (e.g., Jiang et al. 2012). When we take a look at the business and industrial landscape of today, it is noteworthy that it is undergoing fundamental transformation and change processes continuously which results in high uncertainty. These processes and uncertainty have been driven primarily by the replacement of agile methods in project management and at the organizational or enterprise level. As we can see, various organisations, especially established players, find themselves in agile transformation processes at all levels (Brosseau et al. 2019b). As HR is one of the important secondary processes in a company (Porter 1985), the comprehensive organisational transformation also affects the HR area. Strategic and operational Human Resource Management (Systems) are also affected by this on a small and large scale. This current shift makes the exploration of the HR role, HRM and its challenges relevant. As we will see in the literature review, there is little to no evidence so far that covers this topic (McMackin and Heffernan 2021). Since HRM in connection with organizational agility and agile transformations has been barely touched by academic literature, the question arises whether traditional theories, concepts, and frameworks on HRM must be discarded, or retained. This study mainly specialises on comprehensively exploring the impact of organizational agility and agile transformations on Human Resource Management. Particularly, this study aims to explore the relationships between HRM and organizational agility dimensions, its challenges, and solutions. From the results, a conceptual framework will be developed. The qualitative methodology makes it possible to collect data in an unstandardised way and to evaluate and interpret opinions, views and motives through open and semi-structured interviews. This can be seen as a starting point for quantitative research. This study is also relevant because it shows the influence of the agile transformation processes on the corresponding agile roles.

1.3 Problem Statement

The relevance of this thesis is based on the research gap and transformation processes in organisations towards agile methodologies. The problem that arises now is that agile transformations affect organizations comprehensively in all areas (Fuchs and Hess 2018) which of course also includes Human Resource Management (HRM). However, there is little to no literature on the impact of agile transformation and organizational agility on HRM (McMackin and Heffernan 2021). Furthermore, existing literature does not describe the challenges that arise for HRM and does not define its role during and after the agile transformation. This means that it is gener-

ally known that HRM is supportive, but it is still unclear exactly where and how HR supports, and what problems or challenges arise during agile transformations. This is problematic as agile transformations are generally challenging and implementations of agile systems often fail, in part due to poor HRM (Zavyalova, Sokolov, and Lisovskaya 2020, Cockburn and Highsmith 2001). Additionally, the role of HR is unclear as to how they support organizational agility in the long term. In order to be able to describe the role of HR during the transformation as well as the sustainable support, this study needs to find out exploratively which HRM implications there are as a result of agile transformations and organizational agility in the first place, which challenges exist specifically for HRM, which solutions are successful and unsuccessful, and what effect they have. This study is a first starting point, as it exploratively and comprehensively attempts to fill this large research gap.

1.4   Purpose

As mentioned earlier, HR planning and management is a fundamental success factor for organisations to ensure effectiveness and performance (e.g., Y. Lee and J. Lee 2018, Yahya, Othman, and Meruda 2004). In agile research, however, the main topics are the elaboration of new models, frameworks or processes and their implementation. The goal of this thesis, however, is to contribute to both the agile and HRM research by exploring implications of organizational agility for HRM, but also looking at the the role of HR in agile organizations and during agile transformations, the challenges that arise, the solutions provided, and the effect of those. As one can see, this research is very practice-oriented. Thus, practical implications will also be discussed. At the same time, however, the resulting interpretations and propositions of the qualitative research are also intended to provide starting points for possible future quantitative or focused qualitative research in this field, in order to expand research in this particular intersection between Human Resource Management and large-scale agility. Given this background, the research question is the following:

What implications does organizational agility have on Human Resource Management?

1.5   Focus and Scope

The aim of this study is to investigate the implications of organizational agility and agile transformations on human resource management (HRM). A comparative purposefully sampled grounded theory study containing 19 expert interviewees will be conducted in order to answer this questions. The focus on this study is on HRM challenges and solutions. However, answers to define the role of HRM in an agile organization and during an organization's agile transformation are expected. The study can serve as a starting point for thought for organizations willing to transform an organization and defining the role that HRM should play within this agile transformation.

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1.6 Thesis Outline

The thesis is introduced with the first chapter, which among other things clarifies the research background, the motivation, the scope and also the research question. In the second chapter, a complete and comprehensive literature review is conducted, presenting the state of the art for Human Resource Management and organizational agility. The third chapter presents the methodology of the study and how it was conducted. The focus is on expert interviewee selection, data collection, data processing and analysis. The fourth chapter describes the results of the study in detail. In the analysis section, the theory from chapter two is linked to the actual results. The fifth chapter discusses the results and limitations of this study. Furthermore, it gives an outlook and recommendations for future studies. Chapter 6 concludes the study.

2 Background

This section provides a comprehensive review of the peer-reviewed literature in the two main streams of (Organizational) Agility and the role of Human Resource Management in agile organizations. Examining these literature streams is particularly important for understanding the historical and current research directions and foci. Furthermore, the aim of this study is to investigate the impact of organizational agile transformations on the HRM domain. Based on this, we will first review literature covering the history of agile project management, then reviewing literature on organizational agility and its underlying principles. This literature will also briefly present common agile frameworks used in practice. After that, literature on HR's role in this agile world and the employee life-cycle will be reviewed.

2.1 Agility

Of course, there is already extensive literature on some strands of agility. Examples are agile transformations in teams and organisations, comparisons between agile and traditional methods, co-existence of traditional and agile methods and others. This stream of research gained momentum especially in the 2000s and peaked in the 2010s and 2020s. For our study, the following main research areas are relevant: Comparison between traditional and agile methods, use of agile methods outside software projects, and relevant frameworks and roles. The first part of this literature review presents the historical development of agile methodology. It also shows how agile methods challenge classic waterfall project management methods. This is followed by a presentation of different agile frameworks that relate to different levels in the organisation. The last part of the literature review on agile structures is the description of the different responsibilities and characteristics of agile roles. This is particularly important in order to know exactly which role is being referred to during the interviews. This may not be clear-cut, as different positions and roles in an organisation may have different names or terminology.

2.1.1 History: From Traditional to Agile Project Management

In order to trace the origins of the agile methodology, both in project management and in the organisation itself, one must first look for traditional, original project management (TPM) methods that fundamentally differ from the agile project management (APM) methodology.

Traditional Project Management Traditional Project Management refers to the traditional definition of a project and project management. Thus, a **project** in the traditional context is a series of activities and tasks that *(1) have one particular and specific objective that must be completed within certain specifications, (2) have a*

particular start and end date, (3) sometimes have funding limitations, (4) consume both human and non-human resources, and (5) are multi-functional, which means that they are cut across several functional lines (Kerzner 2009, PMBOK® 2021).

Project Management Project Management, is officially defined by the PM-BOK® Guide as the *"application of knowledge, skills, tools and techniques to project activities to meet the project requirements"* PMBOK® 2021 on the other hand has a typical life cycle of (1) Project initiation, (2) Project planning, (3) Project execution, (4) Project monitoring and control, and (5) Project closure. Figure 1 illustrates this traditional approach.

Figure 1: Traditional Project Management Methodology (Gonzalez and Salameh 2014)
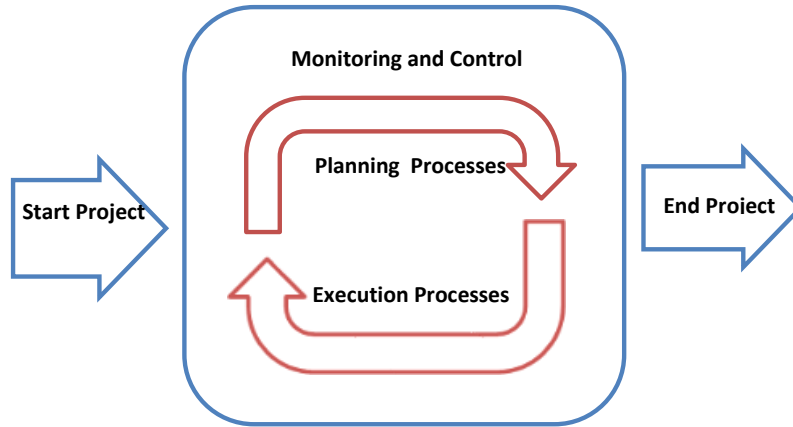
A traditional project which is also managed traditionally can be evaluated as successful if the following conditions are met: The project should be accomplished *(1) in time, (2) within the budget/cost, (3) the project should be at the desired performance and technology level while utilizing the assigned resources in an efficient and effective manner, and (4) should be accepted by the customer* (Kerzner 2009 and PMBOK® 2021). To ensure the project success, an additional - optional testing step can be included into the project life-cycle (PMBOK® 2021). Traditional project management also has different roles, such as the project manager. However, as this study specialises in agile project management, this will not be discussed in detail. One of the most widely used traditional project management practices is the waterfall model, which was initially designed for the development of large software systems by Royce 1970. This model or framework closely mirrors the characteristics of the traditional approach. In this model, a catalogue of requirements is manifested first. Then the product is designed, implemented, verified and finally released for maintenance.

Figure 2: Waterfall Model (Stoica, Mircea, and Ghilic-Micu 2013)
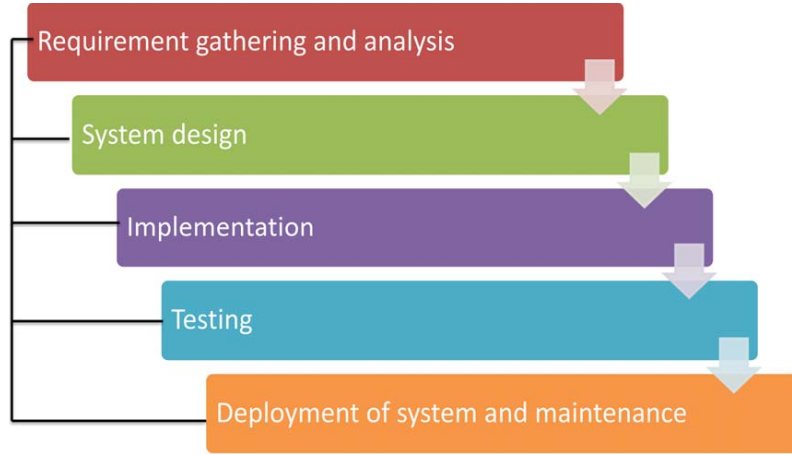
This means that this process flows steadily and linear downwards like a waterfall. Thus, the steps in the waterfall are plan, build, test, review, and deploy (Mahalakshmi and Sundararajan 2013). This waterfall model is depicted in Figure 2.

After the waterfall model spread beyond the software industry, another project management approach has emerged. Ironically, this came again from software development to overcome the problems of the existing model. It has been found that the waterfall model is best suited when project and product requirements are final, the product and technologies are thus clearly defined, the project has a short life span and resources and expertise are available (Stoica, Mircea, and Ghilic-Micu 2013). However, software project often are not like this. Software projects tend to have a higher degree of uncertainty when it comes to the project and product scope. Additionally, requirements can change quickly in the course of the implementation phase (Ruhe and Wohlin 2014). However, when we take a look at the characteristics of traditional project management planning, we saw that the life-cycle with fixed start and end dates are mandatory (Kerzner 2009). Those predictions can only be made with a high uncertainty in the initial phase of the project. Furthermore, software products are complex (Schwaber 2004). This also lowers the predictability. Furthermore, maintenance for software products is very high due to increasing software security standards and connections to different interfaces or other vendor products (Ruhe and Wohlin 2014). If we now look at the peculiar characteristics of software projects, we come to the conclusion - as has already been the case in the relevant literature - that the traditional approach (possibly implemented by the waterfall model) offers weak points for project failure. These vulnerabilities are that customer requirements are frozen, significant time deviations can occur, and thus customer satisfaction decreases (Mahalakshmi and Sundararajan 2013). Furthermore, the success rate in the waterfall model is extremely low (around 15%). In

fact, it is so low that the failure rate is twice as high (Ruhe and Wohlin 2014). Because of these and other reasons agile development environments are in some cases advantageous over the static, traditional project management models (Gustavsson 2016). This agility is also expressed in the iterative character of the approach which challenges the linear and sequential order of the traditional approach.

Figure 3: Traditional versus Agile Project Management approach (D. J. Fernandez and J. D. Fernandez 2008)
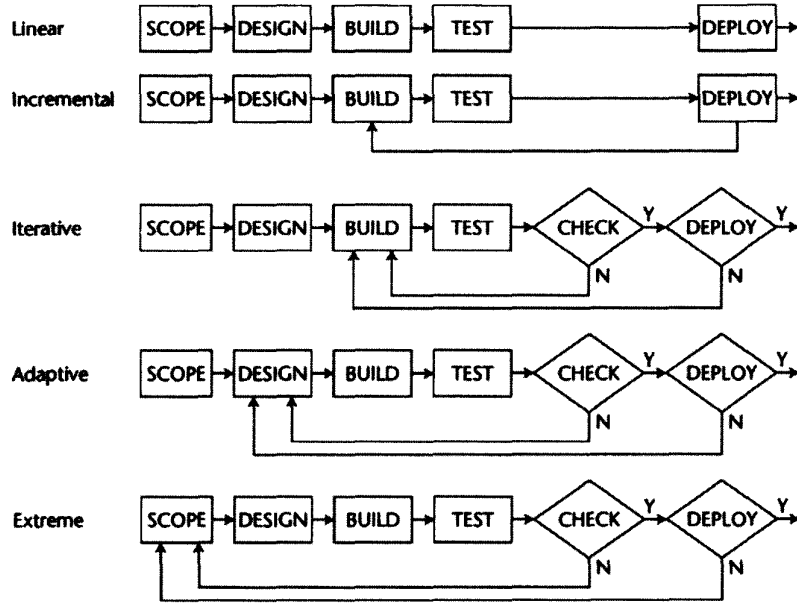
Figure 3 shows the transition between traditional (linear/sequential) project management approaches and agile (/iterative) approaches. This Figure can clearly be connected to the fact that agile approaches are preferred in situations where both solution and goals are uncertain, whereas traditional approaches work best in environments with clear goals and solutions. The figure also depicts control circles and iterations in the agile approaches (D. J. Fernandez and J. D. Fernandez 2008).

Table 1: Traditional versus Agile Project Management (inspired by Stoica, Mircea, and Ghilic-Micu 2013, D. J. Fernandez and J. D. Fernandez 2008, Highsmith 2009, Leau et al. 2012)

	Traditional Project Management	Agile Project Management
Model	Linear-sequential life-cycle model	Incremental, iterative model ("Many small waterfalls")
Objectives	• Well structured • Good documentation • Deliver what has been specified	• Continuous Innovation • Product Adaptability • Improved time-to-market • People and Process Adaptability • Reliable Results • Customer centric view
Requirements	• Requirement catalogue is developed in the initial phase of the project • Product definition is clear and stable	• Prototypes are delivered to the customer • Complete definition of the entire system which is divided and incrementally built
Management	• Manage against budget, schedule, and scope • Reduce risk and preserve time and money constraints	• Focused on deliverables and business value • Budget and timeline are secondary
Team	Product Manager has control	• Team members have different and shared responsibilities • Collaboration between team members
Product delivery	At the end of the project	After every iteration/circle
Time period	Suitable for short projects	• Suitable for both short and long projects • Strong for projects where requirements are not all clear in the beginning
Client feedback	Only minor changes and feedback can be considered	Customer feedback is part of the development process and included
Flexibility	Low	High
Risk	Lower, because uncertainty is lower	• Higher, because of uncertainty • Risk management is possible because of flexibility and adaptability
Technology	Clear from the beginning	Uncertain
Cost	Lower	Higher
Suitable usage	• If solution and goal are clear • Suitable for short projects	• If solution and goal are uncertain • Suitable for both short and long projects

Table 1 compares the two project management approaches. The current state of the organizational environment is strongly characterized by traditional project management approaches. Thus, agile models are now being transferred to other sectors and industries, such as transportation, construction, higher education, energy, R&D and others (Spalek 2016). A whole block of literature examines those transition processes (e.g., Armour and Kaisler 2001, Hoda and Noble 2017, Sanchez et al. 2019, and Burga et al. 2022). Other than only transferring agile practices to other industries and sectors, whole organizations embark on agile transformation processes in order to make teams, units, or the organizational design agile. Some organizations also aim to realize a mixture of both approaches (Špundak 2014 and

Zasa, Patrucco, and Pellizzoni 2021). However, the next subsection will take a closer look to organizational agility.

2.1.2 Organizational Agility: Definitions, Dimensions, and Terminology

Agility is defined as *"[...] the ability to both create and respond to change in order to profit in a turbulent business environment"* (Highsmith 2009). However, putting this into an organizational context, this means that the organization is able to respond and adapt to their external environment. Thus, being agile is composed of the two key parts flexibility and adaptability (Holsapple and Li 2008). Harraf et al. 2015 points out that organizational agility is a core competency, a competitive advantage, and a differentiator. Thus, being agile by responding and adapting to the current global external environment is a necessity for organizations that want to be successful and distinguish themselves from their competitors. Since there is no absolute flexibility or absolute adaptability to a complex and uncertain external environment, organizational agility is a continuous journey Alzoubi, Al-otoum, and Albatainh 2011. It can be said that transforming the organization's state from a non-agile one to agile is an infinite continuous approach.

Another term which is used in the context of organizational agility is large-scale agile (software) development/transformations as well as the handling of several projects in an agile way, which is called agile portfolio management. The literature review provided by Dingsøyr and N. B. Moe 2014 states that large-scale agile development is the term that literature has used to describe agile development or the use of agile principles in (1) large teams, (2) large multi-team projects and (3) in the whole organization. The scale of the agile development is measured by number of collaborating and coordinating teams. Dingsøyr and N. B. Moe 2014 categorize the collaboration of two to nine teams as large-scale development whereas the coordination and collaboration of more than that is considered to be very large-scale. However, other literature also uses different measures of scale, such as project budget, code-base size, or project duration Dikert, Paasivaara, and Lassenius 2016. A large number of academic literature about large-scale organizational agility is based on this understanding of large-scale organizational agility. In addition to this, the iterative approach of agile concepts and methodologies introduces challenges to the management of the project portfolio which traditionally deals with resource allocation and investment decisions for projects (Cooper and Sommer 2020, Stettina and Hörz 2015). Thus, agile (project) portfolio management might also be one part of (large-scale) organizational agility.

Even though Harraf et al. 2015 and Alzoubi, Al-otoum, and Albatainh 2011 point out that there is no formula to develop an agile organization, and therefore the journey might differ from organization to organization, previous literature strove to develop a framework of factors that enhance an organization's agility. Even though

there are already many papers on this research topic, literature are still not clear about the ultimate factors since - as already mentioned - they might differ in each organization. However, factors that literature mostly agrees on will be presented now. Those factors, or pillars come from the framework of Harraf et al. 2015.

Culture (of Innovation)   Obviously, culture of innovation is one specific aspect of the overall culture and mindset of an organization. An organization's culture according to Schein 1985 is *"A pattern of basic assumptions – invented, discovered or developed by a given group as it learns to cope with the problems of external adaptation and internal integration –that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think and feel in relation to these problems."* A small literature review by Sadegh Sharifirad and Ataei 2012 found that the specific aspect innovation culture is characterized by the four dimensions intention for innovation, innovation implementation, market orientation (influence) for innovation, and infrastructure for innovation. These dimensions mean that the organization have an internal desire to discover, exploit, and seek opportunities (Harraf et al. 2015). The market orientation dimension of culture innovation shows the relationship of innovation culture to the external environment and thus supports agility by improving the organization's ability to respond to external market changes. (Harraf et al. 2015, Sadegh Sharifirad and Ataei 2012).

Empowerment   According to Harraf et al. 2015, empowerment describes an organization's internal relationship between leadership and employees. Dimensions of empowerment are authority, autonomy, responsibility, integration, and others (Harraf et al. 2015; Mallak and Kurstedt 1996). However, Honold 1997 found in her literature review that not only the leaders' role to alter the environment so that employees will be empowered, but there are more perspectives that describe how employees can be empowered. Honold 1997 even argues that only leader's empowering their employees is not as effective as combined with other dimensions such as education, mentoring, providing infrastructure, and others. However, empowering people by decentralizing and deferring power from leadership to the employees is believed to have an increased agility effect in organizations since they are better able to respond to the external environment. The effect of decentralization is a lower-level decision making which results in faster decisions generally. However, there is a trade-off between effectiveness of the response which is increased by decentralization and timeliness of the response which is usually higher in centralized organizations (Harraf et al. 2015.

Tolerance for Ambiguity   Tolerance for ambiguity also has to do with the overarching culture that was described in the pillar culture of innovation. Thus, the culture in the organization must perceive ambiguous situations as desirable and not as a threat to the organization (Budner 1962). Ambiguous situations are situations

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where information is incomplete, and are characterized by novelty, complexity, or insolubility (Budner 1962). This tolerance for ambiguity is relevant because market information is never complete and is changing constantly. Thus, accepting and desiring ambiguous (external) environments is the first step to act and respond to those (Harraf et al. 2015, Attar and Abdul-Kareem 2020).

Vision   El-Namaki 1992 defined a vision as *"[...] a mental perception of the [...] environment an individual, or an organization aspires to create within a broad time horizon [...]"*. Thus, a vision is future oriented and describes a desirable future reality. In the agile context, the vision statement also includes the methodologies and means used to establish the organization's vision which includes for example leadership behaviour, the organization's culture, or how they want to change. However, vision statements do not necessarily make organizations more agile per sé. Alignment of vision and strategic direction makes the organization more agile (Harraf et al. 2015).

Leadership   Agile leadership, or also referred to as leadership agility, or leadership versatility is a leadership style that allows the leader to make *"judicious and effective decisions amidst complex, volatile and swiftly changing environments."* (Joiner and Josephs 2015), to stay effective and respond to diverse and dynamic organizational conditions and requirements (De Meuse, Dai, and Hallenbeck 2010, Attar and Abdul-Kareem 2020).

Change Management   Change management is the next pillar that might influence an organization's agility. Change management is the guidance of an organization's internal transformation from one state to another according to soft factors such as culture, leadership, and motivation but also according to hard factors which might be different in every organization (Sirkin, Keenan, and Jackson 2005). As already discussed, organizational agility is the combination of both flexible and adaptive reaction to the external environment. In this environment, the organization itself has to transform and mutate since it is constantly challenged by external forces (Gandomani et al. 2013). Thus, the change management pillar is also connected to the vision pillar, since the internal organization desires to change from one state to another state. Therefore, with an eye on agility, change management also must have the characteristics flexibility and adaptability in its four factors (1) duration of time until change program is completed, (2) Commitment to change that top management and employees affected by the change display, (3) Effort over and above the usual work that the change initiative demands, and (4) integrity, which is the ability to complete the change initiative on time Sirkin, Keenan, and Jackson 2005.

Communication   An organization's agility is furthermore determined by its communication across three directions: top-down from upper-level management to lower levels, horizontal across the same level (things like team-work or inter-department/cross-function communication), and bottom-up empowered communication from lower hierarchical levels to the management and top-management level. Facilitation of communication inside and outside the organization is seen as an agility pillar, because change requires effective communication (Harraf et al. 2015, Attar and Abdul-Kareem 2020). Furthermore, communication is pervasive and inherent in all levels and all activities Popa 2016. Effective communication is communication across all of those directions.

Market Analysis and Response   Market analysis means acquiring information about the organization's unique and ambiguous external environment, which includes stakeholders (e.g., customers), competitors and market dynamics. As noted several times already, organizations strive to become agile if they are faced with a turbulent and highly dynamic environment. Thus, quick and detailed market analysis followed by quick responses is a pillar that enhances an organization's agility (Attar and Abdul-Kareem 2020). Many scholars have already written and developed tools and means to analyse markets (Harraf et al. 2015).

Operations Management   *"Operation Management is a way or means through which the listed objectives of an operating system is achieved."* (Richard 2003). Even though operations management is not specific to agile organizations, it also plays a major role. According to Harraf et al. 2015, organizational agility can increase if operations management is focused on flexibility, efficiency, and effectiveness.

Structural Fluidity/Organizational Design   Organizational design is the tangible and intangible arrangement, alignment and structuring of an organization's resources. The goal of organizational design is to balance hierarchical control, individual autonomy, and spontaneous cooperation Keidel 1994. Even though, organizations and corporations are massive, complex, and dynamic ecosystems themselves (Bryan and Joyce 2007), there are two typical approaches of organizational design: centralized and decentralized organizations. Since we already know that agility had its beginnings in software development by organizing teams, or squats in an agile way, there is a need to scale these concepts to an organizational/enterprise context (Gerster et al. 2020) to drive performance, nimbleness in the market, flexibility, empowerment, and multi-directional (cross-department) communication, higher decision-making power, collaboration, and cooperation. However, organizations that achieved those agile characteristics tend to be flat (or less hierarchical), decentralized, and customer focused (Harraf et al. 2015, Attar and Abdul-Kareem 2020).

Development of a Learning Organization   A learning organization is one *"[...] that continuously improves its development effectiveness and is accountable to its stakeholders."* (Serrat 2017). As mentioned before, an agile transformation is a continuous and never ending process, which requires constant learning about its internal and external environment. In addition to that, continuous learning and development is related to the responsiveness, and performance of an organization (Harraf et al. 2015). At the most basic level, a learning organization means the development of an agile an agile workforce. According to Gunasekaran 1999, a few characteristics of an agile workforce are flexibility in terms of being multi-functional, multi-disciplinary, and multi-lingual, good at teamwork and self-directed teamwork, and empowered. Furthermore the agile workforce is skilled in advanced technology and strategy aspects. To achieve the development, the organization must be continuously learning and developing itself and its resources. With regards to the learning organization, the workforce itself needs to be intellectually curious about their work and review, adapt, and test their practices continuously (Serrat 2017). The development of a learning organization is, according to Harraf et al. 2015 the pillar that culminates all previous pillars and thus is an overarching dimension for an organization to become more agile.

2.1.3   The Agile Manifesto and Underlying Principles

To understand the exact values behind agile methodologies and frameworks, let's look at the values that are written down in the Agile Manifesto, as well as the principles that underpin that manifesto.

The Agile Manifesto   The Agile Manifesto (Beck et al. 2001), which was developed and signed by the so-called Agile (Software Development) Alliance in 2001, is probably the first attempt to break down agile methodologies to a basic set of priorities and principles and then write them down. Initially, this manifesto was also simply called "The new methodology" and was published on the Internet by pioneer Martin Fowler (Fowler 2005). With the purpose of better software development, the 17 pioneers agreed on the manifesto of the following four values and priorities (Fowler and Highsmith 2001):

- *"Individuals and interactions over processes and tools":* This does not mean, that tools should not be used in a sensible way, but rather that interaction between skilled individuals is of even greater importance (Fowler and Highsmith 2001).

- *"Working software over comprehensive documentation":* The same as before goes with this bullet point. Documentation is crucial for software development but the end product will always be the software. That is why the focus should be intensified there (Fowler and Highsmith 2001).

- *"Customer collaboration over contract negotiation":* The Agile Alliance (Fowler and Highsmith 2001) values contract negotiation but views it as insufficient. They argue that ongoing collaboration is the only way to understand and deliver what the client truly wants.

- *"Responding to change over following a plan":* This last point is - according to Fowler and Highsmith 2001 necessary to respond to the turbulent world with respect to business and technology.

12 Principles behind the Agile Manifesto The Agile Alliance also discussed 12 principles that underpin the Manifesto. These principles are now listed and explained.

1. The *"[...] highest priority is to satisfy the customer through early and continuous delivery of valuable software:"*: This point is connected to the second point in the manifesto, where working software is prioritized over comprehensive documentation. Fowler and Highsmith 2001 argues that the software client values working software that serves their business needs.

2. *"Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage:"* This point targets the unpredictability and turbulence of the business and technology environment. Thus, requirement changes should be seen as an opportunity to adapt to the changing environment.

3. *"Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale time:"* In this principle, Fowler and Highsmith 2001 suggests iterative and incremental approach to realize frequent delivery and release of software.

4. *"Business people and developers work together daily throughout the project:"* Due to the nature of software projects, requirements might change during the course of the project. This means that business people and developers must collaborate closely to change concepts and requirements to fit the clients needs (Fowler and Highsmith 2001).

5. *"Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done:"* Fowler and Highsmith 2001 argue that it is the people that make the difference between failure and success of a project.

6. *"The most efficient and effective method of conveying information to and within a development team is face-to-face conversation:"* This point also refers to documentation. Fowler and Highsmith 2001 argue that writing and reading

is a less efficient and effective method of communication and teaching than direct communication. Documentation and communication both should enhance the understanding of the involved people.

7. *"Working software is the primary measure of progress:"* Working software is a very direct and visible measure, whereas diagrams are too abstract according to Fowler and Highsmith 2001.

8. *"Agile processes promote sustainable development. The sponsors, developers and users should be able to maintain a constant pace indefinitely:"* Fowler and Highsmith 2001 remark that long nights and weekends spent with error fixing does not lead to greater productivity because of unresponsive planning. It would be better to find a steady working pace to maintain alertness and creativity.

9. *"Continuous attention to technical excellence and good design enhances agility:"* Even though agile approaches are speedy and flexible methods, bit emphases is put on technical cleanliness, which results in quality of design.

10. *"Simplicity — the art of maximizing the amount of work not done - is essential:"* Fowler and Highsmith 2001 refer to the uncertainty and turbulence of the environment when explaining this point. Simple approaches are preferred because they are easier to change later on in the project.

11. *"The best architectures, requirements and designs emerge from self-organizing teams:"* According to Fowler and Highsmith 2001, self-organizing teams should be responsible for the technical aspects of the project. Thus, the architectures, requirements, and designs change are a response to the features and functions a project should contain.

12. *"At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly:"* Refinement and reflection means constant improvement (Fowler and Highsmith 2001).

2.1.4 Exemplary Scaling Agile Frameworks: From Scrum to Organizational Agility

Agile methods is the overarching term coined for a set of software development methods in line with the Agile Manifesto (Beck et al. 2001). In the following, agile methods applied in practice are briefly summarized.

Team-Level Agile Frameworks Even though there is a large variety of agile frameworks, in the following, only the frameworks Scrum, Kanban, Extreme Programming (XP), and Lean will be explained. The reason for that is that those are the frameworks that set the foundation for most large-scale agile frameworks.

Scrum:

Figure 4: Scrum Framework (Scrum.org 2020)
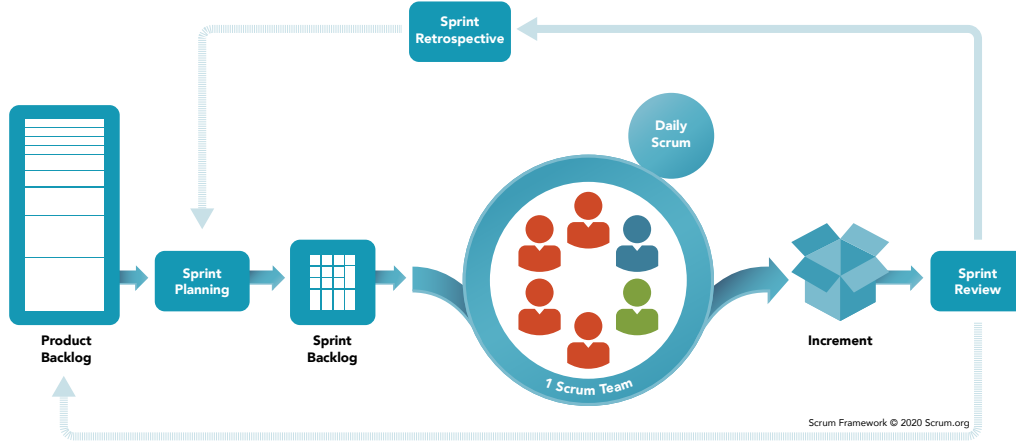
Figure 4 portrays the Scrum framework. The three so called artifacts are the Product Backlog, Sprint Backlog, and Increment. Scrum all starts with the product backlog, which is an ordered list of product requirements. User stories and use cases can be included in this backlog. Before every new iteration (= Sprint), a sprint backlog will be developed in the sprint planning (Scrum.org 2020). This sprint planning is the first step of the workflow. During a sprint unit, which in practice lasts about one to two weeks, the project team (consisting of a Scrum Master (SM), Project Owner (PO), and the cross-functional Development Team) develops a product increment, which is then reviewed and released. During the development process, the team meets every 24 hours (for about ten to 15 minutes) to report daily progress. After the sprint, however, it is time for the retrospective, in which the past sprint is reflected and inspected, and the sprint review, in which the completed work and the product increment are presented to the stakeholders in a demo. The agility in this model is most evident because different backlog units can be transferred to the sprint backlog during each sprint planning and the backlog can also be refined with new items (Schwaber 2004). This process is called Backlog Refinement. This brief description is the core Scrum model, which has been refined over time. However, the roles and responsibilities can be found in Table 2

Table 2: Scrum Roles (inspired by Schwaber et al. 1997, Schwaber 2004, Gonçalves 2018, Scrum.org 2020, Omar et al. 2018, Matturro, Fontán, and Raschetti 2015)

Role	Role Description	Characteristics and skills
Scrum Master	• Has leadership role in the Scrum Team • Responsible for the ceremony facilitation • Responsible for the adherence to scrum rules, values, and principles • Responsible for communication and interaction with stakeholders	• Communication skills • Interpersonal and leadership skills
Product Owner	• Responsible for the development team's deliverable • Responsible for prioritizing and managing of the product backlog (transparency and clarity of backlog) • Responsible for optimization of workflow	• Communication skills • Teamwork and customer orientation skills • Commitment and responsibility skills like planning, leadership, and analytical/problem solving • Motivation and result orientation skills
Development Team	• Cross functional and self-organizing • At least three, maximum ten members • Usually contains (software) developers, testers/quality assurance (QA), business analysts/consultants, and designers • Responsible for the implementation of the product increment during the sprint	Dependent on the role, different technical/hard skills are required

Kanban and Lean:

Kanban has its origins from the Toyota Production System (TPS) and is defined as a Material Flow Control mechanism (MFC) (Muris and Moacir 2010). However, since this framework is narrowly restricted and does not specify and practices, it is used to visualize, Limit-work-in-progress, Manage Flow, Make Policies Explicit, Implement Feedback Loops and Improve Collaboratively (Alqudah and Razali 2016). This framework uses cards and boards (Japanese: Kanban; Meaning: Signboard)) to visualize and schedule the lean manufacturing progress. Also, it was adapted by software developers in order to increase agility (Corona and Pani 2013). The lean methodology also had its origins in Toyota. It contains seven principles which are according to M. Poppendieck and T. Poppendieck 2003 (1) Waste elimination which means the elimination of anything that does not add value to the product; (2) Learning amplification; (3) Decision-making as late as possible to increase effectiveness in uncertain environments; (4) Delivery as fast as possible; (5) Team empowerment with guidance of leader; (6) Build integrity which means that the customer perceive the product as useful; (7) Holistic perspective/Seeing the whole which means having integrity in complex, large systems.

Extreme Programming (XP):

Extreme programming is a recognized and applied agile methodology, which enhances software projects in the five ways communication, simplicity, feedback, respect, and courage (Alqudah and Razali 2016). It contains twelve practices pair programming, planning game, test-driven development, whole team, continuous integration, refactoring, small releases, coding standards, collective code ownership, simple design, system metaphor, and sustainable pace (Beck 2000).

Large-Scale Agile Frameworks   As already mentioned, large scale agile frameworks mainly build on the previously explained team-level frameworks, hybrid models, adapted models, or a combination of that.

Discipline Agile Delivery (DAD):

DAD is a hybrid approach which scales and extends Scrum with strategies from other agile methods such as Extreme Programming (Ambler and Lines 2012). The goal of Disciplined Agile Delivery is to address the full delivery lifecycle. Since DAD is a scaled version of Scrum (and filling the gaps with other frameworks) it adopts the Product owner and cross-functional team members. Furthermore, there is a team lead which is analogous to the Scrum Master (Alqudah and Razali 2016). Lifecycles of DAD are Agile/Basic, Advanced/Lean, Continuous Delivery Lifecycle, and Exploratory Lifecycle Ambler and Lines 2012.

Scaled Agile Framework (SAFe):

SAFe distinguishes several layers of agility which are (Single) Team-Level, Multiple Team (Program) and Enterprise (Large Solution) Level in order to achieve business agility. In the team level, methodologies and roles from Scrum and Kanban are being used. In the next higher level, teams are contributing and collaborating in value streams which form Agile Release Trains. The very last level in the SAFe framework is the solution level. This delivers enterprise solutions. At this level, several ARTs are combined into a so-called solution train (Scaled Agile 2022).

Large Scale Scrum (LeSS):

As the name suggests, LeSS is using Scrum for scaling. Thus, in adition to the classical scrum roles, LeSS introduces an additional product owner who is responsible for a combination of the cross-functional teams. Cross-functional, cross-component, end-to-end feature teams are created by exclusion of traditional team leads and project managers (Alqudah and Razali 2016).

Spotify Model:

The Spotify model was created when the alignment of multiple Scrum teams came to light. Thus, the Spotify model prioritized agility over Scrum, principles over practices, and servant leadership over process masters. Thus, Scrum teams were converted to squats which can choose their own methodologies, and Scrum Masters were transferred to agile coaches which are servant leaders. Moreover, tribes were introduced which are a "[...] a collection of squads that work in related areas – such as the music player, or backend infrastructure." (Kniberg and Ivarsson 2012). Moreover, other roles are product owners like in Scrum, Tribe leaders, chapters which are a group of people with similar skills, and organizational support Alqudah and Razali 2016.

Nexus:

Similarly, Nexus is also based on Scrum and aims to develop and maintain scaled software development products and projects. In addition to the classical Scrum Roles, Nexus contains an Nexus Integration Team member who is coordinating, coaching, and supervising the application of this framework (Alqudah and Razali 2016). Table 3 compares those common frameworks.

Table 3: Comparison of Large Scale Agile Frameworks (Alqudah and Razali 2016 Table II)

Criteria	DAD	SAFe	LeSS 1	LeSS 2	Spotify	Nexus	RAGE
Team size	200 people or more. It also supports small and medium teams.	Large Enterprise includes more than 1 release trains (50 to 124 people in each release trains)	Up to 70 people or 10 SCRUM teams, 7 stakeholders in each team	Any large projects, More than thousand people on one product	Any large projects, Normally 250 to 300 people at Spotify (30 teams)	Three to nine SCRUM teams	No specific size but it support different size for enterprises
Training and certificate on	Workshops to explain the idea of DAD, Book of DAD is available	Training is needed and there should be certified, coaches	Seven companies in six countries are available for coaching	Seven companies in six countries are available for coaching	Lack of training	Scaled Professional SCRUM Training is needed	Training is conducted by webinar and presentation slides
Methods and practices adopted	Kanban Practices (mainly visualizing Work and limiting work in progress), SCRUM (almost all SCRUM practices), Agile Modeling which is the source for DAD's modeling and documentation practices, the Unified Process, XP, TDD and Agile Data.	SCRUM, Lean, Kanban, SCRUMban, DevOps and some practices of XP	SCRUM was fully adopted including additional practices for large projects	SCRUM was fully adopted including additional practices for large projects	Allow Kanban, SCRUM, DevOps and Lean Startup	SCRUM with additional practices in solving the dependency-related issues in multiple teams	Allow SCRUM, Kanban, Plan-Driven development and Hybrid approaches
Technical Practices required	High (Need to adopt many technical practices which require high technical skills)	Medium but should understand the use of portfolio management tools	Medium and low for SCRUM adopters	Medium and low for SCRUM adopters	Medium but teams should be able to communicate well	Medium and low for SCRUM adopters	Medium and low for SCRUM adopters
Organization Type	Multiple Organization and Enterprise practicality	Enterprises and portfolio level	Large Traditional organization	Enterprises	Enterprises specifically similar to Spotify	Portfolio level for medium project	Traditional and Agile Enterprises

2.2 Human Resource Management

The next part of the literature review presents the link from organizational agility to Human Resource Management (HRM). This connection is particularly important as this study is located right at the intersection of these two research areas. Firstly, the role of HRM in an organizational context is shown. After that, this part of the literature review focuses on the employee lifecycle in order to demonstrate how the HRM domain is supporting its people in an agile environment.

2.2.1 The Role of HRM in the Organization: classification and added value to stakeholder groups

According to the widely accepted model "Porter's Value Chain" (Porter 1985), which describes how organizations or companies create value through a value chain, Human Resource Management (HRM) is one of the four support activities. According to Porter 1985, this activity supports the primary functions inbound logistics, operations, outbound logistics, marketing and sales, and service.

Table 4: The contribution of an HR function to stakeholder added value (Mayo 2005)

Stakeholders	Added value	Examples of practical contribution from HR and L&D initiatives
Owners/ shareholders	• financial • reputational	• productivity gains, cost of service delivery, human capital costs • employment brand
Parent company	• financial • reputational • synergistic • strategic	• cost of the function • employment brand; handling of legal issues • support for corporate HR initiatives and policies • achieving employee alignment with vision and values
Senior management	• financial • reputational • strategic • continuity • organizational effectiveness	• cost of the function • employment brand; handling of legal issues • creating HR strategies and policies that support • achieving employee alignment with company goals • describing and achieving a cultural vision supporting the business goals • talent and continuity management • organizational design; communication frameworks; people-related processes
Operational management	• strategic • tactical • employee engagement	• creating initiatives which support departmental goals • problem-based consultancy • recognition programs; people-related measures; performance management
Employees	• financial • motivational • developmental	• salary, bonus and benefit structures • HR policies and programs • learning and development; career planning

However, since human resource management is a support activity for other business/organizational functions, it serves a variety of different stakeholders. Even though every organization serves its own specific and unique stakeholders, which they have to determine and satisfy, Mayo 2005 provides a comprehensive overview of different stakeholder levels and how an HRM function contributes to add value to this specific stakeholder group in an organizational context. Table 4 displays some stakeholder groups that HR functions are adding value to with practical examples. From the third column "Examples of practical contribution from HR and L&D (Learning and Development), we can extract some functions/dimensions of HRM for different stakeholder groups. Those functions are creating salary, bonus, and benefit structures, developing HR policies and programs, learning and development, career planning, recognition programs, performance measurement, consulting,

organizational design, communication, talent and continuity management, cultural vision, employee alignment, HR strategies, legal support, human capital costs, and others. We will come back to this table later when we determine the overlap/link from organizational agility and HRM.

2.2.2 General Human Resource Management Challenges

In order for the reader to be able to distinguish general HRM challenges with challenges that are specific to organizational agility, we firstly list a few general HRM challenges briefly. Furthermore, it is important to know about general resource management challenges in order to be able to distinguish those from the ones specific to our research topic. Amongst other things, Bratton and Gold 2017, and Burke and Ng 2006 mentioned health and well-being of the workforce, globalized capitalism, retention and attraction, globalization, demographic challenges such as aging workforce, and skills shortage as the main HRM challenges.

2.2.3 HR's Role along the Employee Life-cycle

As previously described, organizational agility is challenging HRM. Now, that HRM activities, and general challenges were described, we would now like to focus which HRM challenges are specific to organizational agility. We saw that research has determined and examined in detail various functions of HRM. Basically, it can be said that human resource management is for the management and support of the employee along the employee life cycle with means of HRM. This employee life cycle model is a widely cited and accepted model that describes the life-cycle of an employee in the organization. Some of the terminology of these different phases varies depending on the source, but the meaning is largely the same. A comprehensive presentation in the form of a literature review is provided by Glatka, Federova, and Dohadailo 2022. For comprehensiveness now an employee lifecycle model by Welty 2009 is presented, which contains 12 elements. Furthermore, we will extend this model by the dimensions job & work design, workforce planning (which contains the reward and recognition dimension), and employee relations & conflict management in order to have all fundamental activities and processes of HRM comprehensively presented. Those additional dimensions come from Bratton and Gold 2017. If existing, we will present empirical findings of how organizational agility impacts these HRM domains.

Job and Work Design   Oldham and Fried 2016 defines job design on the most basic level as *"[...] the actual structure of jobs that employees perform. Thus, job design focuses squarely on the work itself-on the tasks or activities that employees complete for their organizations on a daily basis."* However, S. K. Parker and D. 1998 mentions that job and work design in the new era have synonyms such as "high performance work groups", and "empowerment" amongst others. Research results

from Eilers, Simmert, and Peters 2020 show that in agile organizations, work design together with leadership impact empowerment which leads to both job satisfaction and commitment.

Workforce Planning   *"The workforce planning defines when and how many employees should be hired or dismissed and when these employees should work."* (De Bruecker et al. 2015). Thus, workforce planning starts from the talent strategy and ends at the dismissal of an employee (Martin 2015). According to De Bruecker et al. 2015 paper, this task is one of an organization's most difficult tasks to manage. Furthermore, scaling such a workforce tend to become more difficult the larger the workforce gets. Research results by Qin and Nembhard 2015 show that workforce agility can be achieved by influencing or manipulating the factors staffing (which involves selecting, hiring, promoting, dismissing, and retaining workforce), training (which means skill acquisition and skill retention), coordination (assigning workers to tasks or tasks to workers), collaboration (two or more individuals working together on a common objective or mission), incentives (reward and recognition of desired outcomes), and lastly empowerment and involvement (decentralized decision making). Furthermore, operations management practices (meaning the design and management of operations and processes) can lead to an agile, flexible, and dynamic workforce (Qin and Nembhard 2015).

Employee Relations and Conflict Management   Employee relations are *"[...] the formal and informal, the economic, social and psychological connection between an employee and his or her employer."* (Tsui and Duanxu 2002). Conflict management is the management of humans interacting that have different opinions, values, goals, and situations creating tension and conflict (R. Sahoo and C. K. Sahoo 2019). Thus, this HRM domain is related to an organization's culture, which is defined as *"the amalgam of shared beliefs, values, assumptions, significant meaning, myths, rituals, and symbols that are held to be distinctive for each and every organization."* (Green 1988).

Advertising the position   Some sources, such as Mahjoub and Kruyen 2021 argue, that job advertising is an early stage of the recruitment process. However, this advertising is defined as "documents acknowledged through public media for the company or the organization to find the right talents to fill in vacant positions" (Fu 2012). Traditional advertising strategy focuses strictly on advertisement methods, whereas agile advertising challenges this by focusing specifically on social media recruitment methods (Ranasinghe and Sangarandeniya 2021, quoting (Thoren 2017)) or other/own channels of headhunting talent (Zavyalova, Sokolov, and Lisovskaya 2020).

Recruiting   Recruiting can be defined as "those organizational activities that (1) influence the number and/or types of applicants who apply for a position and/or (2) affect whether a job offer is accepted" (Breaugh 1992, p. 4). According to Ranasinghe and Sangarandeniya 2021 (quoting Thoren 2017), traditional HRM recruiting methods execute a detailed process with fixed steps and responsibilities. Moreover, recruitment is also dependent on the traditional project planning methodology, because staff are acquired according to the specific project plan and schedule (Huzooree and Ramdoo 2015). Agile recruitment loosens this stiff process by having a simple and flexible process in place (Ranasinghe and Sangarandeniya 2021, quoting Thoren 2017). A higher focus is on hiring experts with specific skills instead of general managers (Huzooree and Ramdoo 2015). Moreover, the paper by Teimouri et al. 2017 suggest that there is a *"positive and significant relationship between effectiveness of human resource management actions in various fields of training, selection and recruitment, compensation and performance evaluation with organizational agility."*

Selection   When it comes to selecting the right candidate, agile recruitment looks at the values and cultural fit of the candidate, whereas traditional recruitment approaches put focus on the competence (Ranasinghe and Sangarandeniya 2021, quoting Thoren 2017). Cultural fit is for example the shared mental model and cultural similarity with the other team members (Schmidt et al. 2014). However, in contrast to traditional selection methodologies, the team members are involved in the decision making and also participate actively in job interviews. Besides being an expert in the specific field, certain soft-skills, such as risk tolerance, ability to self-organize and goal orientation play a major role (Zavyalova, Sokolov, and Lisovskaya 2020).

Hiring   In the traditional approach, HR specialists, HR generalists, or HR admins are responsible for the hiring process, whereas in the agile approach HR Managers have a T-shaped profile, which means they can take on different roles in the organization, other than HR (Ranasinghe and Sangarandeniya 2021).

New Employee Orientation/Onboarding   When it comes to employee orientation, agile literature has not been specific about the differences to traditional approaches. However, orientation programs have not been extensively studied in general, because HR research focuses on other areas. This phase in the life cycle deals with the onboarding and acceptance into the organization (Wanous and E. 2000). Traditionally, onboarding ensures the retention of new hires through comprehensive assimilation processes (Glatka, Federova, and Dohadailo 2022).

Probation   Similarly to the new employee orientation phase, probation has also not been studied extensively in agile HR literature. In a larger context, probation can be seen as part of the next phase training and development.

Training-/Learning and Development   In the agile approach, training and development is part of the ability-enhancing dimension of the employee lifecycle (Zavyalova, Sokolov, and Lisovskaya 2020, quoting Appelbaum 2001). Generally speaking, literature does not suggest any concrete long-term development approaches for their employees. Since learning is part of the agile mindset, learning processes often occur during the tasks or work, which is called the learning-by-doing principle. (Zavyalova, Sokolov, and Lisovskaya 2020). Ranasinghe and Sangarandeniya 2021 argues that much more responsibility is given from the manager to the employee/developer. Thus, the goal of learning and developing is to create T-shaped employees which have a generalized and broad range of skills and competencies. Ranasinghe and Sangarandeniya 2021 argues that this is fundamentally different to the training and development goals in the traditional approach. There, learning and development is part of the succession management. Hence, individuals are selected to take on a leadership role and will develop the necessary skill set to fulfil this role.

Performance Review/Management   The performance review in traditional HR is also being fundamentally challenged by agile HR practices. Ranasinghe and Sangarandeniya 2021 argue that in the traditional understanding, there are performance reviews mostly once a year. These performance reviews are usually a comparison of the employee's goals with the actual completed performance. This approach is fundamentally challenged by agile HR methods. Agile methodology proposes to address performance in a role-based manner. In addition to role-based performance, contributions that have taken place outside the role, such as contributions to the development of the organization or helping other employees/team members, are also taken into account. Performance management in the agile approach proposes continuous reviews and feedback. Furthermore, employees on the same hierarchical level also review each other and give feedback (Ranasinghe and Sangarandeniya 2021), which is the foundation for self-improvement and a healthy performance culture (Huzooree and Ramdoo 2015).

Promotion/Career Progression   In the traditional approach, promotion comes with an increase of responsibility and is usually decided by the manager (Ranasinghe and Sangarandeniya 2021). Agile approaches challenge that by allowing for career moves in any hierarchical direction. Thus, employees can decide for themselves whether to take more or less responsibility or ownership of their own career. Literature suggests that team members have influence on the nomination of future managers (Butzhammer 2020; Zavyalova, Sokolov, and Lisovskaya 2020).

Coaching and Disciplining   In agile HRM, coaching is seen as a vital and critical managerial skill (Ranasinghe and Sangarandeniya 2021). Specific coaches can be hired to execute this task professionally, but also team members such as scrum masters can be actively involved into training session (Zavyalova, Sokolov, and

Lisovskaya 2020). However, coaching is also considered an important part of traditional approaches, which makes the challenge by agile in this domain not critical.

Separation Literature does not show that either traditional or agile approaches challenge each other when it comes to separating employees from an organization.

Benefit Entitlements/Compensation In contrast to the traditional approach where benefits and compensation are both given on a regular basis, agile HR practices suggest that benefits should be paid instantly after the desired behavior was shown. Thus, agile HR is challenging traditional HR behaviour by implementing salary as a hygiene factor instead of a motivational factor and bonuses as reward and motivation (Ranasinghe and Sangarandeniya 2021). Zavyalova, Sokolov, and Lisovskaya 2020 argues that compensation usually still depends on the hierarchical level and the amount of responsibility that comes with it. Thus, this stage also does not completely challenge the traditional HR view.

2.3 Determination of the Research Gap

This subsection will now draw a link between the two major parts of the literature review organizational agility, and Human Resource Management to further show the research gap and develop the research question.

2.3.1 Link and Overlap of Organizational Agility and Human Resource Management

We are now checking the overlap between the organizational agility dimensions described in the first part of the literature review about organizational agility and the dimensions of HR-Management described in the second part and also in Table 4.

Figure 5: Overlap of HRM- and Organizational Agility Dimensions according to literature

(Organizational) Agility   Human Resource Management

Vision
Empowerment
Job and Work Design   Hiring   Onboarding
Market Analysis and Response
Advertising the position
Employee Relations and Conflict Management   Coaching and Disciplining
Tolerance for Ambiguity
Promotion/Career Progression   Culture (of innovation)
Performance Review/Management
Communication   Learning and Development   Recruiting   Probation
Structural Fluidity/Organizational Design
Leadership   Benefit Entitlements / Compensation
Development of a Learning Organization
Operations Management
Change Management   Workforce Planning
Separation
Selection

The Figure 5 is the conclusion of both parts of the literature review and shows the overlap between the dimensions of organizational agility and Human Resource Management. However, the Figure shows on the left side the dimensions that (according to literature) are unique to organizational agility, on the right side the ones that are unique to HRM, and in the overlapping center part the dimensions that both fields cover. However, this view is an assembled view of those two parts of the literature review. In fact, one cannot say that this is a complete view of all dimensions or correctly categorized dimensions. Furthermore, this view does not at all mention the relationships between the dimensions.

2.3.2 Research Gap and Research Question

In these overlapping dimensions, literature has already indicated that organizational agility is related to Human Resource Management, but for most of the dimensions there is little to no empirical back-up that suggests how these dimensions have been impacted and what is the relationship between them. However, the only noteable study which combines comes from Shafer 1997. This study aims "[...] to develop a model for creating organizational agility as a means of dealing with continuous and unpredictable change, with particular emphasis on the human resource dimension." The results suggest that the following elements enhance organizational agility:

1. A shared vision, such as promoting active learning, tuning to customers and marketplace, and capacity to flex and change;

2. Shared Values, like trust, initiative, flexibility, risk-taking, teamwork, cooperation, openness, honestly, integrity, empowerment, respect, and mutual accountability;

3. Common Performance Metrics;

4. Organizational Structure which is flat, focused, decentralized, process-oriented, re-configurable internally, and externally, evolving, and team-based;

5. Core operating Processes are improving continuously, are soft-wired, self-managed, focused on core dimensions of agility, and including all alliance partners;

6. Information Technology, which is highly integrated, flexible, has an open system architecture, contains client/server technology, and a corporate intranet.

Even though this research looks at organizational agility from an HRM perspective, literature generally has failed to provide more detailed insights. This means that previous literature (with the exception Shafer 1997) mainly focused only on one dimension of HRM and thus cannot conclude a whole picture or relationship between organizational agility and HRM, but also between the dimensions of organizational agility and HRM itself. In addition to that, since this relationship has not been investigated from the total HR perspective, it is not sure, if all of the aforementioned dimensions of organizational agility and HRM already display a full image of the relationship. Dimensions could be missing, or some dimensions could also be related to HRM even though previous literature has not indicated those relationships. To conclude the literature review, we see that the research on human resource management connected to organizational agility started 1997. Particularly comprehensive is the dissertation from top scholar Shafer 1997. However, after the initial papers there was a gap mainly in the 2000s until 2015. After that, a handful researchers picked up on the topic and created some papers. Those papers investigated cases and conducted surveys mainly in the Persian region. We see that the research stream starts to gain interest again after being almost dead. Thus, in addition to filling the research gap, it is also the responsibility of the author to chose the most suitable research methodology to also explore the research field further. Thus, the three things this study focuses on must be:

- Dimensions that define the interface between organizational agility and Human Resource Management,

- The relationship between those dimensions, and

- A description of the relationship between organizational agility and Human Resource Management, considering its role, its challenges, and dimensions.

The purpose of this study is to fill the research gap, which is exactly the overlap between the two major research fields of organizational agility and Human Resource Management. Based on this literature review and the current state of research, it makes sense to raise and investigate the following research question:

What implications does organizational agility have on Human Resource Management?

3 Methodology

This chapter presents the systematic methodological approach used to conduct the study. Above all, it describes the strategy used to fulfil the objectives of this study and ultimately to answer the research question. Furthermore, this chapter deals with data collection, data coding and data analysis. It also evaluates and justifies why the selected methodology is the most appropriate for this study.

3.1 Strategic Research Approach

The research strategy, which was used systematically and structurally in this study, is composed of the parts of literature review, methodology selection, expert interviewee selection, study execution, analysis, interpretation, and conclusion. The literature review was concerned with situating the study within the topic and presenting the state of the art. For these two parts, the main tools used were the Google Scholar search engine, and Leiden University databases (catalog). The research gap was then elaborated, objectives, scope, and purpose delineated, and an appropriate methodology selected and executed. In selecting the methodology, particular attention was paid to the type of data that could answer the research questions and how this data could be collected. Once the method of data collection was determined, the data could be collected in a structured manner. From the subsequent analysis of the data, propositions were extracted and presented as a result. At the end, conclusions were drawn and implications and limitations were presented. Generally speaking, the research strategy followed the standard research approach for empirical research as described by for example Carfill and O'Connor 2009.

3.2 Research Design

3.2.1 Qualitative Approach

The research question to be answered in this study is which impact organizational agility and agile transformations have for the HRM domain. To answer this question, a qualitative study was conducted. The rationale for selecting a qualitative methodology is to document and evaluate underlying concepts, thoughts, and experiences that answer the research question in an area that has been little to no researched (Njie and Asimiran 2014). Since this research aims to uncover the impact of an agile transformation on HR, qualitative data are needed. Unlike quantitative methodology, qualitative methodology can generate and use data that can be collected from a few participants and experts in the field. This plays into the hands of this study, as expertise in this field is distributed among a few experts only. Furthermore, qualitative methodology is also characterized by the fact that the research problem should be approached from a holistic perspective instead of looking for cause-effect relationships (Silverman 2010), such as the questions what

caused what and why did something happen (Leedy and Ormrod 2016, p. 271). Thus, the qualitative approach does not result in "easy answers" but rather gives answers on a deep level into the research topic and provide deep understanding of the situation under investigation (Leedy and Ormrod 2016, p. 271). This is also applicable to the research problem of this study, because the characteristics of various agile roles in the context of HRM are understood and examined as a holistic problem, Njie and Asimiran 2014). Thus, qualitative research - if executed correctly comes with the potential advantages of exploration, which means the gain of initial insights, multifaceted description, verification of assumptions, claims, or theories, theory development, problem identification, and evaluation and judgement of certain policies, practices, or innovations (Leedy and Ormrod 2016, p. 271). Especially the advantage of multifaceted description is favorable for this study, since the research problem is of multilayered nature and must be examined from different angles. Hence, we see that qualitative research has a subjective characteristic due to the involvement of interpretations and derivation of meanings (Denzin and Lincoln 2018, p. 43).

3.2.2   Grounded Theory Approach

The specific method used in this qualitative study is a grounded theory approach with data from individual expert interviews. The grounded theory, described by Glaser and Strauss 1967 and Corbin and Strauss 1990 aims to discover valid, reliable, and concise theory from data which was systematically obtained from social research. Thus, a grounded theory approach is specifically suitable when the research problem and question require an inductive approach, explaining 'what is happening' instead of proving or neglecting an existing theory or hypothesis deductively (Harris 2015). A grounded theory might be used if both the conductor of the study as well as the research field do not have much knowledge about the research problem. Moreover, it is also being used if a new point of view is believed to exist (Glaser and Strauss 1967, Corbin and Strauss 1990, Backmann and Kyngäs 2022).

In order to be able to build the theory, and be able to put emphasis on shared beliefs about the research phenomenon, different kinds of experts of the field are interviewed. Thus, interview-specific results can be classified and eliminated. This increases the generalizability, transferability, reliability, and validity of the results and makes them more robust (Leedy and Ormrod 2016, p. 271). Furthermore, interviewing multiple experts also enables a deep analysis of differences and similarities between their ideas and experiences and thus can be put into context. Also, the chosen method is a suitable way to connect the results to the literature background developed in the previous chapter and derive statements and propositions that answer the research question. From this point on, those propositions can lay the foundation for further research. For the reasons mentioned, this grounded theory-like approach is the best choice and well suited to conduct this research and deliver

extensive, deep, and rich results for the complex issue. Thus, the author found that this methodology was the best choice to add new knowledge to the investigated research problem.

3.3 Data Collection

3.3.1 Expert Interviewee Selection

The sample size must be large enough to detect certain concepts, categories, properties, dimensions, and patterns of the research phenomena (Corbin and Strauss 1990, Glaser and Strauss 1967). Basically, the literature says that the sample size is large enough if theoretical saturation occurs. According to Glaser and Strauss 1967 and Strauss and Corbin 1998, saturation occurs when *"(a) no new or relevant data seem to emerge regarding a category, (b) the category is well developed in terms of its properties and dimensions demonstrating variation, and (c) the relationships among categories are well established and validated."* Thus, gathering more data will stop at the point when the content of the interviews is becoming repetitive Thomson 2010. This could be the case after 10, 20, or 30 interviews, depending on the scope of the research question and simply when the previously described saturation happens (Glaser and Strauss 1967, Strauss and Corbin 1998, Morse 2000).

Figure 6: Interviewee Selection Process
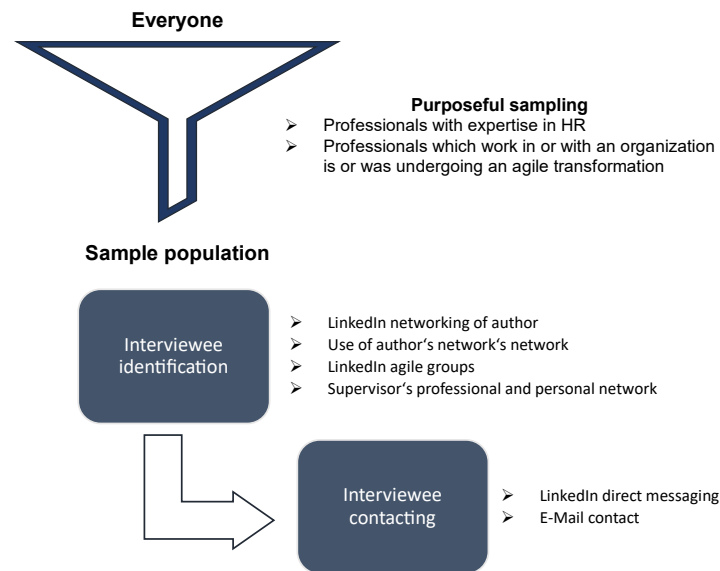
However, as already stated, there are not many experts in this field. That is why a smaller sample size is also advantageous for this study. Having that in mind, the most suitable choice for sampling was the purposeful sampling methodology. Several principles come into play in this sampling method. In general, we can say that

criterion-based sampling selects individuals and organizations who meet certain criteria, or who are particularly knowledgeable or experienced in their field. Another point in this selection process is the willingness and availability to participate in the data collection. This is also an important reason for the selection of this methodology (Palinkas et al. 2015).

The most important criterion (besides availability and readiness) for selection was that the organizations with which the experts were affiliated with were actively implementing or had already implemented agile methodologies, or that the organizations went or are currently going through an agile transformation as this study examines how agile transformations impact the HRM domain. Thus, the second criterion is that interview candidates have understanding of both agile roles and HRM. Hence, eligible are not only HR professionals, but also other actors who work in the agile organization, since Ranasinghe and Sangarandeniya 2021 pointed out that there are T-shaped HR people who also take on other tasks and roles within the organization. As already mentioned, expertise in this field together with organizations that went are are currently going through a agile transformation is very rare. Thus, consultants with expertise in agile and HR were also taken into account, since they have a broader expertise regarding different organizations that they were contributing to. Due to the fact that studies on the topic of this study as well as on the research question do not exist, it makes sense to generate primary data sources, which means that interviews were conducted by the author himself. Figure 6 illustrates that.

Furthermore, the figure points out that after filtering the total sample population purposefully, concrete candidates were identified using the author's LinkedIn network, and also connections from this network, which increased the options. Additionally, the author joined agile groups and identified people which were group members. Also, the supervisor identified further candidates in his personal and professional network.

3.3.2 Interview Guideline Development

The specific data collection method used in this study was the semi-structured interview (sometimes called semi-standardized interview (Kallio et al. 2016)). K. Miles and Gilbert 2005 (p. 65f.) emphasize that this method is commonly used in research to generate qualitative data that can answer "why" rather than "how many/how much" questions. Furthermore, K. Miles and Gilbert 2005 (p. 65f.) state that these semi-structured interviews are conversations based on a set of questions and a rough guide. The arrangement of the questions themselves can be either by segments or completely unstructured (Galletta, Cross, and William 2013, p. 24). K. Miles and Gilbert 2005 (p. 65f.) further argue that these questions provide a rough indica-

tion of how the interview will proceed in terms of questions and topics. It is also an important feature in these interviews that some variation is noticeable. Semi-structured interviews are basically a compromise on structured and unstructured interviews. The rule of thumb is that the more complex the research question, the less structured the interview needs to be and vice versa (K. Miles and Gilbert 2005 , p. 65f.). The style of questions in this form of interview can also vary greatly from open-ended and broad questions to very direct questions (K. Miles and Gilbert 2005, p. 65f.). Thus, it can be seen that the designer of the interview is given some freedom in the design, although the questions should be well-considered so as not to collect data that is not relevant to the research objective (Galletta, Cross, and William 2013, p. 24, Kallio et al. 2016).

After the explanation of this interview methodology now follows the reasoning why exactly this methodology was chosen. Probably the biggest rationale for choosing the semi-structured interview methodology is the flexibility during the interview (K. Miles and Gilbert 2005, p. 66f.). It was already noted that the specific research area is still very unexplored, so the interview process should be adaptable to the input and expertise of the participants. In addition, the flexibility and reduced structuredness also allows for intermediate or follow-up questions that pick up on important and unforeseen aspects and ask more in-depth questions and thus allow the interviewer to move between areas (K. Miles and Gilbert 2005, p. 66f., Qu and Dumay 2011). Thus, reality can be represented more truthfully and at the same time ensure comparability of the answers (Qu and Dumay 2011). Furthermore, it can always happen that participants contradict each other even during a long conversation, either accidentally or by changing perspectives. These contradictions can then be eliminated by deviating from the script and eliminating contradictions directly.

Following the descriptions and guidelines given, we will now describe the development of the Interview Guidelines, the data used to answer how agile transformation impact the HRM domain.

In the first part of the interview, important formalities such as the confidentiality and anonymity declaration, the objective of the study and the interview, and an introduction of the interviewer are presented. Part B asks Personal Questions, which should describe the role and the organization. Part C now collects the actual data that will answer the research question. First, the interviewer addresses HRM in general, and asks specifically about challenges and their solution. If there was still time left in the interview, the interviewer also could ask deep-dive questions. Those deep-dive questions were developed with regards to the literature that was reviewed in the previous chapter. The last part is the conclusion, in which the interviewee can make any additional comments. There is also an offer to share the final results.

The guideline is displayed in Appendix A. An important remark to the guideline is, that even though the questions appear to be in sequential order, the semi-structured style of this guideline only suggests that the different parts should follow each other, but the questions contained in those parts A through D do not have to be asked in the order presented. Lastly, anonymity and sensitivity were maintained in the interviews by anonymizing the candidates' answers. In addition, this procedure is intended to ensure that candidates respond openly to the questions.

Figure 7: Research Approach
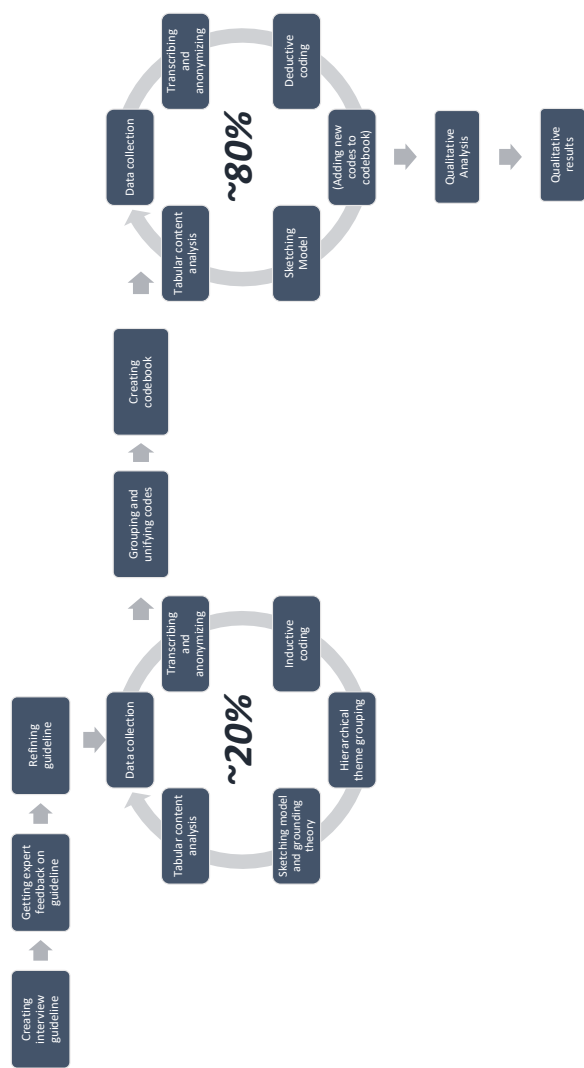
As Figure 7 shows, the interview guideline was firstly developed by the author itself, but then also refined and reviewed by an expert. Furthermore, the interviewer also asked each interviewee at the end which topics were not addressed or should be

addressed to further refine and optimize the guideline iteratively and continuously during the data collection period.

3.3.3 Iterative Data Coding-, and Analysis Approach

After the development of the interview guideline, Figure 7 further shows the iterative approach which includes data collection, transcription of the interviews, inductive coding, hierarchical theme grouping, and creating/extracting models out of the interview. Data was collected exclusively during online meetings. A transcript was then created from this data. In this iterative procedure, special attention was paid to coding the empirical data. The coding units chosen are statements or phrases of the interview partners. In contrast to the coding units "sentences", phrases can take into account the context between different sentences and thus minimize the loss of context between statements. The same is true when contrasting the coding units "phrases" and "words". Furthermore, this coding unit was used because the interviewees came from different regions and countries, and therefore did not always describe the same thoughts in the same length or with the same words as other interviewees, as they were not always native speakers of the interview languages (English or German). Coding with phrases also offers the advantage, as mentioned earlier, that thoughts are sometimes expressed in multiple sentences and thus context must be considered. Qualitative analysis by phrases also makes sense, since some interviewees more often use so-called connecting words, such as "and", and others more often separate sentences. This makes the qualitative analysis more comparable. To conclude, coding with the coding unit "phrases" is the best compromise, when aiming to not wanting to code too vague and not too detailed with consideration of the characteristics of the interviewees. After the transcripts were coded according to this scheme, the codes of the individual interviews were grouped hierarchically and thematically in order to be able to generate a deeper understanding of the affiliation of different codes.

Moreover, a model was sketched for the individual interviews, highlighting the directional relationships between the topics mentioned, since this cannot be captured by codes. Each model contained nodes, which represented a topic, and relationship arrows/edges, which represent the relationship between the nodes. The relationship arrows contain a tag, which describes the type of relationship of the nodes. Furthermore, a tabular analysis was made, structuring the coded phrases in terms of content so that the relationships between codes could be documented, that key phrases identified, and comparisons between different experts drawn. This initial, iterative, and inductive cycle was aimed to be performed with around 20% of the data set.

After completion of this cycle, the hierarchically and thematically sorted codes of the individual transcripts were consolidated, unified, neatly defined, and docu-

mented in a code-book. This can be found in Appendix B. The second cycle, also iterative but deductive, follows a similar scheme as the first cycle, but here the remaining interviews are coded according to a deductive scheme. Furthermore, only codes are added to the code-book in case phrases cannot be classified. Furthermore, models for the individual interviews are outlined.

After completion of this second cycle, the individual model sketches were consolidated into an overall model. In order to reduce the complexity of the model, every node of that model must have been mentioned by at least two different experts in the interviews, as well as the connection errors to other nodes. Furthermore, the data was reviewed and spelling mistakes or other mistakes unified and removed. The data was also transformed in a way that qualitative measurement of codes and relational measurement of codes was possible. For that, the number of codes was counted and for relational measurement the relationships between codes were outlined and counted (A relation between codes happens, if one phrase contained a connection between two codes and thus both codes were applicable to this phrase).

3.3.4 Data Processing and Tools

As already indicated in the description of the iterative coding and analysis approach, the data was processed and transformed several times during the process to reduce complexity and high dimensionality of the data.

Figure 8: Data Processing and Transformation
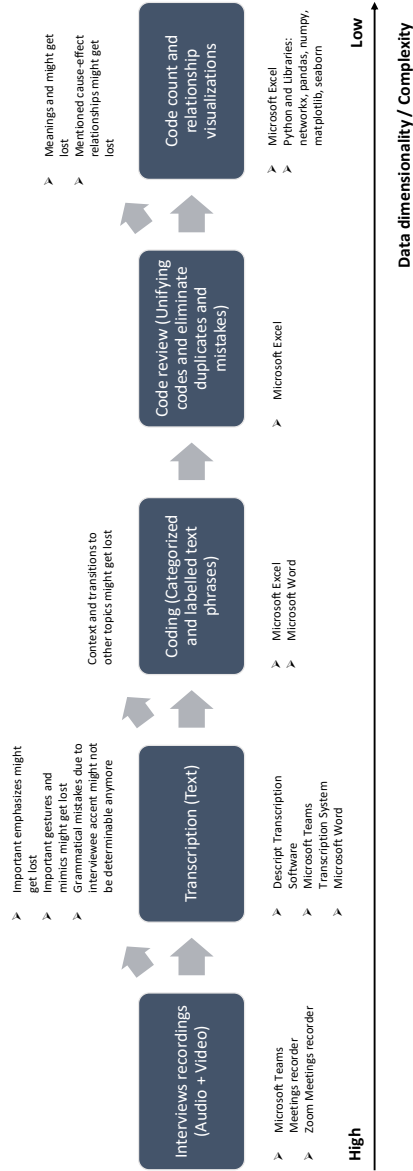
Figure 8 shows the transformation process and the tools used to support this process in detail. Firstly, the data came from the expert interviews which were all conducted in online meetings via Zoom or Microsoft Teams. The audio-visual recording was executed via the build in functions of those applications. After that this audio-visual data was transformed into transcripts which are textual data. However, three trade-offs might be applicable here: With the loss of the audio-visual dimension, important emphasizes, gestures and mimics might get lost, and grammatical mistakes due to the accent of the interviewee might not be determinable anymore. The tools used to support transcription were Descript Software, Microsoft Teams built-in transcription function, and Microsoft Word. The next step in data transformation was to code the phrases of the interview and put them into thematic

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schemes. The trade-off here is that transitions to other topics might get lost. After that, the codes were reviewed and checked for spelling mistakes, missing codes, or other impurities. They were removed in this step. Tools used during this step were MS Excel and MS Word. Finally, the quantities of the codes were measured and also the relationships between them. However, cause-effect relationships might get lost here. Also, MS Excel was used here.

3.4   Robustness Approach

The author's ultimate goal was to "get the most results out of the data collected". Thus, the author chose to execute several qualitative analysis steps.

Figure 9: Robustness Approach
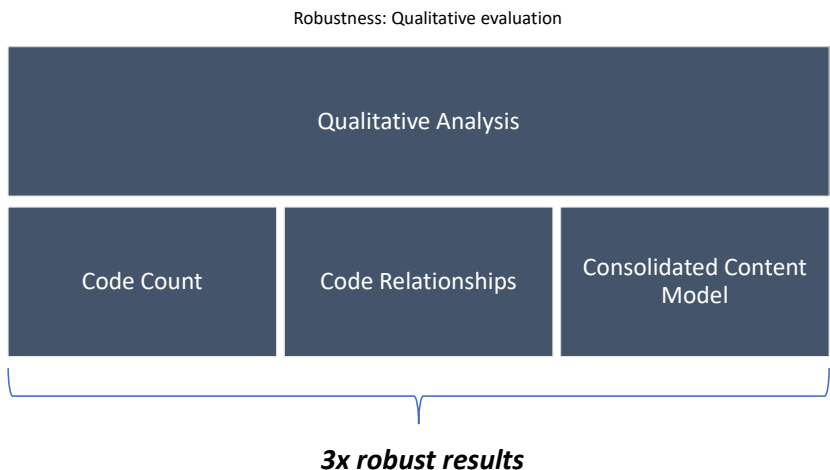
Figure 9 shows how the author approached to create robust results. On the one hand, the number of codes were counted, and on the other hand, the relationships between codes were documented. As also mentioned, model sketches were created directly out of the transcripts. These sketches were then consolidated and formed into one overall model. With these three different data, the author aims to create a three times robust result by showing overlaps between the models created out of these different data.

4 Empirical Results

This chapter presents the results from the expert interviews and gives insights into the quantities per code and themes.

4.1 Overview of Data and Themes

Firstly, the overview of data will be presented, starting with the description of the interviewees and the organizations they were affiliated with, and continuing with the coding and theme results.

4.1.1 Expert Interviewees

Now, expert interviewees will be presented. In total

- 94 inquiries via LinkedIn private message or E-Mail were sent,

- with an average response rate of 21.28%,

- which are 20 positive answers,

- from which 95.00% were valid (19 out of 20).

- The average interview time for the valid interviews was 45:03 minutes,

- which sums up to a total of 14 hours and 18 minutes valid interview time.

Table 5 shows an overview of the positive responses. As already mentioned, interviews were not only executed with experts affiliated with a certain organization, but also included consultants and coaches which were working with several organizations. This strategy was taken in order to enrich the data. The red marked interviews were invalid. Thus, this study included 19 valid expert responses, from which 12 of them were consultants or coaches.

Table 5: Interview overview

Name	Organisation	Organization Type	Size in Employees Estimated (EST)	Position	HR Experience (EST)	Agile Experience (EST)	Start	End	Interview Length (min)
Consultant A	Organization A	Organizational Transformation Consultancy	~50	Senior Consultant	>20 Years	>10 Years	21.07.2022 15:05	21.07.2022 16:01	55:57
CEO B	Organization B	Agile HR Transformation Consultancy	No information	CEO and Co-Founder	>10 Years	>10 Years	28.07.2022 15:07	28.07.2022 15:57	55:20
Manager C	Organization C	Organizational Consulting Company	~8,000	Digital Head of Korea	>25 Years	>5 Years	04.08.2022 09:02	04.08.2022 09:38	35:48
Manager D	Organization D	Software Development Company	~400	Head of Professional Services	>10 Years	>5 Years	04.08.2022 14:03	04.08.2022 14:38	35:14
Consultant E	Organization E	HRM Independent Consultant	1	Consultant	>15 Years	>10 Years	08.08.2022 09:33	08.08.2022 10:39	66:06
Director F	Organization F	Banking and Financial Services Company	~69,000	Director of HR Strategy and Operations	>5 Years	>5 Years	08.08.2022 15:06	08.08.2022 15:57	51:20
Manager G	Organization G	Biopharmaceutical Research Company	~14,000	Manager of HR Systems & Processes Talent	>4 Years	>4 Years	10.08.2022 14:06	10.08.2022 14:35	28:59
Recruiter H	Organization H	Staffing and Recruiting Company	~500	Technical Recruiter	>25 Years	>5 Years	12.08.2022 21:04	12.08.2022 21:41	36:16
Scrum Master I	Organization I	Banking / IT Services and Consulting	~42,000	Scrum Master and Agile Consultant	>10 Years	>2 Years	17.08.2022 16:09	17.08.2022 16:55	46:14
Manager J	Organization J	Motor Vehicle Manufacturing Company	~160,000	Regio Manager Financial Services	>5 Years	>5 Years	17.08.2022 17:37	17.08.2022 18:24	47:18
Business Partner K	Organization K	Biotechnology Research Company	~130,000	Business Partner	>20 Years	>2 Years	19.08.2022 11:09	19.08.2022 12:00	50:21
Manager L	Organization L	Automation Machinery Manufacturing Company	~7,500	Global Head of CoE Talent & Learning and Leadership	>30 Years	>3 Years	19.08.2022 12:12	19.08.2022 12:58	45:54
Consultant M	Organization M	Business Consulting and Services	~3,700	HR Consultant	>3 Years	>1 Years	19.08.2022 13:34	19.08.2022 14:24	49:52
Coach N	Organization N	Financial Services Company	No information	Enterprise Agile Coach	>5 Years	>15 Years	22.08.2022 15:08	22.08.2022 16:02	54:01
Coach O	Organization O	Business Consulting and Services	No information	Agile Coach	No information	>10 Years	25.08.2022 13:07	25.08.2022 13:39	32:45
Coach P	Organization P	Hospitals and Health Care Company	~123,000	SAFe Program Consultant	No information	>10 Years	25.08.2022 16:04	25.08.2022 16:55	51:05
Business Partner Q	Organization Q	Manufacturing Company	~149,000	Global HR Business Partner (Corporate Functions)	>2 Years	>1 Years	02.09.2022 06:48	02.09.2022 07:19	31:29
Manager R	Organization R	Freight and Package Transportation Company	~547,000	Manager IT - Agile Coaching and Enablement	No information	>5 Years	02.09.2022 14:39	02.09.2022 15:25	46:07
Manager S	Organization S	Pharmaceutical Manufacturing	~110,000	People and Organization Head HR	>15 Years	>3 Years	08.09.2022 13:07	08.09.2022 13:51	44:14
Consultant Z	Organization Z	Software Development Company	~15,000	Human Capital Management Solution Consultant	>5 Years	No information	12.08.2022 18:00	12.08.2022 18:43	43:20

Colors used: White: Valid Responses; Red: Invalid responses

Moreover, Table 5 shows the experience in years in the HR domain and also in the agile domain. It can be seen that the sample consists of a high diversity when it comes to the characteristics of the organizations that the interviewees were affiliated with, such as organizations' size, industry, but also when it comes to the interviewees' experience levels in both the HR domain and agility.

4.1.2 Code and Theme Results

After describing the experts interviewed, now the distribution of themes will be presented in Figure 10. One can see that the data set contains 10 themes in total, which are talent (21%), cultureChange (18%), learningAndDevelopment (15%), organizationalDesign (13%), career (9%), alignment (8%), performance (6%), knowledge (5%), employeeSatisfaction (3%), and itEnvironment (2%). In this visualization, apparently the three largest themes make more than 50% of the total coded statements, whereas the seven other themes have a share less of that. However, in the following, the wording "domains" or "dimensions" will also be used for those themes.

Figure 10: Relative Theme Distribution
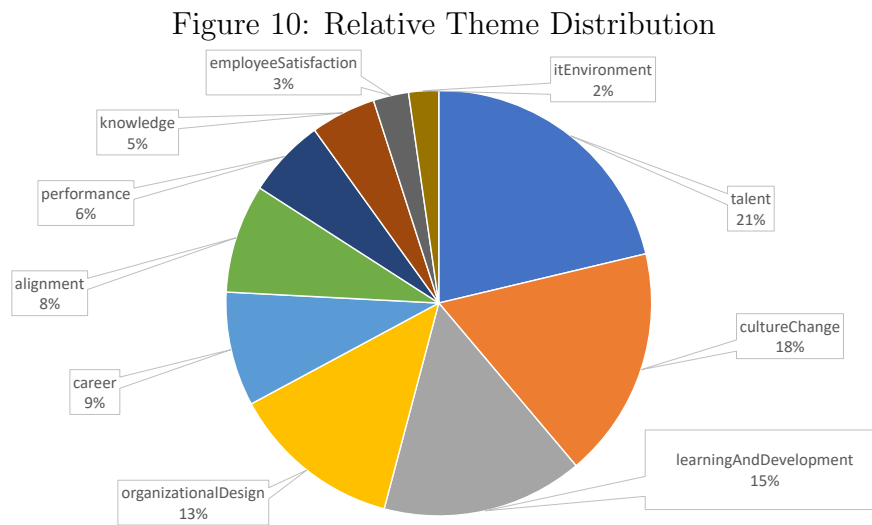
Figure 11 shows the absolute numbers of each theme. Thus, theme talen was counted 103 times, culture change 85 times, learning and development 74 time, and organizational design 63 times. Particularly significant is the gap between the largest 4 categories and the rest.

Figure 11: Absolute Theme Distribution
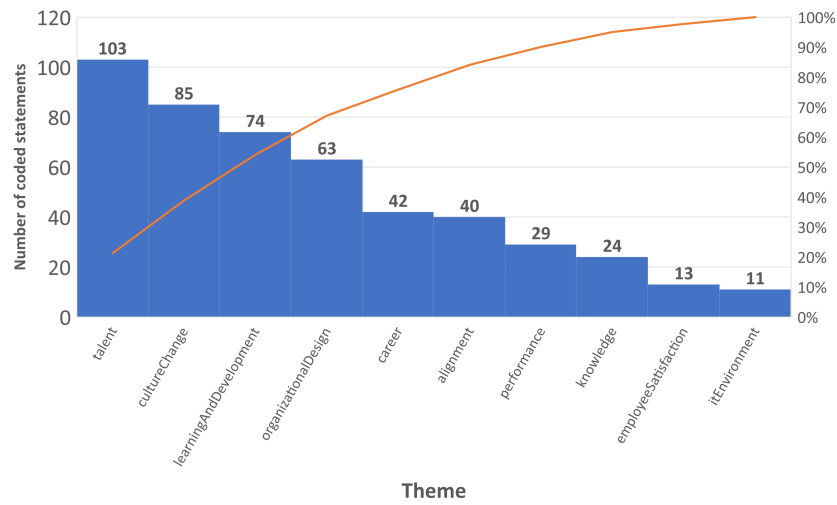
A more detailed picture is provided in the Tree Table presented in Figure 6. An explanation of the themes and codes can be found in the code book in Appendix B.

Table 6: Code Distribution

Talent (103*)	Recruiting (95*)	External or internal candidate choice (14)	
		External (57*)	Skills and Profiles (21)
			Candidate selection (14)
			Candidate identification (12)
			Job descriptions (6)
			Job interview (4)
		Internal (24*)	Role mapping (20)
			Skills assessment (2)
			Mindsets (1)
			Willingness to change (1)
	Retention (6)		
	Strategy (2)		
Culture Change (85*)	Leadership Styles and Behavior (39)		
	Employees (26)		
	Resistance to Change (6)		
	Communication (5)		
	Collaboration (3)		
	Learning (2)		
	Workplace and Worktime (2)		
	Human Resource Management (2)		
Learning, Training, And Development (74*)	Talent Development (20)		
	Onboarding (18)		
	Human Resource Staff (9)		
	Agile Culture and Mindset (6)		
	Leadership (5)		
	Agility (5)		
	Talent Enablement (4)		
	Skill Shape (4)		
	Framework (3)		
Organizational Design (63*)	Agile transformation approach (27)		
	Human Resource Management (7*)	HR as Department (4)	
		HR as Discipline (2)	
		Definition of HRM (1)	
	Hierarchy change (21*)	Structure (18)	
		Leaders (1)	
		Employees (1)	
		Hiring and firing (1)	
	Workplace arrangements (8)		
Career (42*)	Paths (21)		
	Growth (12)		
	Mobility (5)		
	Promotion (3)		
	Compensation (1)		
Alignment (40*)	Change management (27)		
	Cross-functional (9)		
	People Culture (2)		
	IT Infrastructure (2)		
Performance (29)	Management (25)		
	Acceleration (4)		
Knowledge (24*)	Human Resource Staff (20*)	Agile Concepts (16)	
		Agile Roles (4)	
	Leaders (4*)	Agility (2)	
		Leadership Style (2)	
Employee Satisfaction (13*)	Happiness (11)		
	Motivation (2)		
IT Environment and Infrastructure (11)			

Table 6 shows themes and the connections to their sub-themes or codes. Each theme contains the sum of the sub-themes or codes. The Table shows that especially the theme talent consists of a significant sub-theme recruiting (Counted 95 times) which contains external recruiting (57), internal recruiting (24), and external or internal candidate choice (14). Significant codes within that domain were skills and profiles from external recruiting (21), and role mapping in internal recruiting (20). Further significant data richness was found in leadership styles and behavior culture change (39) and employee culture change (26). Further rich data is contained in the change management and agile transformation approach codes (both 27). Lastly, the data shows significant results in performance management (25), career paths (24),

and talent development (20).

Figure 12: Themes Targeted by Interviewees
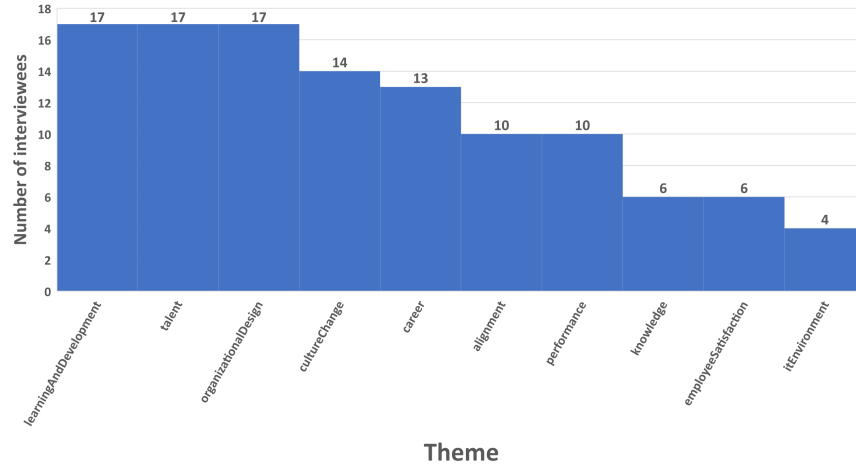
The Figure 12 shows how many interviewees have targeted the themes. Out of 19 valid answers, 17 have targeted the learningAndDevelopment theme, talent, and organizational design. With 14 interviewees, the domain culture change was next. Comparing this Figure with Figure 11, one can notice that Figure 11 shows a clear ranking of the themes, whereas Figure 12 shows a more balanced distribution. Furthermore, Figure 12 shows that career has a higher priority than one would assume from looking at Figure 11. On the other hand, the theme culture change has a lower priority looking at Figure 12 than looking at Figure 11.

However, some of the statements were coded with more than one code, in order to show the connections between the themes, Figure 13 is presented below. Each node represents one theme. The node size corresponds to the size number of connections one node has. Moreover, the more centralized the node is, the more it is connected to other nodes. This means, that a node which is connected to for example five other nodes is more central than a node which is only connected to two other nodes.

Figure 13: Relational Themes Network Graph
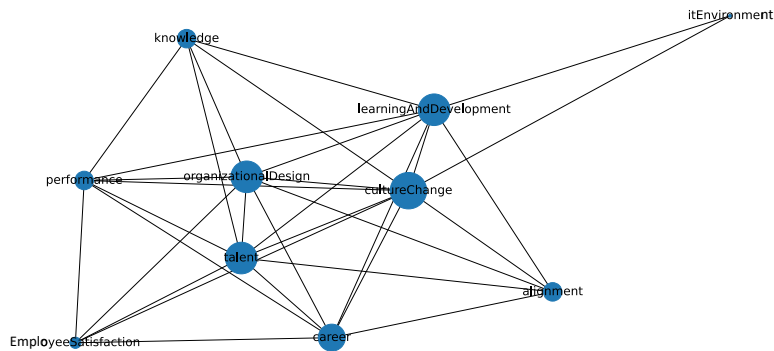
Figure 13 particularly shows the inter-dependency between themes. However, since this is a simplified/dimensionality-reduced representation, one network graph where the connections between codes is shown in detail is represented in Appendix D. The visualization shows that especially the themes cultureChange, talent, learningAnd-Development, and organizationalDesign count many total connections and are at the same time connected to many other nodes. When looking at the detailed network graph in Appendix D, one can note that the node knowledge_hr_agility which describes knowledge about agility from HR staff has particularly many connections to other nodes. That shows that this domain is connected to other domains. The same shows for the culture change of employees and leaders, and the organizational design hierarchy change.

Figure 14: Themes Confusion Matrix
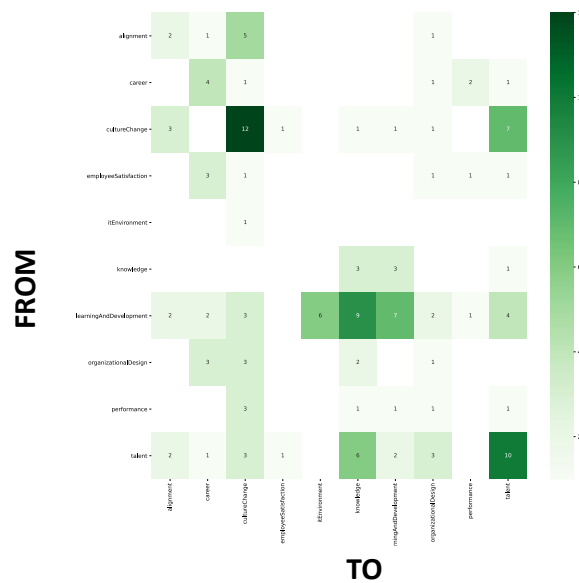
The same data was also represented in a confusion matrix, which Figure 14. This matrix adds value because it adds a directional dimension. This means that it visualizes from where to where a connection exists. Furthermore, the number of connection is shown. A noteworthy result that this visualization shows is that there is a high density of results within the same theme, which means that there are connection between statements that belong to the same theme, but were coded differently. This result can particularly be seen when looking at the cultureChange theme (12 connections) and also within the talent domain (10). However, also learning and development is strongly connected to knowledge (12 connections in total), culture change to talent (10), and learning and development and IT environment (6). Also, talent and culture change shows several connections (10 in total). Furthermore, alignment and culture change are connected 8 times. Talent is connected with knowledge 7 times, whereas

4.2 Theme Results: Human Resource Role, Challenges and Solutions

Now, after the theme and code results were presented and the ten themes were identified, a closer look will now be taken at the individual domains. Each domain will show the results regarding HR's role within the agile transformation (for the specific domain), which challenges occurred, which solutions were applied and which effect those had.

4.2.1 Talent: Recruiting, Role Mapping, and Choice of Candidates

Talent the largest theme mentioned by the interviewees. A total of 103 codes contribute to this theme (Code: talent). In total, 17 experts have elaborated on this theme and acknowledged this HRM challenge. Moreover, this theme contains the sub-theme recruiting which was mentioned 95 times and the codes talent retention (6) and strategy (2). Talent recruiting is then split into the sub-themes external recruiting (57), internal recruiting (24), and the code that represents the choice between internal or external candidates (14)

External or Internal Recruiting Choice The interviewees mentioned that one of the first step in the agile transformation is the recruitment of new roles in order to support the transformational processes. HRM is responsible to facilitate and support those recruitment processes (Coach P, and similarly depicted by 16 other interviewees). However, it turned out that there was no knowledge within HR about whether to fill agile roles with internal or external candidates (Interviewees C, D, P, Q, S). An example showed that HR wanted to hire a product owner externally even though an internal choice would have been the better choice since the agile product owner position required expert and industry knowledge (Coach O). Thus, Coach P

suggested to map skills of existing staff and give special training to fill the product owner position. As another statement showed, the HR department in Organization D recognized that some of the existing employees could not be replaced by external agile ones since the knowledge they had was crucial to the organization *("Bezüglich der agilen Transformation ist es so, dass wir andere Personen brauchen, die wir aktuell haben. Wir haben lang gediente Mitarbeiter, die diese Konzepte allerdings nicht kennen und nicht verinnerlicht haben und wir können jetzt entweder diese Mitarbeiter trainieren, um das Wissen zu konservieren, das diese Mitarbeiter haben, oder wir holen uns neue dazu, die dafür das agile Denken schon mitbringen oder wir machen einen Mittelweg und machen beides. Wir haben uns für letzteres entschieden, weil die vorhandenen Ressourcen zu wertvoll sind, um das einfach auszutauschen. Das Wissen, das dabei verloren ginge wäre katastrophal. Dementsprechend holen wir uns halt Leute dazu, die die agile Denkweise schon verinnerlicht haben und transformieren so nach und nach die Abteilungen." (Manager D) (Translation: "In terms of agile transformation, it's that we need different people that we currently have. We have long-serving employees, but they don't know these concepts and haven't internalized them, and we can now either train these employees to conserve the knowledge that these employees have, or we bring in new ones who already have the agile thinking for this, or we do a middle ground and do both. We decided on the latter because the existing resources are too valuable to simply replace them. The knowledge that would be lost would be catastrophic. Accordingly, we just bring in people who have already internalized the agile mindset and thus gradually transform the departments." (Manager D)))*. This statement shows that there were two possible solutions considered by HR to solve this problem. The first solution was to teach existing employees about agile concepts, and the second solution was to recruit new, agile-minded people to the organization and teach them the technical knowledge required. Organization D decided to do a mixture of both approaches. Following a similar approach like organization D, organization S ended up with two classes of employees. On the one hand the ones who have the corporate mindset and on the other hand the ones that have an agile mindset *("[. . .] 50% of the organization was like me corporate junkies, that who would try to [. . .] understand this agile methodology [. . .]. And then the other part that we hired [were] newbies who are bringing some new cultural competence [. . .] because that's also [. . .] what I recall back [. . .] as a success, rather than we try to adapt ourselves [. . .] we bring new people [with] open, diverse mindsets to learn together. [. . .] She or he can learn from me about how to adapt in a big corporate culture company vice versa I can learn from [. . .] [them] that [. . .] how can I [. . .] [acquire] [. . .] a startup mindset, agile mindset." (Manager S))*. However, this statement also shows that HR viewed this mixture of two worlds as a chance for the two groups to learn from each other. Another factor which made choosing between the recruitment of external and internal candidates a challenge was that HR personnel showed a lack of knowledge during job interviews which resulted in job descriptions which were not tailored to the needed profiles

(Interviewee B, P). A proposed solution was to invite experts to the job interview (Coach P) and also to educate HR about agility and the corresponding roles (*"[. . .] We need some experts within the HR department, which at least take some agile scrum Kanban or maybe even for large scale framework, some trainings to know what is it about, so about the mindset and stuff to be able to support [. . .] the teams to be able to support recruiting [. . .]." (Coach P)).*

A solution for this challenge in Organization Q was the implementation of a platform that can hire internal employees from all global locations according to skill instead of job descriptions for certain projects. Both the teams leaders can reach out to the profiles of employees or employees can apply for the position. It works like global crowd-sourcing and increases the flexibility and availability of the workforce. *(" [. . .] We have this thing in [Organization Q] called [. . .] flex experiences. [...] It does help in terms of the organizational agility in the sense that, [. . .] sometimes certain expertise that we need, [. . .] we don't have in the local market and we try to crowdsource for an expertise in other markets. [...] It's not like hire for the job description, but we can collaborate across countries based on specific skill sets." (Business Partner Q); "So everybody [...] has an internal profile, like a CV that [. . .] when he, or she applies, I can see their class history and [. . .] their experiences. And if it matches my requirements, I will reach out to them." (Business Partner Q); [. . .] We cannot really cut costs, but [. . .] we can [. . .] get relevant expertise. [. . .] And we don't need to hire like somebody completely new to join us just for a couple of hours, you know? So [. . .] it creates a lot more dynamicism [. . .] and everybody's shifting more towards like a consultant, like project approach [. . .]." (Business Partner Q)).* HR was the primary driver of this platform (Business Partner Q). Furthermore, HR also introduced a policy that people should look for internal candidates firstly, and then recruit externally (Business Partner Q).

Recruiting

Skills and Profiles

Finding and knowing which skills and profiles to look for in external recruiting was one of the major challenges (Code skills and profiles in external recruiting was counted 21 times). Most of the interviewees reported that specific skills and mindsets were needed to support the agile transformation. Thus, finding those talents was a major challenge for HR (Interviewees A, C, D, F, G, I, M, O, R, S). HR did not know what profiles to look for which started as a challenge for profiles and skills but also raised challenges for job descriptions and job interviews. (*"[. . .] hiring people [. . .] that have some kind of agile experience [is a challenge for HR]. And so [. . .] in an [. . .] Organization that hasn't done this before the HR department kind of struggles with [. . .] what kind of people are we looking for? So it's everything*

from how to write the job description to attract the right people, to [. . .] conducting the interviews, [. . .] to understanding whether a candidate has the skills required or not [...]. So they don't even know, [. . .] if the person they're [. . .] hiring is well suited to the job or not, often. So they have to try it a little bit and see how it works. And [. . .] eventually they [. . .] start to refine their [. . .] hiring practices. [. . .] The [. . .] HR department just doesn't know [. . .] how to hire people or who to get." (Coach O)). Thus, people were just assigned to roles without knowing which skill shape was actually needed, which created chaos (Manager C). Particularly, talent with both technical and agile skill-sets was hard to find (Manager R).

As a solution, Organization F's HR department made an assessment which skills were needed, and which people and skills were in the company already in an early stage of the transformation to create headhunting and recruiting strategies. Then, the HR department of Organization F advertised that the organization is in an agile change in agile communities to attract talent with the right profiles and skill sets. Moreover, HR prioritized hiring technical roles since they were more difficult and took longer to hire (Director F). HR looked for candidates with technical skill sets and trained them agility in-house (Manager R). HR changed to search for T-Shaped skillsets *("It becomes a lot more networked, [...] collaboration, [...] cross functionality, working across teams, multidisciplinary type roles, t-shaped profiles."* (Consultant A, similarly depicted by Scrum Master I)) and in general broader skills and profiles and focused more on attitude instead of aptitude, which included soft skills such as communication, empathy, and willingness to learn. *("Often, you're hiring for [. . .] attitude instead of aptitude. [...] It's, [. . .] more about the soft skills: are you willing to learn? [. . .] How do you communicate with other people? Do you have [. . .] empathy [. . .] for people [. . .] in how you're dealing with them?[...] Those [. . .] skills are much more [. . .] important in an agile role. And [. . .] not just for agile, but for a company who is transforming into agile [...]." (Coach O)).* Furthermore, not only hard skills were relevant but also trade and drive of the driver were taken into consideration *(" [. . .] Skillset can be changed, can be improved, but trade and driver cannot be changed. This is just human being. So [. . .] when we have some targeting position. Maybe that position will [. . .] [require] some certain skill [. . .]. If the personal trait and driver match to their characteristic over the certain position and job, then his performance will be maximized. (Manager C)).* HR changed hiring culture to be more open and more diverse towards different kinds of candidates of profiles (Interviewees A, B, H, L, M, R, S).

The effect of that was that employees with a diverse background did a surprisingly good job also due to the differences that they brought into the organization (Consultant M).

Candidate Identification:

The identification of candidates with the right skills and agile mindsets was particularly mentioned as a challenge *("HR [...] supports us in helping us to find the right candidates with the right skillsets that may have the right agile mindset [...]." (Manager R))* (Also mentioned by Interviewees G, H, S). Furthermore, rapidly growing organizations faced the challenge of getting this distinguished talent fast (Manager G). The lack of knowledge in the HR department made identifying the right talent further challenging. To increase the knowledge of HR which talents, skills, and profiles to look for, HR hired head-hunter specialists that gave coaching to HR which talents to look for (Manager S).

In addition to that, HR worked together with so called connectors and talent specialists that had connections to universities to hire graduates directly *("[...] I'm not calling them head-hunters actually, but like more again, that talent connectors, talent specialists [...]. [...] I did have [...] two persons. [...] So we do have [...] people [...] working in MIT [...] in the house [...] we do have connection with." (Manager S))*. Organization H followed another approach to attract and identify talent directly via sponsoring college events (Recruiter H). Organization S had the challenge that relevant candidates did not check standard job postings and vacancies on various platforms. Thus, the organization had to find other ways. One way to tackle this challenge was to organize hackathons where people could see the data the organization is working with and invite candidates to open office days. In these open office days, HR had open discussions with participants of hackathons or open office visitors about roles, instead of interviews and selection processes. This had the effect that HR received direct feedback from the candidates about the roles and if they could fit for a position (Manager S).

Moreover, the HR department conducted profiling and talent matching with specific roles (Manager S). To have access to a larger pool of candidates with the right skills, the HR department of organization G implemented candidate pools and executed active sourcing to fill the pool with candidates. The result of the talent pools together with active sourcing was that the organization had fast and flexible access to talent from the talent pools (Manager G). Selecting the right candidates was also mentioned as a challenge by several interviewees. Manager R mentioned that HR must understand the legal, and performance consequences that come if a candidate does not fit the position. Thus, they must be familiar with the agile roles specifically. Moreover, hiring a candidate takes a long time (around 90 days) (Director F) and at the same time the market is very hot about agile people and there are not enough people on the market. This makes it more challenging to hire, select the right and enough candidates with a suitable timing (Manager J).

Solutions for that included the following: The expectation criteria for one candidate were set with the help of HR to prevent legal and performance consequences.

Moreover, HR was involved in creating the job description and the final decision making about a candidate (Manager R). Also, HR increased its flexibility with signing bonuses, and starting salaries (Manager J). A holistic approach around tackling the challenges mentioned is a so called talent solutioning approach which solves the challenge with several means. Talent scouting focused on potential of the candidate to thrive in an uncertain world. Thus, potential is seen as a skill *("[...] We focus not just on the actual recruiting part, [...] but really about the talent solutioning, um, approach that really looks at things like talent scouting, but then also in-house mobility. [...] how do we leverage [...] more generalists? How do we leverage SWAT teams and stuff like that? So just really have [...] a whole talent solution of tools around that" (CEO B); "[...] Now we are in that fourth era [of talent spotting] and that's really the era where we hire for potential. [...] This is not, not about the potential to climb the next step in a predefined trajectory. [...] This is really about the potential to thrive in an uncertain world, to be able to [...] to adapt, [...] to live with uncertainty and looking for that skill [...]. (CEO B)).* In this mindset, job advertisements must be designed that people do not fit a certain position but answer according to their potential *("[...] For instance, think about this. You're looking for a [...] software developer, HR business partner, whatever, and you come across a great candidate, but for whatever reason, that position is not for that person, what do you do? You send them their way. [...] But when you have great people, you are in a position where you say, [...] we cannot find great people and you have great people there, then you let them go. There's something wrong with the system. So how do we make sure that when you come across amazing people, that we hire them, even if we may not have that one position available for them at that particular moment [...]." (CEO B)).* In house mobility can solve the challenge which is reinforced by talent enablement and giving opportunities and exploratory assignments. Leveraging more generalists and SWAT teams also helps. Considering to hire excellent candidates even though there is no current position open (CEO B).

Job Descriptions:

Job descriptions were another sub-challenge of external recruiting mentioned 6 times by interviewees B, O, P, and Q. As already mentioned, the majority of the interviewees reported that HR did not know what kind of profiles they should be looking for, which raised challenges also for job interviews. Furthermore, candidates that were perceived as great were sent away just because they did not fit the position as described in the job description which was mentioned in the previous subsection about talent selection. Another challenge was that job descriptions were not inclusive enough, which had the effect that even though the profile of different persons was similar, a male candidate would answer to the job vacancy and a female would not (CEO B).

As mentioned before, CEO B suggested that job advertisement design must encourage people to answer according to their potential. CEO B mentioned that the effect would be more inclusive job descriptions, and thus a larger target population and more diverse talent pool. Another solution was to not have fixed role descriptions anymore, but rather focus on core jobs which can be executed in different functions and teams (Business Partner Q).

Job Interviews:

The last sub-challenge in external recruiting were the job interviews (4 times). As already mentioned, HR was not able to support recruiting and job interviews because of lack of knowledge about agile concepts and roles (Coach P and Coach O). Coach O mentioned that HR for example confused the roles of an agile program manager and project manager.

Traditional to Agile Role Mapping The major challenge mentioned by the interviewees in internal recruiting was the mapping of traditional roles (Code counted 20 times) that will be resolved in the agile transformation to new roles (Interviewees A, F, K, P). Coach P mentioned that in an agile transformation, some roles were dissolved, and new ones were introduced *("[...] A company moves from traditional roles to more agile roles. [...] Then you might come up [...] with a mapping of traditional role which was [...] a project manager, and which could map [...] now maybe a scrum master or a product owner." (Coach P)).* Major challenges with this mapping approach were that fixed mapping approaches did not exist. Furthermore, the mapping did not result in the same hierarchy as before. That means, that one role or position suddenly had a lower or higher hierarchy level than before. That was because different skills and personalities suited for the newly introduced agile roles. In addition to that, a mapping did not always provide a one-to-one solution, which means that some people are left over, or roles cannot be filled. The reactions to that were that people were not willing to change the role and thus leaving by themselves because they did not like the transformation. However, a positive effect of that was that people who were motivated for a new role stayed and the rest was sorted out naturally (Coach P).

Mentioned was also an HR related conflict between finding the right people for agile roles and keeping or saving people in the organization that are loyal but did not have the right agile skills and mindset. Connected to that it was in general a challenge to measure and analyze whether a person had an agile mindset. However, the effect was that not all employees were succeeding in the new role because they were not honest enough about their skills. *(I think they [...] took kind of an inventory of people skills [but] [...] it's tough to measure mindsets, right? But they*

tried to measure to the best of their ability. [...] And then once they did that, they were able to put those people into the roles. They did end up putting some of the project managers into product manager roles and not all of them ended up succeeding because [...] they weren't honest enough about did these people actually have these skill sets? I think they just were more focused on saving the [...] people in the organization and keeping them at the company. (Director F)). Furthermore, it was hard to transfer employees that possessed knowledge of disruptive technology, especially if they had never been exposed to agility. Connected to that, it was a challenge to hire someone externally for a disruptive technology role for a new agile position, but also hard to train existing staff towards fitting in a new agile role. Thus, it took longer to train and transition existing staff to the new agile role. Hence, the organization focused firstly on the training of existing staff before recruiting externally. Thus, the workforce transformation was broken down into pieces *("You try to [...] first of all, concentrate on the people you have and to see this coming and train them in the right way. [...] When you start focusing on this target group and you train, you will find out in your strategic workforce planning that you don't have enough of these people, or you don't get them up to speed [...] quick enough [...]. And it takes too long [...] to train these to people who have [...] never done this or being exposed to this before. So then based on this strategic workforce planning, you [...] determine how many of those you need in the market, what levels they have and what locations you can get. [...] Those type of outcomes will come out of the strategic workforce planning. [...] The strategy is broken down into a [...] transformation plan. [...] This transformation plan has several stages." (Business Partner K))*. Moreover, people were picky about their new role and position (Coach P). Another challenge that came up was that people with new roles did not act according to the role definition and interfered in other roles' responsibilities (Consultant A). As an effect was mentioned sometimes after the initial excitement some people did not feel happy in the new role (Coach P). Another effect of the mapping to agile roles was that people with the wrong leadership understanding transformed into an agile leader. People in old roles were not adjusting to the new roles in terms of customer centricity, value delivery and iterations. Thus, they did not adopt the agile mindset (Consultant A).

Solutions for those challenges and their effects mentioned by the interviewees contained the following: HR analyzed which employees were willing to change their positions via interviews. In those interviews, HR could also find out about the skills of the employees. HR considered individual preferences of the employees to execute the mapping. HR with support from others also analyzed which traditional roles correspond to the agile roles introduced (Coach P) Since there was no one-on-one mapping, the role transitioning and mapping was conducted according to the organizational value streams, so that leftover people would be included in the next value stream transformation *("The few that maybe didn't get a position in the cur-*

rent transition of one area, because you do such a transition one by one [. . .] maybe some leftovers from this area could go to the next one. So it's not that you need to lay off people if you have such a big company [. . .]." (Coach P)). Connected to that, leftover people were moved to other areas of the business (Coach P). Another solution mentioned was that HR together with agile coaches educated about tasks and responsibilities of agile roles (Director F).

Talent Retention Retaining good agile employees and talent was also mentioned (six times) as a challenge (Consultant A, Recruiter H, Coach N). This challenge was tackled by HR supporting agility in general and thus building an environment of continuous learning and development, where employees could thrive and build excellence (Coach N). In resonance with that, providing growth plans and opportunities for employees by providing learning modules also helped retaining talent (Recruiter H).

4.2.2 Culture Change in Leadership, Employees, Collaboration, and Communication

Culture Change in the organization is the next biggest challenge for HR in the context of organizational agility mentioned by the interviewees. A total of 85 codes were related to this theme (code: cultureChange). Especially culture change in leadership styles and behavior (Code: cultureChange_leadership; No.-Codes: 39) and the culture change of the employees (Code: cultureChange_employees; No.-Codes: 26) contained the most statements. 14 interviewees have mentioned that this theme is particular challenging for HRM in the context of the agile transformation. Other culture change related codes were the culture change in communication (5), collaboration (3), learning (2), resistance to change (6), and workplace and worktimes culture change (2).

Leadership Styles, and Behavior Culture Change The leadership culture change was mentioned as the main challenge for HR within the culture change domain (Interviewees E, F, G, K, L, R). Business Partner K responded that HR wanted to change the leadership culture to a servant leadership style in accordance with agile methodology, since HR is demanded to support organizations in the implementation and delivery of new working styles (Similarly depicted by Interviewees A, K, P). However, they detected that with a higher position in the organizational hierarchy, the ego of the leaders became bigger which led to a lower level of servant leadership *("So what you see with [. . .] leadership, especially when they are moving up the ladder is that they have big egos and the egos become bigger and bigger when*

they grow. So to find the one that really applies servant leadership is [. . .] finding a needle in the haystack. [. . .] So then you have to create a culture where this type of behavior is valued, and the ego behavior is not valued." (Business Partner K)). On top of that, leaders did not campaign the agile change as they could because of their own skepticism and cynicism (Director F). Related to that, employees and leaders were scared by the big change and the transformation (Manager G). Thus, getting the leadership and people buy-in was a challenge *("The challenge that I see is that first of all [. . .] the leadership buy-in [. . .]. Every leader should agree that [. . .] the agile way of working is the way forward. Now, the first challenge to get the buy-in, the second challenge is to get the buy-in of not only the next level leadership, but also the [. . .] people [. . .] in the team." (Manager L))* (Similarly depicted by Interviewees F, G). Moreover, old-fashioned leadership style like micromanagement or interfering with others' responsibilities made employees unhappy and raised people-related issues such as that employees were not courageous enough to address desired leadership behavior change (Coach P). Moreover, leaders did not know which leadership aspect to apply in the organization. Thus, they were not driving performance and efficiency. As a result of that people had competencies but did not deliver. However, HR had the issue then that employees were approaching them with demands of promotion and high salaries even without performance (Consultant E).

Solutions for these challenges included for example HR linking leaders to agile coaches to help them change their leadership behavior. Another HR driven solution was to observe the leadership behavior with someone external to the team. HR also drove culture change on all levels following a top-down approach valuing serving leadership and punishing ego leadership (Interviewees P, E, K). In contrast to the general observation of the interviewees desiring servant leadership, Manager L desired adaptive leadership which means the ability of a leader to manage complex, simple, complicated, and chaotic situations *("I use the word [. . .] called adaptive leaders. [. . .] When there's a big fire, [. . .] leaders cannot have a kind of a collaborative consensus meeting. Hey, let's all come together. That's a fire happening. What do you think we should be doing here? Can everybody's views and opinions are taken before a action on it. That's not appropriate. [. . .] Take a decision. Everybody follows the order. That same leader cannot come when the issue is extremely complex." (Manager L); "So your leadership [. . .] depending on the organization context, need to demonstrate [. . .] [the] ability to handle simple, complex, complicated, and a chaotic situation is what an adaptive leader is altogether." (Manager L)).*

Moreover, HR engaged with the leadership first to recognize bad culture habits (Consultant E). HR also changed the leadership programs with an emphasis on agile mindset and culture. Related to that, leadership programs were designed to fit

the leadership style to the individual personality traits of the leader (Manager G). Manager G mentioned that the culture aspect especially of the leadership is the over-arching challenge for the other sub-challenges like Talent Management, Performance Management and others. Thus, it was important for HR to get the transformation and correct leadership styles and behavior into the minds of the managers and employees.

Employee Culture Change Another key challenge mentioned by the interviewees was the culture change of the employees (Interviewees A, C, E, F, G, H, L, Q, R, S). Specific challenges arose because employees did not recognize the value of agility *("I would say to me like the hearts and minds is the most tricky part and [. . .] people sometimes will [. . .] either comply with the change or they'll even adopt the change outwardly, but inwardly they [. . .] don't really accept it and they don't see the value of it" (Director F))* and also were not bought into the change. Furthermore, another employee related culture challenge mentioned was that agile experts and agile, fresh thinkers could not thrive in the organization because of the bad culture. *("[. . .] I've often seen companies [...] where they'll recruit all these people who are really fresh thinkers, and they are experts in agile. And because the organization is so bogged down in the status quo, these people end up leaving because they get frustrated because they're constantly being [...] shot down. Their ideas are being shot down by their colleagues who don't want to change." (Director F))*

Some concrete examples how these challenges showed up was that skepticism of the change was spread in the whole organization (Director F). Also, the people in the organization blamed other functional units of the organization for the issues. Overall, people related issues came up with the cultural change such as team conflicts, broken communication culture and cross functional conflicts (Consultant E). Collaboration culture was also broken between people on the same level, and between people and their leaders. Blaming, Silo mentality, victim behavior, aggressive, and micro aggressive behavior was detected (Manager L). Another issue with agile culture change was that within the transformation the organization had a workforce which was composed of both people with a corporate mindset and people with an agile mindset (Manager S).

Furthermore, Manager C reported that the people's culture was not aligned to the infrastructure, technology, and processes. Even though there were some initiatives to change the employee culture, people were just reactively following new guidelines and announcements about the agile transformation without proactively taking action in this transformation *("There are many [. . .] slogans or announcement by the top management or CEO. [...] Maybe there were many slogans and programs, but [. . .] people are just feeling that all this is [. . .] just a new task for*

me. So they are just reactively following the guideline or announcement. They don't proactively behave. They [are not] [...] proactively taking action. So that means even though the [...] word is transformation, the word is innovation, the word is agile, they still feel, [...] this is kind of an instruction from the company and just follow this is the reality. [...] We should get in touch [with the] people by people [and find out] what they think. What is the benefit for them and where [do] they wanna go with our company [...] then if it is [...] realized, then our message to the people will be more meaningful about transformation, about to be agile." (Manager C)). A strict hierarchical organizational structure was a burden for employee culture. People related problems came up in terms of collaboration. This challenge was specific for Asian countries *("I can speak for the Korea stint that I did because I did try to push out some agile changes for them. [...] But Korea is a very specific cultural challenge. [...] So I think Korea society is very hierarchical in general. [...] There is still an underlying core cultural component that restricts us from landing agile successfully because [...] the juniors [...] listen to what the older or the more senior people say. So it's really hard for them to voice out their opinions. Even if we tell them that [...] in the agile scrum set up, everybody's [...] equal and they all have a [...] voice, but they will always just [...] listen to the older person and they will not feel [...] psychologically safe to share their true feelings and opinions. [...] So then there's [...] so much [...] tension sometimes even without agile [...]. And with the agile, I think it's even more challenging [...] for the younger ones to get their voices heard." (Business Partner Q))* (Similarly depicted by Manager C for China, Republic of Korea and Japan). The overall culture was the overarching challenge in order to move towards a culture of agility within the leadership and employees (Manager G). Solutions proposed for this challenge contained the following: Attitudinal change programs were mentioned by Consultant E. HR observed meetings and other measures to check the culture change (Consultant E). Manager L reported that HR assessed the meetings to document the status quo of the culture and implemented practices to initiate a culture change. HR also engaged with the leadership firstly about the bad organizational culture and let them recognize their own bad culture habits (Manager R). HR visioned and communicated the culture journey. *("[...] The new way of working has to be clear. Once that thing is there. Then we take them through your journey. [...] It's a culture journey. [...] We need to take the leadership first, then you cascade it to the next leadership and the next leadership. So everybody's aware of it. There is not mantra, one mantra which can solve. It can only come through involvement and engagement and empowerment of people, the culture change. But the one thing is clear. You need to say, where are we today? And where do we want to go? Has to be communicated. Otherwise people don't know where we are going from our culture journey. Because that'll give them a yard stick to say, if this is the future behavior, where am I today? What is the gap that I see and how should I bridge that gap?" (Manager L)).* Interviewees responded that the communication architecture such as open-house meetings where

function heads address their challenges, manager-team-member one-on-one meetings, and weekly review mechanisms were built (Consultant E).

Culture Change Impacting Collaboration   Another domain which was mentioned to be a challenge was the culture impacting collaboration (Depicted three times by Manager L and Coach N). This challenge showed because the teams were not owning and contributing to goals. Instead, they were just following their role description *(”[...] We talk about squads or cross functional teams. [...] For me, the teams [in Organization N] are not teams. They're just a collection of people. [...] A team is a definition of somebody owning together a common goal. [...] They don't own the feature goal or the market goal or the problem; [...] their goal is I'm a developer and I develop, I'm a QA and I test, I'm an analyst and I analyze [...]. [...] So by my definition, the biggest HR problem at a team level is that there are no teams. We call them teams [but it] is just a collection of loosely coupled people passing work one to another, not working together, [...] so called collaborating a lot.” (Coach N))*.

The challenge particularly arose because the organizational structure and design did not support the communication and collaboration. It was argued that collaboration is the function of team design *(”[...] [Collaboration] is the function of how the teams are designed, how the function of the individual roles are designed, who they report to. Am I reporting to a dev lead or a dev manager or a QA manager? Or am I reporting to a team manager who manages the output of the team, you know, different structures.” (Coach N))*. Manager L named collaboration as a subchallenge of culture together with communication and organizational design. It was suggested that organizational design and flexible policies can enable communication, and collaboration.

Culture Change Impacting Communication   The interviewees also mentioned that the culture change in the agile organization also impacted communication (depicted 5 times by Consultant E, Manager G, Consultant M). Specifically, it was argued that communication in general supports alignment, which is another major challenge in agile transformations. Solutions for that were open house meetings, and review cycles (Consultant E). However, Consultant M stated that the communication followed a hierarchical order from top to bottom. Thus, it was encouraged that employees from the bottom layers also participated in high-end topics. Another drastic approach to solve communication issues was to restructure the organization to be flatter (Consultant M). Also, the communication of new corporate values and culture change was reported by Manager G. Thus, the company's results and values were communicated openly and where the organization stands. Also, the organiza-

tion communicated change in an early stage.

Culture Shift impacting HRM, Workplace and Work-time Culture shift impacting HRM, workplace and work time was coded 2 times each. It was mentioned that HRM itself also changed its culture. HR changed their hiring practices to be more open and more diverse towards different kind of candidates and profiles with focus also on soft-skills and personality (Consultant M, CEO B). The interviewees specifically mentioned that diversity specifically towards different genders, ethnically, religious, skills, demography, and life situation such as family situation was increased (Consultant M; CEO B).

Since HR has opened the candidate pool towards more diverse candidates, flexible work-time and workplace models were needed (Consultant M, Scrum Master I). Thus, HR aimed to adjust and change new work-time and workplace models that were more individual than before and considering the individual life circumstances. Thus, it was aimed that the employee could assemble their working time and working hours according to their individual preferences (Consultant M; Similarly depicted by Manager L).

Resistance to Change Another domain of the employee culture challenge was the resistance to change (coded six times). Specifically, the interviewees mentioned that the agile transformation caused resistance within the company *("[...] if we have an agile transformation starting in a company and [...] I would double check if we have [...] people that are change agents [...] within the HR department and would try to involve them because every change has some resistance [...] going on in the company and these guys know how to overcome these resistance and know [...] how to support [...]." (Coach P))* (Similarly depicted by Interviewees C, F, S).

The resistance showed particularly during the transformation *("I think [...] resistance to change [...]. That's the biggest thing, because people are [...] [...] afraid from the change [...] that's the issue." (Manager S))*. It showed because scepticism, cynicism, and fear was spread across the whole organization (Interviewees F, S). Also, Manager C mentioned that the employees were just reactively following new agile guidelines and announcements about the agile transformation without proactively acting in the transformation. One solution that was suggested by one interviewee was to involve change agents within HR during the transformation. These change agents also have the knowledge about the whole transformation because they accompanied it. It was suggested that HR can also develop a change agent within their HR domain with additional training (Coach P).

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4.2.3 Learning, Training, and Development

Learning and Development in the organization is the next biggest domain the interviewees talked about. A total of 74 codes are related to this theme (code: learningAndDevelopment). 17 experts have elaborated and acknowledged on this topic.

Talent Development and Enablement The interviewees showed a consensus that HRM is responsible for the development of their workforce (Interviewees A, D, G, H, I, O, Q). Also, HRM aimed to hire for potential. Thus, they helped individuals to reach their potential faster than they could by themselves and providing them with growth opportunities and the right teams to accelerate individual and organizational performance (CEO B). According to the interviewees, several agile-specific challenges arose in this domain. Firstly, since the organization structured itself to be more decentralized, the learning and development -amongst other things, did not match the decentralized structure. (Scrum Master I) Related to this, Manager responded that the learning programmes were not readily available and took too long. Thus, it for example took several years to develop and train a project manager, which was needed immediately. After the completion of the training, the project manager role was no longer needed or available anymore. HR recognized that employees must have the possibility to acquire knowledge in the moment they needed it. *("Und wir haben halt gemerkt man muss quasi in dem Moment, in dem man das Wissen braucht, sich das Wissen auch aneignen. Das heißt wir haben jetzt viele digitale Lernformate, wir haben aber auch eine Option sich gegenseitig auszutauschen, das heißt es gibt Communities of Practice und solche Lerngruppen und es gibt eben auch so on the Job Learning, sodass man eben auch diese Assignments macht oder eben Rotation Programme." (Manager G); (Translation: "And we realized that you have to acquire the knowledge at the moment you need it. That means we now have many digital learning formats, but we also have an option for mutual exchange, that is, there are communities of practice and such learning groups, and there is also on-the-job learning, so that you also do these assignments or rotation programs." (Manager G))).*

Furthermore, interviewees responded that that with the arrival or agility in the organization, employees had to possess knowledge of both their specialization and agility. However, this was a challenge because the employees which had specific special knowledge that was crucial for the organization did not possess agile knowledge and vice versa (Manager D, similarly depicted by Business Partner K). Another challenge was that in an agile organization people needed to understand themselves what they are good at and where they would like to develop. HR could only support there. The particular challenge was that even though people should decide themselves where to develop, it was important for HR that people developed a certain

skill shape that was aligned to the organizational development needs and desires (Consultant A; Similarly depicted by Director F).

In order to support the learning and development of employees, HR people implemented a system where performance feedback was connected to learning, developing, and growing desires of employees. In this system, learning goals were defined according to inspiration of a mentor and individual desires. Thus, learning and development together with performance reviews focused on the future development and growth instead of negatives (Consultant A). The implementation of particularly digital learning and development systems was suggested by several interviewees (e.g., Manager G, Recruiter H). However, it was argued that people with agile mindsets have the personality and intrinsic motivation to grow in terms of learning and development which helped solve the challenges (Coach O). Moreover, HR generally aimed to hold people aware and interested in developing themselves. (Consultant A) Connected to that, HR provided the right tools for learning and development and helped employees to find their ambition and grow towards their goals. Moreover, HR helped employees to take responsibility and ownership of their own learning and development. HR supported by suggesting several types of learning means besides taking courses. In order to also decentralize the learning, HR transferred learning and developing responsibility to the teams *("[...] We with HR and learning development department still has a responsibility in helping people to have the right tools to learn and develop themselves. So we should help people to find out what their ambition is or where they wanna grow towards what their goals are. [...] I have teams within [Banking and Financial Service Company] who work with [...] personal development items on their backlog. So every two weeks within sprint planning, they don't just plan for [...] the work that they need to do. But they also add [...] personal goals they wanna achieve when it comes to their learning ambitions. [...] I think it's a combination of [...] HR has responsibility [...] to give people the tools to take that ownership of their own learning. And around the team. I think the team itself plays a role in that. Also, [...] the scrum master, [...] product owner that all can help with people growing in their role." (Scrum Master I))*. Thus, HR changed learning and development to a more iterative, decentralized approach aligned to the sprint length (Scrum Master I).

Also, hiring new employees with agile mindsets and training existing employees with crucial knowledge was mentioned as a solution (Manager D). Another interviewee mentioned that they connected growth paths to learning opportunities, career paths, and people outside the organization (Coach O). HR also introduced communities of practice. Learning groups, on-the-job learning which included rotation programs or assignments (Manager G). The contents of the learnings were not only limited to internal sources, but also to external courses (Manager D). HR's role there was to provide learning and development frameworks and track learning needs

by talking to senior leaders and senior staff and linking people to the corresponding global learning opportunities when they open up (Business Partner Q). The responsibility of HR to providing frameworks around the different domains was mentioned by the interviewees B, C, D, E, F, G, I, L, P, R, S. The learning goals of the employees suited with a future fit plan that also asks about the purpose and wellbeing of an employee *("[...] We have this thing called the future fit plan in [Organization Q] where it's like [...] we ask them for [...] their purpose, their wellbeing goals, their learning goals and all that. So we collect all of this and we can see what is their goal for the year. And [...] from there we can [...] say [...] this person needs this skill. And whenever there's opportunity, we'll link them." (Business Partner Q))*. In order to ensure talent enablement (Code appeared four times), employees were matched to the right team that accelerate learning and development and growth opportunities. Also, enabling micro-learning was suggested. The effect of those measures was that performance feedbacks were connected to learning and development. Particularly, performance feedback created incentives for individuals to think about their own learning, development, and growth paths for the future (Consultant A). Moreover, performance could be accelerated, growth opportunities arose, and organizational performance experienced a positive development (CEO B).

Learning became faster and employees could further learn at the moment they required the knowledge (Manager G). Learning in general became more flexible and individual and more agile (Manager D).

Onboarding   Interviewees also mentioned the HR challenge of onboarding in the agile and learning and development context (18 times by Interviewees D, N, R, S). The interviewees have notes that some talent was hired because of their potential (CEO B), their talent or because of their ability to be adaptive (Manager R). Thus, they did not necessarily have agile-specific knowledge or other relevant skills. Furthermore, some new hired people brought bad practices from previous organizations to the new organization and thus created chaos. Connected to that, as a result, employees had different working styles and processes and standards were not followed. The result was that focus went away from the agile way of working and chaos was created (Coach N). In order to create the onboarding to fit newly hired employees into the organization, HR included all relevant agile components into the training that were part of their scaled agility program, such as culture, communication, or quality driven management techniques Furthermore, since leadership is part of the culture, agile leadership and management training already was put into the onboarding training (Manager R). Furthermore, the onboarding process was then focused on team structures, and role stakeholders and also, learning champions were nominated (Interviewees S, Q).

Several interviewees answered that HR implemented a modernized, digital, structured, speedy tool for onboarding which takes internal and external sources into account (Manager D, S, similarly depicted by Manager R, and Coach N). Also, in Organization D, HR provided and owned a framework for onboarding that was reviewed on a monthly basis and adjusted accordingly. The effect of those measures was that onboarding became agile itself (*"[Die Rolle von HR bei Training, Profile, Karriere, und Hierchien ist die] Bereitstellung von Frameworks. [...] Dass regelmäßig reflektiert wird, ob der Onboarding Prozess noch der ist, der er sein muss oder ob dort Anpassungen notwendig sind. Wenn wir in einer agilen Welt leben, wo sich auch die fachlichen Anforderungen schnell ändern, dann muss sich auch ein Onboarding schnell anpassen. Deswegen wird das auch monatlich reviewed, ob das Sinn macht [. . .]." (Manager D); Translation: "The role of HR in training, profiles, careers, and hierarchies is to provide frameworks. [...] That there is regular reflection on whether the onboarding process is still what it needs to be or whether adjustments are necessary there. If we live in an agile world, where technical requirements also change quickly, then onboarding must also adapt quickly. That's why this is also reviewed monthly to see if it makes sense [...]." (Manager D)*).

HR Learning and Development   The next challenge mentioned was the learning and development of HR people (Depicted 9 times by interviewees A, K, and P). Another reason why this was a challenge was because HR together with the management and leadership were expected to be the first to live agile mindset and culture by example. However, that did not happen and thus, employees did not follow since there was no example (Business Partner K).

The solution to this challenge was that HR was the first one that was taught about agility (Consultant A). Furthermore, the HR unit was educated about agility and new roles, starting with a one-to-three-day training first and focus on the mindset and transformational aspects instead of deep dive training. For that, existing agile trainers or coaches were used to train HR staff. In addition to that, external trainers or consultants were also used for HR training about agility. Also HR together with the leadership and management level received a leading SAFe training which focused on the mindset and the transformation aspect (Coach P).

Implementation of Learning Culture   Also learning about the agile mindset and culture was mentioned as a challenge. This is because changing the mindset and culture from learning to continuous and iterative growth was a challenge (*"[. . .] One of the big benefits of an agile transformation is that it introduces this mindset of iteration where nothing is ever complete. Everything is always a work in progress, and that includes people. So that [. . .] is one of the benefits of going through this*

process is that it helps people to think about themselves, not in a fixed mindset, but more in a growth mindset kind of way to be able to say [. . .] I was a project manager in the past, but I can be a scrum master in the future. I can be anybody I want, and I can learn these skills." (Director F)). Particularly providing the right tools, coaches, and trainers to implement a learning organization fell under the responsibility of HR together with the Chief Learning Officer (CLO). Furthermore, the measuring and pivoting of the training progress was the responsibility of HR business partners. Implementing the learning culture was particularly challenging because employees were fixed to their roles and struggled with perfectionism (Director F). On top of that, agile mindsets were not adopted and believed in by the employees *("[. . .] How do you teach people the mindset right? [...] How do you break these habits of perfectionism, which to me are kind of contrary to agile? [...] A product doesn't have to be perfect to be delivered to a customer, it has to be a minimal viable product, right? [. . .] So I think you can teach people that. But I think getting them to really believe it and adopt it and trust it takes time and that's the more challenging piece" (Director F))*.

In order for HR to solve this, Director F mentioned that HR aimed to provide an environment for employees to learn and transform. Also, implementing an environment where people could learn from their co-workers and coaches instead of classroom trainings was desired by HR. However, online and classroom trainings could help set the foundation. Concrete measures were the recruitment of agile trainers and coaches and at the same time keeping traditional learning channels such as classroom lectures and online lectures. The focus was on learning the basics of agility and their roles and then learn on the way. In order to break the perfectionism, concepts about Minimum Viable Products (MVP) were taught (Director F). In addition to that, HR aimed to change the learning culture and learning mindset by starting to clarify and educate why the agile transformation is needed and how to transform (Manager C).

Skills Development Another HRM challenge was that HRM aimed to let people decide individually where to develop, it was still important for them that the skills of the employees served the company. Thus, HR aimed to develop people into a so-called t-shaped profile form (Depicted four times by interviewees A, I).

In order to tackle this challenge, HR collected people from a group that should be developed. Then, those people were called learning champions that collected information from their teams about the learning needs. After that, HR designed and created a learning program that was tailored to the needs of the teams and was cross-functional at the same time *(" [...] I plan for different teams, right. Different [...] functions. So if let's say I work with the customer development team, I will*

look for [...] a couple of people from customer development [...] and call them [...] learning champions, [...] give them a title, [...] and then they will join my so-called little project team [...] where I will consult them on [...] what are the skill sets that [...] they want to learn. And they will go back to their teams [...] and run surveys or [...] we [...] even do focus groups to talk to different levels of employees on their learning needs. And we are bringing it back together and evaluate what is the best [...] format, what is the best content to run for their team? So I think HR, we cannot just do things in silo. We have to rely on also obviously the functions that we support, they have to also be responsible for [...] their own learning and that's how we collaborate [...]. And run the most relevant classes for their team." (Business Partner Q)).

Furthermore, HR put people in workshops with the relevant topics that were collected from the learning champions. The effect was that the training program was more customized to the team's needs and also that HR itself had a better understanding about the function's needs (Business Partner Q).

4.2.4 Organizational Design

The total count of this theme was 63. In total, 17 experts have elaborated on this theme and acknowledged the challenge. Sub-themes and codes were the agile transformation approach (27), the hierarchy change (21), workplace arrangements (8), and the organizational design and definition of HRM (7).

Agile Transformation Approach   The agile transformation approach was the main HRM challenge in the organizational design theme (depicted 28 times). The interviewees had a consensus that HRM generally has the role to support organizational design (Interviewees A, C, F, K, L, N, S). Coach P mentioned that HR was the trigger and initiator of a top-down agile transformation *("[...] The woman being the main driver for it and being the first contact for the top management was really a senior HR manager who said, let's do this in a proper way. Let's do it top down." (Coach P)).* It was believed that this approach had a higher success rate than the bottom-up approach because the top management has a higher involvement, engagement, and awareness of the transformation. Similarly, other interviewees responded that top management together with HR triggered a change of the working style and culture (Interviewees P, M; Similarly by Manager S). Thus there was a common consensus amongst the interviewees that HR had a major role in agile transformations (Interviewees C, E, F, G, I, J, M, P, R, S).

Connected to that, the management board of Organization M ordered HRM to take the leading and central role in transforming the culture in the organization that included collaboration, organization design, communication, and HR-IT. Thus, HR took on the task to change the culture via workshops, but also via getting feedback

from the employees and providing safety. Furthermore, it was seen as an advantage that HR had contacts to both the employees but also the Partners (Consultant M). Another interviewee mentioned that HR had to deal with the agile transformation, but its role was undervalued or underestimated (Manager J). However, a few challenges arose with HR taking on this role. Firstly, HR did not have the time and the staff to support people policies and culture change in the organization because they were too busy with hiring and firing (Manager J). Secondly, HR was hesitant to commit to transform, which means fire managers and hire agile coaches *("[...] What's [...] still [...] missing is [...] kind of the fear to really [...] doing the bulk moves, like actually saying, [...] we wanna do this. We're gonna fire a bunch of managers. [...] We're gonna hire agile coaches. We're gonna have dedicated scrum master. It's gonna be an actual role, not just something you do on the side [...]." (Scrum Master I))*.

Also, it was clear that organizational design had to change, but capabilities of the employees were not clear *("[...] If you think about organizational design [...] you would like to make something [...] new, but the capabilities are not clear. [...] So [...] what I did, I, especially focused [...] 80% on [...] hiring the right people, [...] finding the right talents, who can fit the role, who can make the change [...]. Because [...] that was [...] a big learning. We didn't make [...] a typical pharma company. [...] We are very clear that we want people [...] that [are] coming from [...] out of [the] industry to show us [...] what it has to be [...] disrupting [...] the data digital and productization. And that was like a clear formula on HR leader perspective. We kicked the infrastructure [...]." (Manager S))*.

Also, one interviewee responded that it did not work to start the agile transformation off by changing the people's culture. Instead it was suggested to start-off by HR educating their employees why the change was necessary and then target the culture (Manager C). Solutions to those challenges were that one HR manager supported the agile transformation as Head of Lean Agile Center of Excellence (LACE) (Coach P). In line with that, another interviewee responded that HRM was included in making the decision to transform the organization *("[...] So, the decision to go SAFe or [...] to roll out agile in a [...] broader way, this was done together with HR [...]. So [...] at some point, [...] where it gave momentum, there was HR involved. That's my message. I don't say they didn't do agile before, but [...] a real decision for [...] global [...] rollout was done together with HR." (Coach P); (Similarly by Scrum Master I))*.

Also, HR rolled out agility in one part of the organization and later spread it from there (Scrum Master I, Manager R). HR was also checking if the organizational shape was correct, which roles to introduce and what they should be called, and how many people should report to managers. Also, they checked how many

hierarchical layers the organization should have (Director F; similarly depicted by Coach N). A bit more radically, another interviewee responded that HR kicked the traditional infrastructure and focused on hiring the right people that can fit the new agile roles. With those steps, HR aimed to bring disruptiveness to the organization (Manager S). Furthermore, HR was benchmarking other organizations that executed agile transformations and which challenges they faced *("HR plays a role in providing kind of that big picture of what what are other companies doing? What are some of the challenges they're facing and understanding our companies' unique culture and our unique needs. Are we aligned to that?" (Director F))*. Moreover, workshops were conducted in all business areas in all locations around the topics collaboration, communication, and processes, where all participants could actively engage. In these workshops, data was collected, clustered, and analysed according to similarities. Moreover HRM used workshops, 1-to-1 conversations, conversations with partners and other communication channels to transform the organization's culture. From that point, the transformation plan was developed (Consultant M).

Also, in Organization S, HRM introduced one new role within their own domain, which was called an organizational design specialist. Manager S further elaborated that HR business partners together with talent managers and organizational development specialists worked together to orchestrate the transformation. The HR business partner had guidance from the organizational design specialist and talent managers with the change management and evaluating the scope of change. Also HR was responsible for the compliance part of the transformation. Further support for the HR business partners came from talent managers, recruitment managers, and other specialists *("[...] We have [an] organizational design specialist, that's [...] [a] different role under the HR. [...] We have the HR business partners, talent managers and organizational development specialists, [...] these three roles [...] need to work together. And of course [...] the role of the HR business partner [is] [...] to orchestrate the transformation and [...] restructuring together with the business leaders and with a support from the organizational design [...] supportive, [...] which is giving the right guidance preparing the scope of this change. If there's a change, [...] ensure that there's a structure, which is dealing with the compliance part of it. Because at the end, if there's any kind of promotion or demotion [...] the people are impacted, right? You need to be ensured that the process will be hygiene and also fully compliant. And [...] this is the role of the HR leaders [...]. And of course, [...] during the scope of the project, [...] the talent managers, recruitment managers, all these specialists are also joining as well, but potentially they need to orchestrate the process." (Manager S))*. Another interviewee responded that instead of starting with changing people's culture, HR advised to first clarify and educate why a transformation is needed and how to transform. After doing that, HRM started with the cultural and infrastructure change (Manager C). Coach P mentioned the effect that HR developed the expertise to guide the transforma-

tion. In line with that, HR also had a whole picture of the transformation (Director F). Also, HR took responsibility for training, workshops, communication between stakeholders, employees, and management. HR saw itself as a connector and central institution that knows and connects most people. Thus, they were suitable for the task to bring agility into the organization and took the central role in the culture part of the agile transformation (Consultant M).

Change of Organizational Hierarchy The change of organizational hierarchy was seen as a major challenge (21 coded statements) of the organizational design theme. As we have seen in the previous paragraph, the interviewees responded that HRM was checking whether the organizational shape together with its layers was correct. Furthermore, the interviewees agreed that that HR played a role in organizational design but also hierarchies and structure (Interviewees A, C, D, I, K, l, M, N). An interviewee also responded that HR aimed to get people to follow the momentum of the agile transformation *("And so for me [...] a lot of the time we've got these [...] legacy systems and legacy people and legacy structures [...] and the biggest task of all [...] is to get the people, to, to follow [...] the momentum [...] of the structural transformation. [...] Good HR can see to that, but they don't always do that very well." (Consultant A)).*

It was mentioned that flatter hierarchies in general make people more empowered. Accountability, responsibility, and ownership of own work in a team is impacted with increased empowerment *("[...] People are a lot more empowered. [...] Autonomy is a big word that we use. [...] And take ownership and are expected to be accountable to themselves and to each other in a team [...] for results. And [...] how you manage that [...] is very different from a leadership standpoint [...]. And leaders often need to be taught and familiarized with [...] how different that looks. So you're dealing with this much flatter structure [...] which has implications for the way people collaborate and interact, get work done. [...] There's also implications from a sort of a hierarchical standpoint. [...] How do you separate people in terms of job grades?[...] What do you do now when everybody's deemed to be equal [...] and must take ownership for their contribution? And you want people to feel that their contribution in the team is absolutely vital as the next person [...] to delivering value to the customer and [...] you've gotta get away from this sense of importance [...] and ego [...] needs to change. So, [...] that also means a different way [...] of engaging with people [...] and managing people to keep people motivated and make them feel worthwhile and valuable in terms of what they bring to the party. [...] One of the quickest ways [...] to do that is to reward and recognize people. But how do you differentiate between high, medium, and low performers when you're dealing with people who are supposedly, or very much at the same level, which skill is more important. And I think HR is still trying to [...] fathom that out and navigate their*

*way through that because they're used to [...] a hierarchical structure, which auto-
matically gives people a sense of, of reporting line and accountability." (Consultant
A, Similarly depicted by Scrum Master I)).*

However, this hierarchical change, which was guided and supported by HRM
came with its own challenges. Thus, separating job grades which have implica-
tions for compensation came up as a challenge of flatter structures (Consultant A).
Moreover, the lack of understanding of agility caused that the structures looked
agile, but the underlying performance management systems, hiring and firing prac-
tices, reporting rules, organizational design, and processes stayed the same (Coach
N). Consultant M elaborated that there was a strong hierarchical thinking in the
organization, which people did not want to move away from. Also, in the agile
transformation, the teams were decentralized, but HR and other functions still were
centralized. Thus, HR had a challenge matching their centralized role to decentral-
ized teams *("The way I see it [...] when we organize in agile teams, we make teams
self-organizing. They become responsible for their own work. And you [...] decen-
tralize a lot of things which were previously more centralized around the manager,
which means that [...] HR, especially in large corporates is also centralized still. So
[...] to make that match to the way your HR processes are the way you do reward
recognition, wellbeing, [...] mobility, [...] when it's still centralized it doesn't per
se match with the decentralization in the rest of your organization. [...]" (Scrum
Master I)).*

Some manifestations of these challenges were that legacy systems, legacy people,
and legacy structures emerged in the organization (Consultant A). Thus, the way
the organization was organized did not serve the purpose of the organization (Man-
ager L). Also, the leadership did not know how to manage empowered employees.
It was also challenging for HR hard to classify people into low-, medium-, and high
performers (Consultant A). Furthermore, the previous organizational design was
centralized around the managers and reward, and recognition, wellbeing, mobility,
(performance) reviews, learning and development, and workplace arrangements did
not match the decentralized team (Scrum Master I). Another challenge was that
newly hired employees' ideas and knowledge was watered down because they had to
fit into the existing environment rather than bringing new ideas (Coach N).

As solutions were mentioned that the organization moved away from function-
based hierarchies towards network structures and multidisciplinarity and cross-functionality.
Furthermore, the skill profiles developed to a t-shape (Consultant A). Also, lead-
ers were taught agile leadership behavior (Consultant A). Also HR aimed to focus
employees on enablement of themselves and continuous improvement of the organi-
zation (Coach N). Another solution approach was suggested which is to break the
HR silo itself to redesign it in an agile way (Coach N). A general rule of thumb

was mentioned which said that the organization was designed as flat as possible (Business Partner K). One interviewee mentioned that the organization's hierarchy levels were shrank from six to seven levels to just three with only one manager to report to (*"[...] Many companies trying to destroy the hierarchy level. [...] Let me go back maybe about 10 years ago, there were many hierarchies, staff, and senior staff, and deputy manager, manager, and senior manager about 6 to 7, hierarchy levels [...] until [...] business unit leader. So now the[...] shape of the organization has been changed in Korea and Japan and China. They call the organization team, but team leader can decide most of the [...] things, even if it's some investment or other critical decision making can be done by the team leader. So above team there is only business unit and above unit there's only CEO, so the hierarchy is shrinked or [...] became [...] simpler than before." (Manager C)).* This statements specifically points at the Ease-Asian environment.

Connected to that, another interviewee mentioned that the organization was designed as a network, which connections between the networks. Each network had a different competency (*"[...] We are more and more moving a networked organization [...], so you don't think in [...] hierarchy anymore. It's more like everybody has its own [...] competency [...] level, [...] and based on that, you [...] make sure that one network is connected to the other network. [...] And by connecting all these networks together in this network organization structure, you are able [...] to achieve your goals." (Business Partner K)).* Furthermore, it was mentioned that the organization changed to more dynamic, functional teams and a matrix organizational shape. Thus, employees were contributing to several teams at the same time (Manager D). In a consultancy organization which was not able to flatten the hierarchical structures, HR aimed to flatten the hierarchical mindset by opening up communication channels from both bottom to top and top to bottom and giving managers more responsibility for their personnel (Consultant M). However, effects of the flattened organization with regards to HRM were that it created more mobility for career paths. (Director F) Furthermore, once teams were established, those teams were given a leadership position (Manager D).

Definition of HR as a Department or Function Another challenge that arose with the agile transformation connected to organizational design was to whether define the HR unit as a department or a discipline. This was because the HR as a department is structured differently than HR as a discipline or function (Seven statements coded by Interviewees B, N, O).

To CEO B it was clear that HR should be organized around value. It was suggested that if HR was decided to be organized as a department, one must bring agility to HR. However, if HR was decided to be organized as a function/discipline, organize HR around agility (*"Are we talking about HR as a department [...] as a*

function, as a discipline? [. . .] When we talk about HR as a department, it's the same direction as we would do it at any other place. So, you take, whatever [agile] practice is the right one, and let's say you wanna do scrum or [. . .] follow that script [. . .]. Do your value stream analysis, [. . .] get your initial roadmaps, [. . .] do your black backlogs, have your PR planning off you go. But the story is likely different when we look at HR as a discipline, and that's really where agile comes to life in the HR space. What does HR do for an agile organization? How do we set up, talent management, [. . .] we prefer to call it talent enablement, performance acceleration, [. . .] talent scouting, your career pathing, all these HR disciplines? How do we set them up in the way that they align with our, your values and that they help the organization become or stay [. . .] stay agile?" (CEO B)) (Similarly by Scrum Master I).

According to CEO B, if HR defined themselves as a department, specific challenges arise. The first challenge mentioned was the challenge to embrace and commit to agility (CEO B). Another challenge was that the HR department is seen as a separate silo that support in various disciplines such as hiring. However, that does not directly improve the product (Coach N). Proposed solutions were that HR should undergo an individualized transformation itself. Also, if there was a shared service center, lean practices were focused on. However, if there were Centres of Excellence (CoE), agile practices were implemented. When HR business partners were involved, community practices were implemented. Generally, the aim was to increase the understanding of agility within the HR department (CEO B). Also breaking the silo of HR was focused on, HR must be more product centric and not only supportive of disciplines such as hiring (Coach N).

For facilitation and implementation of agility within HR, Coach O suggested that the HR department could put itself into the agile context by viewing a person as a product and the output as an employee. On the other side, if HR is seen as a discipline, other specific challenges were mentioned. Firstly, the organization had difficulties switching from department view to function or discipline focused view. Also, understanding what agility in general for their organization meant was a challenge. People within the organizations were looking at the HR department as a machine rather than an ecosystem (CEO B). Thus, the general challenge was that the industrial era is switching to an ecosystem era. That includes a shift from talent management to talent enablement, from performance management to performance acceleration. Implementing system thinking was mentioned as a solution for this challenge (CEO B).

Workplace Arrangements   Lastly, workplace arrangements were mentioned as a challenge (8 times) connected to the organizational design change happening in an agile transformation. This challenge was HR specific because people aligned this

challenge with HRM *("[...] Also and that is what I thought at [Retail Company], it also means, [...] and more organizations align this with HR [...] it also impacts your facilities the way you arrange your workspace, like your physical workspace. So for instance, with [Retail Company] we had [...] some teams working agile in IT, but they had to work [...] in this big office floor. [...] And they couldn't [...] connect as a team in a room with their [...] springboard on the wall and just really work together." (Scrum Master I); "So that's [...] a combination of HR, facilities, and IT, [...] around how do or we organize the workspace that people are in and how do we create the future workspace [...]." (Scrum Master I)).* The challenge specifically was that the physical workspace was not suitable for collaboration. Moreover, the booking system for office space had the result that not everything the team needed was available in the room. Also, some teams were working online, and some worked offline which was a challenge to create hybrid sessions. As a consequence of that, offline employees had a different energy than the ones who were online. Proposed solutions included the analysis of the workplace like a city square focusing on the movements and what employees intend to do and what they need and makes sense. Moreover, the assignment and creation of dedicated space for one team where everything needed is available was proposed as a solution. Further important was that employees had the right tools available, such as a digital board that can connect online and offline employees. Another solution for online and offline co-working were buddy programs where every online employee had one buddy offline (Scrum Master I).

4.2.5 Career Paths and Growth

The next domain interviewees were talking about were careers in context of organizational agility. The code for that was "career" and was counted 42 times by in total 13 experts. The codes of career were career paths (21 coded statements), career growth (12), mobility (5), promotion (3), and compensation (1).

Career Paths There was a broad consensus amongst the interviewees that the flattened hierarchical organizational structure created more mobility for career paths. It was frequently mentioned that HRM had a responsibility in guiding employees along their career. However, with the arrival of organizational agility and flatter hierarchies had implications and raised challenges for career paths (Interviewees A, C, D, F, G, J, K, M, O). Thus, one challenge was that employees were insecure and asking about their career paths. People were craving standardized career paths (Director F, Similarly by Manager D). A challenge connected to this was that with the organizational design change there were less leadership and management positions available. (Scrum Master I) Moreover, the employees did not want to make career decisions by themselves. They wanted HR to design their career ladder *("They almost want someone else to own their career. You know, they almost want somebody*

to say. Here's your ladder. Now you can climb it" (Director F)). Other interviewees mentioned that hierarchical careers and promotions were not desired anymore by the employees in the agile organization. That means that people aimed to change to a different job in another function rather than proceeding to the next higher level *("Every understanding about the company life or [...] career is destroyed. [...] When I interviewed someone from our employees. Do you want to promote next level? No, [...] I will go out. I'll quit. I will make my company. Or maybe [...] he would like to do another job, not next higher. [...] He would like to do next function not higher function, so the promotion, the hierarchy is not really an interesting point for people. [...] So I think hierarchy and promotion that is [...], not that meaningful compared to the past." (Manager C)).* Also, employees were overwhelmed by the agile transformation and felt without perspective in their careers. Thus, they became unmotivated. Thus, HRM felt an importance to keep standardized career paths (Manager D). On top of that, employees that learned about agility found limits to their role quickly and stuck in their career. They became frustrated and left the organization *("I can probably point to a dozen or more examples [...] of people in an organization who [...] started to learn some of the agile things. They really loved it. They [...] picked up on it quickly and [...] they very quickly found the limits of [...] their role. They [...] bumped into walls in their career and they [...] were frustrated. They struggled with this for some time and then finally left the company." (Coach O)).* Another challenge was that with the introduction of agile roles and mapping from traditional roles to agile roles, some employees were upset with their level after re-levelling their positions (Director F).

As solutions, the interviewees mentioned the following: HR promoted alternative ways of growth in the organization such as learning or rotating in the organization. It was mentioned that the flat hierarchical structure helped because people did not think that they necessarily had to become manager in order to climb hierarchical. Also, HR helped people to take ownership of their own career decisions (Director F). For an organization where hierarchical careers were desired, the organization kept some sort of hierarchical structure and implemented different titles for seniority for the same agile role to realise career paths (Consultant A). In order to have horizontal career paths, the organization allowed their employees to move between businesses in one organization (Business Partner K). In line with that, another interviewee answered that the organization did not only allow up and out culture, which means if an employee does not climb, he will be sorted out, but also accepted employees to stay in the same hierarchical level (Consultant M). Additionally, HR had dialogues with talented people that had a limited role to fit them into other roles and hold on to them. They offered rotation and training programmes (Manager J; similarly by Manager G). In general, several interviewees mentioned that HR increased the communication with employees about career development, growth, and exit plans. IT was mentioned that an IT platform could help with that (Consultant M; Sim-

ilarly depicted by Manager J). Also, HR monitored if candidates were suitable for a desired position (Consultant M). Other interviewees perceived standardized career paths still as relevant. (Manager D) Thus, the HR department designed career paths that managers can offer their employees (Coach O, Manager D). It was also mentioned that the role of HR regarding training, profiles, careers, hierarchies was to provide frameworks which were reviewed regularly together with the managers (Manager D). Manager G mentioned that there must be a switch from career paths to growth paths. Thus, HRM provided growth paths that include learning opportunities, career paths, connections to people outside the organization (Coach O, Consultant M).

The effects of the implemented measures were that employees felt more confident about their career decisions and saw increased career mobility as a chance (Director F). Moreover, even though careers paths could go in any direction and there were less leadership and management positions (Scrum Master I), career development was still possible in some hierarchical way (Consultant A). Connected to that, the organization could still promote people to a higher position, even though there was no concrete position, and the hierarchy was shrunken (Manager C; similarly depicted by Consultant A). Another effect was that with horizontal career pathing employees could find out in which business they were most talented *("[...] We can move people to have experience in different types of business environments. And then you can select the ones who have most talent in one business environment, more talent in another one." (Business Partner K))*. Also, when leaving the organization, employees had a grown salary and skill set for the next employer (Manager J).

Career Growth Connected to career paths, another challenge mentioned career growth and growth paths (Interviewees A, B, G, H, O). As a background it was mentioned that career paths were changing because hierarchical alignment disappeared or was blurry *("So, it's more a network structure [in the organization]. And of course, that is changing career paths slow because of course in the organization, the career paths are aligned with those hierarchical structures, but the lines are extremely blur and the hierarchical structures are disappearing." (CEO B))*. Thus, CEO B mentioned that there must be a redefinition of career from career paths to growth and experiences. It was also argued that jobs that would have existed in the past would no longer exist in the future because of constant change and uncertainty. This made it impossible to design career paths. Since agile people have the personality to grow in terms of learning and development, it was seen as inevitable to deal with the workforce' career paths, career growth, and learning (Coach O). However, it was mentioned the change from hierarchical career paths to growth paths and the ownership of this development by the employee was difficult to communicate to the managers. Manifestations of that challenge were that employees felt overwhelmed

about new career growth paths and that leadership was not convinced about new alternative growth programs (Manager G).

Solutions to tackle this challenge were to implement growth measurement in quarterly check-ins with Objectives and Key Results (OKRs). There, the growth profile would be discussed (CEO B). Another reported solution was to measure career growth according to a learning curve (Consultant A). Connected to that, another interviewee mentioned that they implemented a system where performance feedback was coupled to learning, developing, and growth desires of the employees (Consultant A). Furthermore, HRM changed hierarchical career paths to growth paths and gave the responsibility for them to the employees. Manager G mentioned that those growth paths can lead into any direction according to individual desire. Manager G elaborated that employees were given the opportunity to do rotation programmes, stretch assignments, international assignments, move to other functions. HR introduced those programmes. The effect was that employees could develop into the direction they desired. Thus, they had to take ownership of their own career growth development.

Career Mobility   One interviewee answered that the new organizational design shape created new ways of mobility within the organization ((Manager D, similarly depicted by Director F, Scrum Master I). Also, employees developed to T and M shaped professionals to function in a cross-functional teams. Thus, next career steps were unclear (Scrum Master I). In the agile environment, internal vacancies and job postings did not match the agile organization. One reason for that was because this approach was slow. The solution for that was to put hiring responsibility to the team and create transparency around the roles to make it more decentralized. Also, HR let people try out new roles, teams and projects and let them decide if they can develop into this direction. Thus, the approach was more decentralized, experimental, and iterative. Another solution mentioned was that HR helped people to develop in their old and new roles (Scrum Master I).

Moreover, since there were less leadership positions (Scrum Master I), established teams were given a leadership position, other teams were dissolved. Thus, more chances were created for career mobility, but also to get a leadership position in an established team (Manager D). One of the effects was that the employees saw increased career mobility as a chance (Director F). Lastly, there were more opportunities for employees to obtain leadership positions and be mobile within the organization (Manager D).

Compensation and Promotion   Compensation came up as an agile related challenge (depicted by Manager C, Consultant E, Scrum Master I)because it was more

problematic to separate jobs in terms of job grades and aligning the compensation to those grades (Consultant A). Connected to that, success became more of a team effort. Thus, reward, compensation, and promotion were challenged. In line with that, a similar challenge for promotion came up since there were not so many manager and leadership positions anymore (Scrum Master I). As we saw in the previous paragraphs, a solution to this challenge was that the organization was still able to promote people to a higher hypothetical position even though there was no concrete position for it (Manager C).

4.2.6 Cross-Functional Alignment and Change Management

The next domain interviewees were talking about was alignment in context of organizational agility. The code for that was "alignment" and was counted 40 times by ten experts. Sub-themes were change management (27 coded statements), cross-functional alignment (9), people culture alignment (2), and IT infrastructure alignment (2)

Change Management Change management was one of the focus areas of alignment and depicted as a challenge by several interviewees (Depicted 27 times by Interviewees C, F, G, K, L, S). There was a consensus amongst the interviewees that HRM's role in the transformation was to business partner the change and the transformation *(["[...] The big [...] added value of the HR function is that they basically next to being HR, they are also the transformation management. [...] This starts with [...] the burning platform. Why do we need to do this? [...] Very high focus on communication. [...] The main [...] stakeholders, [...] who need to achieve [...] this [...] transformation need to be [...] detected [...] and put in place. So we have overview of who are the players, where are they at? [...] Are they aware? Are they more than aware? [...] So [...] that type of [...] information comes from[...] HR. We [...] have [...] several tools [...] to build this. We have a complete [...] overview of [...] this stakeholder analysis. [...] And then [...] based on a certain model, you start the change [...]. [...] [HR] are business partnering in change." (Business Partner K))*. (Similarly depicted by Interviewees S, A, P) In contrast to that, Director F mentioned that HR business partners were asked to lead change management even thought it was not within their responsibility. However, Director F mentioned that organizations usually do not have a dedicated change management practices but if they do it would usually reside with HRM.

Also, HRM together with business leaders were responsible to design a change management plan for the transformation *(["[...] The transformation needs a clear agenda. [...] Which means that you need [...] this change management plan, [...] and this change management plan needs to [...] [be] designed by HR leaders [...] together with business leaders [...]." (Manager S))* (Also depicted by Interviewees

A, F, P)). Manager G agrees that HR is required to lead, guide and to be pioneer in the change (Manager G, Director F). Thus, getting people, processes, and technology (tools, methodology) aligned to each other was seen as a major challenge especially in large organizations. Furthermore, it was mentioned that getting the people bought in is the major challenge and that the best processes and technology would not support the transformation if first the people did not get participate and engage in the change (Director F; Similarly depicted by Manager L). Also different ideas and thoughts about the agile transformation and change vision led to chaos in the teams ("[...] For me it [...] always starts with [leadership] alignment. When there is no alignment there is no buy-in when there is no buy-in, there is no support. The leaders go totally different directions and they demand, the team to do things differently. And the team is confused. It leads to chaos." (Manager L)). Thus, the organization needed a clear agenda and executive alignment. However, challenging was also that some HR employees had difficulties to prepare themselves for the change and that employees and leadership were scared by the big change and the transformation. Thus, it was suggested that the transformation must start off by changing the mindset of HR and try out agile practices within the HR domain. After that, agile practices must be transmitted into the rest of the organization (Manager G). More dramatically, another interviewee responded that HR-Business Partners and the organization partly did not know that they are in an agile transformation and where it is leading to ("Also ich glaube, ganz wichtig ist erst einmal, dass alle dasselbe Verständnis haben. [...] Wir arbeiten teilweise schon agil, aber [...] wir wissen zum Teil gar nicht, dass wir uns in dieser Transformation befinden, und ich glaube wir wissen auch gar nicht wo wir hinwollen, um ehrlich zu sein. Und da muss einfach innerhalb von HR einfach ein einheitliches Verständnis bestehen [...]. Und da sind vor allem auch die HR Business Partner in erster Linie sehr relevant, weil die eben stark mit den Managern zusammenarbeiten." (Manager G); Translation: "I think it is very important that everyone has the same understanding. [...] We already work agilely in some cases, but [...] in some cases we don't even know that we are in this transformation, and I don't think we know where we want to go, to be honest. And there simply has to be a uniform understanding within HR [...]. And that's where the HR business partners are also very relevant in the first place, because they work very closely with the managers." (Manager G)).

Solutions to those challenges was the top-down alignment of culture and mindsets (Coach P; Director F). Moreover, HR analysed the needs and desires of the employees and defined trusted change champions that co-workers can learn from. Another solution was to create measures to see if change was adopted and alignment was achieved. In line with that, HR increased the long-term communication and support for the implemented change (Director F). Furthermore, HR was detecting internal and external stakeholders of the transformation together with agile coaches. In addition to that, HR coached line managers about the change and agility (Busi-

ness Partner K). In Organization L, HR played a major role in change management and the agile transformation, especially in the analysis of the current situation and the vision creation and sustaining the change. Manager L mentioned that transformations was executed in an progressive iterative way. The first point for change was to align all leaders to each other in their mindset and understanding of the change via training (Manager L). Similarly like we have seen before, Manager L further mentioned that HR tried to get a buy-in from important stakeholder groups such as employees and executive leadership. Furthermore, training and derivation of learnings about agile working model was mentioned as a solution for change management. What also helped was that the leadership team implemented agile methodology also for themselves, not only for the product teams (Manager S). Instead of starting with changing people's culture, HR advised to first clarify and educate why a transformation is needed and how to transform. Then, they started with the cultural and infrastructure change (Manager C). Manager C mentioned that in Organization C, HR ran an awareness program firstly which covered why and how to change because the people within the organization rarely understood why HR was introducing agility. Then, HR made an assessment which kind of talent they needed, and which skills were important. Additionally, an assessment of the current workforce was executed to create a talent strategy out of that. After that, redesign and redefinition of internal processes and policies followed. The mindset change was firstly taught to HR staff and agile ways of working were tested within the HR first in order to fit the role as a pioneer. Another measure was that HR increased the communication and transparency about the transformational change. In addition to that, HR communicated new corporate values and culture change on time (Manager G).

The effects were that lasting change could be achieved and employees could understand their role and individual benefits that came with the change (Director F).

Cross-Functional Alignment   This challenge came up in the context of organizational agility because interviewees mentioned that functions, and people's actions must be aligned with each other to follow the goal of the organization *("[. . .] One of the [. . .] toughest job, HR faces in agility is pulling these people up in an aligned way to think alike for the goal-oriented approach of the organization leader." (Consultant E))* (Similarly depicted by Consultant A, Consultant E, Scrum Master I, and Coach N). However, an interviewee responded that every function and department still operated as a silo (Consultant M). Also, poor cross-functional integration, and cross functional alignment together with people issues was mentioned as an issue. This poor alignment then decreased the speed of the organization because learning and development was not role based. Furthermore, employees were not working in an aligned way towards the goal orientation (Consultant E). Collaboration between different functions and departments did barely exist (Consultant M).

One solution was role-based training (Consultant E), but also developing employees to T and M shaped professionals to function in cross-functional teams (Consultant A, Scrum Master I). Others mentioned that this problem could be solved with organizational design (OD) interventions. Also, HR observed meetings and other measure to check for alignment (Consultant E). HR increased cross- functional collaboration through desk sharing, and rotation programs (Consultant M). Also, silos were broken by HR with cross-functional deployment of the employees. This increased the flexibility of their employees to work in cross-functional teams (Manager D).

4.2.7 Performance Management and Acceleration

The next domain interviewees were talking about was performance in context of organizational agility. The code for that was "performance" and was counted 29 times by ten interviewees. 24 coded statements came from performance management, whereas 4 statements came from performance acceleration.

Performance Management There was a consensus amongst the interviewees that HRM supported performance management with frameworks. *("I would say HR is responsible for the discipline of performance management, but the execution of performance management falls on the managers. [...] In other words, we give them the framework like are we gonna use numbers? Are we gonna use words? How are we gonna manage performance? How often are we going to talk about performance? How do we train our managers to be good at performance management and to really have good, good strong discussions around that" (Director F); Similarly depicted by 10 other interviewees).*

However, the interviewees mentioned that traditional performance management is challenged during the agile transformation (Interviewees B, A, C, D, F, G, E, I, N, S). One reason for that was because performance ratings that were attached to an individual's performance as well as performance incentives encouraged wrong behavior which was not team oriented. In addition to that, Coach N reported that the implemented OKR's were abused by HR for salary conversations and performance measurement, even though they were initially introduced to adjust objectives and key results on a regular basis. Coach N mentioned that there was no way to tie objectives to performance. Thus, using OKRs for performance management was challenging. Manifestations of the performance management challenge were that leaders were not driving performance and efficiency in the agile organization. Thus, people had competencies but did not deliver (Consultant E). The lack of understanding of agility caused that the structures looked agile, but the underlying performance management systems, amongst other things stayed the same (Coach N). However, OKRs were used for individual performance measurement, even though the reason

for some not fulfilled OKRs was a problem with the organizational system (Coach N). Also, performance reviews did not match the decentralized team structure (Scrum Master I). Manager C responded that performance reviews were just measuring the performance, but but did not consider the trait, drive, and capability of the employees. Also, as another manifestation of this challenge, an interviewee mentioned that there was so much change withing the organization within a short period, that performance goals could not be set up for a long term because they were not valid anymore (Manager G).

The interviewees mentioned several solutions for the challenges within performance management. It was suggested to remove annual reviews and switch to iterative, regular performance feedbacks, discussions, and conversations (Interviewees A, F, I). Moreover, Consultant A suggested to create a culture where open feedback was celebrated. This could be achieved with the implementation of inspirational mentors instead of authorities, increase psychological safety, focus on positive qualitative feedback, peer reviews, removing KPIs and other "creative ways" such as feedback challenges. *("So [...] some companies have done very creative things like [...] we had something here within [Organization A] called the feedback challenge, where you actually start creating, [...] a culture [...] of feedback [...] and it can be really good fun. And you take, you take the fear out of it because a lot of people feel [...] super nervous [...] when it comes to performance review time, we take away KPIs. You said we have a system here in [Organization A] which we, we are very proud of, um, called Lift. [...] It's become a bit a brand, [...] which is great. And we will say to people, [...] what is, what is your Lift, where would you like to grow? Where would you like to develop?" (Consultant A)* Moreover, Consultant A suggested to create the performance discussion around growth, prosperity, opportunity, and creativity instead of punishment and improvement and measures. Thus, it was argued that the performance discussion was crossing boundaries with culture (creating the environment of celebrated performance discussions), learning and development, and career management. Lastly, Consultant A mentioned that the performance discussion should focus on the positives and be forward thinking instead of looking into the past in order to bring value to the customer, the individual employee, and the organization quicker, faster, and more effectively. Similarly, Manager D mentioned that both quantitative and qualitative performance indices were used, but qualitative indices were given more weight. Manager D mentioned that quantitative metrics are relevant and not replaceable in the business context. Contrary, Manager G reported that HR implemented a framework that only considered qualitative indices. Also, in agile decentralized teams, managers were not as much involved in the team anymore as in centralized structures. Thus, performance reviews were changed to be execute on a team level (Scrum Master I). Manager S mentioned that HR implemented a framework that created OKRs on the team level first, then with teams which have interdependencies, then with product teams, and in the end all together with the leadership *("[...] Agile people are [...] sharing about*

[...] their targets. Their OKRs. We did a good open OKR definition together as a team, rather than [...] you will get one, you will get three, you will get too [...] punishing. [...] That's one of the good successes of [Organization S]. Every quarter. One week we have OKRs definition dates [...]. [...] [On the] second day [...] all teams who have [...] interdependencies, they discuss [with] each other. [On the] third day [the] product teams, [on the fourth day] altogether with [the] leadership team and the product owners. [...] [Then] anybody knows what [Interviewer 1] and [Manager S] are doing in this mission or in this [...] scrum [...] activity, which is creating a transparency [...]." (Manager S)). Also, to improve the performance, HR let the organization and the employee align about their existence and common way. With this alignment, quantitative performance management became a minor challenge (Manager C). Also, HR gave the responsibility about performance evaluation to the managers and one-sided performance evaluation changed to performance agreement between team members. Especially in the East-Asian context, performance management and control was in the hands of HRM. This, however changed by moving away from one-sided performance evaluations to performance agreements between peers (Manager C). The next solution that was mentioned was to measure performance according to group indices instead of individual performance. The idea behind that was to support and encourage team thinking (Manager D). Several interviewees reported that HR developed a framework and guideline for performance measurement (e.g., Manager D, Manager G). Others shared more details about the framework. Thus, they mentioned that the performance management framework put goals in place which are only valid for one year and every quartal or every month there is a check in to adjust goals (Manager G).

Performance Acceleration   CEO B argued that performance management was rooted in the industrial era. Thus, there was a need for redefinition of performance to a switch from performance management to performance acceleration. CEO B further argued that the traditional definition of performance did not apply anymore. Thus, there was a shift from measuring performance regarding successfully completed tasks to measuring performance according to successful collaboration, innovation, and ideation. CEO B further elaborated that the focus of performance management should be on evaluating the holistic performance structure, such as team dynamics.

4.2.8   Agile Knowledge

The next domain interviewees were talking about was knowledge. The code for that was "knowledge" which was counted 24 times by six interviewees. This theme contained the sub-themes knowledge of HRM staff (20 statements coded) about agile concepts and roles and knowledge of leaders about agility and leadership styles (4).

Knowledge of HR Staff   Within the agile transformation, the interviewees agreed that HRM had a lack of knowledge about agility and agile roles (depicted 20 times by interviewees A, K, N, P, R). Thus, HR was not able to support the teams in their agile transformation and support with recruitment of agile roles. In this context it was also mentioned that HR did not have clarify of the different agile roles. This manifested itself when the IT department wanted to hire an agile program manager, but the HR department interviewed for a project manager, which is a different role (Coach P).

Moreover, the lack of knowledge caused a resistance in advice given to HR and thus HR could not support the transformation correctly *("[...] HR needs to be thoroughly familiar with all of those implications [that come with agility] if they are going to be successful in supporting a transformation. And often I find with our clients is [...] the HR remains very traditionally run [...] set and stuck in their old ways. And doesn't necessarily understand [...] the deep [...] nuances and implications [...] of an agile transformation within their own organization. And they should be the first to be educated on that because they have to support it."* *(Consultant A))*. Also, HR was not able to transfer its knowledge about agility to the employees because they did not have knowledge themselves (Business Partner K). Thus, another interviewee mentioned that the understanding of agility was not the same across the organization like in HR (Manager R). In addition to that HR resisted the advice from external consultants about agility (Consultant A). Furthermore, the lack of understanding of agility caused that the structures looked agile, but the underlying performance management systems, hiring and firing practices, reporting rules, organizational design, and processes stayed the same *("HR [...] does not understand what agility is." (Coach N))*.

The first solution suggested was that the HR unit must be the first one to be educated about agility (Consultant A). Interviewees have also mentioned the usage of already existing internal agile trainers or coaches to train HR staff as well as external trainers or consultants. It was suggested to start with a one-to-three-day training for HR first and focus on the mindset and transformational aspects instead of deep dive training. Also, HR together with the management received a leading SAFe training which focused on the mindset and the transformation aspect (Coach P). Business Partner K reported that HR was the first one to be educated about agility. After that, HR together with agile coaches trained leaders about agility and the agile transformation and coaching business partners. The effect of that was that HR could support the agile transformation in a leading role and support recruiting and teams better (Consultant A; Coach P).

Knowledge of Leaders   The second challenge in this knowledge domain was that leaders lacked knowledge in agility and leadership (Interviewees K, E, R). Particularly, leaders did not have an understanding of the agile transformation. Thus, together with the lack of knowledge of HR itself, HR was not able to train the lead-

ers on agility topics. As a solution was mentioned that HR was trained on agile topic firstly and the HR together with agile coaches trained leaders about agility and the agile transformation (Business Partner K).

4.2.9 Employee Satisfaction, Happiness, and Motivation

The next domain where data richness was found was employee satisfaction, which contains 13 statements about employee happiness and motivation by six interviewees (Interviewees A, D, H, I, O, P). The interviewees reported that employee happiness was particularly a challenge to HR management for several reasons. One of the reasons was because after transitioning from a traditional to an agile role, the sudden excitement about the new role was gone. This unhappiness then resulted in people leaving the organization because of the transition to a new role and the transformation in general (Coach P). Furthermore, old leadership styles such as micromanagement or executing responsibilities of other roles led to unhappiness amongst the employees (Coach). Another reason for unhappiness was that the decentralized organizational and team design did not match the centralized HR-department structure. Thus, employee well being (amongst other things) did not align to the decentralized structure of the rest of the organization (Scrum Master I). Coach O reported that unhappiness of employee was connected to the career prospects. Employees that learned about agility found limits to their role quickly and stuck in their career. They became frustrated and left the organization Coach O. Connected to this employee unhappiness is also another statement which shows that agility can be overwhelming for employees which can lead to perceived lack of perspectives with regards to career prospects.

A solution for unhappiness amongst the employees was HR conducting feedback talks in standout calls and individual support such as additional coaching (Coach P). Furthermore, Recruiter H suggested to develop individual relationships with their employees by walking around and conducting exit surveys. A solution for career prospects being the driver for employee unhappiness were learning and development opportunities and standardized career paths (*"So if you've hired a person who is a real learner, a lifelong learner, loves [. . .] to tackle new things and you put them [. . .] into a job where they only [. . .] do one thing for the next 30 years. That person is going to just wither and die [. . .] in that role, you need to have a career path for them. You need to have the learning and development. You need to be able to provide [. . .] the courses and the conferences and the opportunities to connect [. . .] within and outside the company as well. So that is a challenge for HR departments." (Coach O, similarly depicted by Manager D)*). Furthermore, conversations around value for the individual employee, the organization, and the customer increase employee happiness (Consultant A).

4.2.10   IT Infrastructure

The last main theme that was mentioned was the IT environment (Code: itEnvironment). There were in total eleven statements. Especially the interviewees H, L, M, and S reported this challenge. During the agile transformation, the IT landscape was completely substituted by new platforms. Thus, HR becoming acquainted and using those IT systems was challenging Moreover, the traditional HR-IT systems required HR to spend their most time with entering information rather than interacting with people. Thus, HR-IT systems are not proactive, not triggering action. It was further not interactive enough. HR felt that IT systems needed to support learning, development, and communication better (Consultant M).

HR desired Learning and Development IT to be a career guide and career planner for employees, which shows the skills needed to advance to desired career step and then suggesting corresponding learning and development steps. In line with that, HR desired IT system for project feedback for employees *("Genau, das ist ne digitale Lernplattform [...] ich würde fast sagen, Karrierebegleiter. Das bedeutet, der Mitarbeiter kann sehen [...] ich bin Associate ich möchte Consultant werden. Ich sehe, was brauche ich für Fähigkeiten im Consulting. Sie werden sehen, welche Schulungen werden in diesem Level angeboten, [...] dass man Entwicklungspfade anschauen kann, dass man zurückschauen kann. Dass man auch nach einem abgeschlossenen Projekt ein Feedback bekommen kann. Dass man sehen kann in welchem Bereich war ich gut, in welchem Bereich kann ich besser werden. Dieses ganze immer kontinuierliche Feedback zu haben." (Consultant M); Translation: "Exactly, this is a digital learning platform [...] I would almost say a career companion. That means the employee can see [...] I'm an associate I want to be a consultant. I can see what skills do I need in consulting. They will see what training is offered at that level, [...] that you can look at development paths, that you can look back. That you can get feedback even after a project is completed. That you can see in which area I was good, in which area I can become better. To have all this continuous feedback. [...]." (Consultant M)).* Also, the overall people's culture was not aligned to the infrastructure, technology, and processes (Manager L). Several interviewees mentioned that HR implemented and substituted new platforms. Most of those platforms were digital platforms for learning and development (Consultant M; Manager S). Operational HR was managing some IT systems for performance measurement, talent management, compensation structure, payroll structure, data security, data storage, learning structure which was considered as important (Manager S).

5 Discussion

After the empirical results have been described, the forthcoming discussion chapter is devoted to the importance of the empirical results and verifies them with the literature findings. This chapter is particularly important to answer the research question of what implications organizational agility has for human resource management, as well as to evaluate how this study's goal of shedding more light on the major research gap (exploration of the intersection of organizational agility and HRM) was achieved. This chapter will firstly list the key findings. Then, the qualitative observations will be further reviewed to understand the role human resource management plays in agile organizations and transformations. In doing so, we will contrast the results of this study with the findings of the literature and scientific foundations in order to be able to frame and evaluate the results. In doing so, we will determine whether the results of this study are completely, partially, or inconsistent with the findings of previous research, or whether the results of this study can add to the body of knowledge. Thereafter, the research is answered, practical implications are discussed, recommendations for future research are made, and the limitations of this study are discussed.

5.1 Key Findings: Linking Observed Findings to literature findings

Now, we discuss the results in context of the literature. As described in background chapters, previous scholarly findings have identified a number of overlaps between organizational agility and human resource management. Detached from these findings, this study exploratively examined the implications of agile transformations and organizational agility. Figure 15 shows a rough comparison between the empirical results and literature findings. However, the proportions of this Figure does not represent the actual distribution of literature versus empirical findings, they are just a rough qualitative indication. In the following, the empirical results of this study are discussed and put in context the literature findings. Thus, this part of the discussion will partly answer the main research research question.

Figure 15: Comparison of empirical findings with literature findings
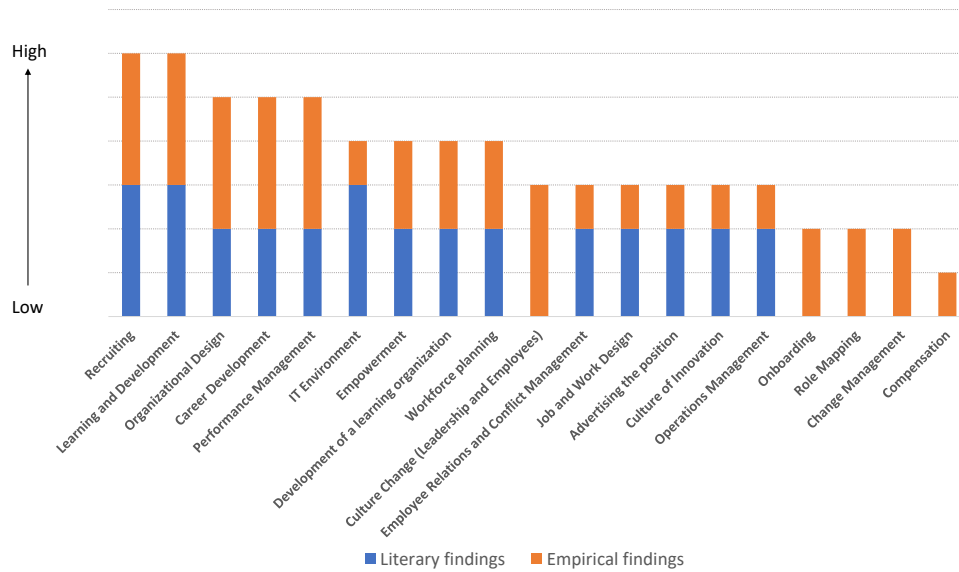
Recruiting/Hiring/Selection   Consistent with the literary results, it can be assumed with a relatively high degree of certainty that agile transformation holds the greatest implications for the HRM activity of recruiting. Overall, 19.63% of all coded statements are dedicated to either recruiting external candidates (11.78%), internal recruiting (internal recruiting for agile roles and mapping/transitioning from traditional roles to agile roles during agile transformation; 4.56%), or choosing between internal or external candidates to fill a role (2.30%). Notably, however, literature found no findings on internal recruiting or the choice between internal and external candidates in the context of organizational agility.

The findings of this study indicate that with the pursuit of organizational agility came new roles that could be filled with either internal employees or external candidates. With this in mind, it became apparent that HRM was facing a challenge to simplify and support the recruiting process. The data indicates that this phenomenon can lead to a two-tier society of agile and corporate-minded employees. However, this combination can unleash synergies as the two groups learn from each other. When identifying candidates for external recruiting, the data has primarily shown that identifying relevant skills and agile mindsets is a priority. Furthermore, it has been shown that flexible, and quickly available talent pools are of crucial importance in agile organizations. Complementing this, Qin and Nembhard 2015 finds that workforce agility can be achieved by precisely this manipulation of selecting, promoting, dismissing, and retaining employees. For relevant skills and profiles, the empirical results imply that certain skills and mindsets are needed to support agile transformation. The relevant profile type is "T-shaped" (Consistent with Ranasinghe and Sangarandeniya 2021). Consistent with the findings of this study, Zavyalova, Sokolov, and Lisovskaya 2020 thinks that soft-skills are relevant.

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Specific soft-skills that were listed in this study are aptitude, trade, drive, and risk taking. In addition, Ranasinghe and Sangarandeniya 2021 believes that attention would be paid to the cultural fit of a candidate. However, this is not evident from the data in this study. Likewise, the data from this study show that diversity and openness play an important role in the recruitment process. It has been shown that job descriptions would also need to be adapted to attract these diverse candidates. The openness to diversity, soft skills, and change in job descriptions can be interpreted primarily as a large, flexible candidate pool being relevant in agile organizations, as well as candidates requiring a high degree of in-house training as deep, technical knowledge takes a back seat in recruitment.

The data on the dimension "internal recruiting/role mapping," which describes the process of filling existing employees from traditional roles to agile roles, indicates that there is no single, standardized approach to this challenge. However, one approach mentioned and supported also by Högfeldt and Lindwall 2018 was to assess and analyse the skills and abilities of the current workforce and map them to agile roles. In addition, the data further suggests that this transition can lead to conflict and dissatisfaction in the workforce, which has the effect that motivated employees stay and others leave the organization. The data also indicated that the agile transformation would have fewer leadership roles due to the organizational structural change, so a re-levelling of position would have to take place. From the empirical results, it can be concluded that HRM is primarily responsible for assessing the existing profiles, analyzing the new role descriptions, and monitoring compliance with the role descriptions (supported by Högfeldt and Lindwall 2018). It can be concluded that internal role mapping in a global roll-out of agile transformation is one of the most challenging HRM tasks, as there is no a standard solution, as well as there is a high chance of making mistakes.

Culture Change of Leadership Styles and Behavior and Employees Culture change (18%) in Leadership Styles and Behavior (8.06%) and Employees (5.37%) was one of the most frequently coded themes. This makes it all the more surprising that culture change in leadership does not appear at all in the literature on HRM and organizational agility. Organizational culture change is only touched upon.

The data from this study show that HRM is primarily responsible for culture change within the organization. The data indicates that HRM supports culture change in leadership as well as among employees and between hierarchical levels. This finding is also supported by Högfeldt and Lindwall 2018 that argue that culture change and culture redefinition serves the goal to create trust. Moreover, consistent with what our data indicates, Högfeldt and Lindwall 2018 find that one part of HRM within the agile transformation is to implement necessary rules (in our data: guidelines, policies, frameworks, governance) to enhance desired behavior

of the workforce. However, Högfeldt and Lindwall 2018 argues that HRM should identify and eliminate governing control mechanism. The results showed that agile transformations have introduced servant or adaptive leadership styles in order to empower the employees. Amongst other sources, D. W. Parker, Holesgrove, and Pathak 2015 confirms this. However, it has been shown that primarily the disengagement from traditional leadership styles, as well as the disengagement from micromanagement, has accompanied the culture change. Furthermore, skepticism and fear of the transformation has spread among both managers and employees, leading to discouragement. Agreeing to our findings, Brosseau et al. 2019a also finds that commitment to the transformation is crucial. It can be said that HRM can play a major role in culture change by supporting this change top-down and providing managers with necessary resources, such as agile trainers. In consistency with those findings, Högfeldt and Lindwall 2018 find that HRM should be a leading example through increased presence and visibility in the organization and is responsible for the training of leaders, particularly with their soft values including leadership-styles, group dynamics, and feedback. However, our data also indicates that HRM is partly slow and lagging behind the organizational development into agility which decreases their ability to support.

By implication, it can be assumed that culture change -led and supported by HRM- is probably most successful top down. The data also suggest that leadership change is very closely linked to employee change. That is, the two culture shifts are arguably mutually reinforcing. Implicit in the data set is also that culture change is a direct consequence of agile transformation, which has an impact on all other dimensions of the agile transformation. Consistent with this finding, Brosseau et al. 2019a argue that identifying required changes in culture and mind-sets is the backbone of an agile transformation. Culture change is, so to speak, the overarching dimension of all other dimensions. The data indicates that agile transformations result in or presuppose a culture change, which in turn has implications for all other areas (e.g., recruiting, organizational design, performance management, cross-functional alignment, collaboration, communication, etc.). The literature minimally supports the statements just made by talking about "shared values" being important factors for organizational agility (Shafer 1997), or that culture is fundamentally a dimension of agility (Harraf et al. 2015). A more striking from literature related to organizational culture is that agility empowers working groups and individuals also with leadership styles. (Shafer 1997, S. K. Parker and D. 1998, Eilers, Simmert, and Peters 2020). Data from this study backs this literal finding. Generally speaking, the data indicates that HR should support the empowerment of the workforce (also found by Högfeldt and Lindwall 2018).

Learning, Training, and Development   Learning, training, and development was also a dominant dimension of the empirical data set with a relative share of

15%. Talent development (4.31%), and onboarding (3.72%) had large shares. From the data, it is clear that HRM is responsible for the development of the workforce and acts in a supportive manner so that employees can take advantage of growth opportunities. The data set also shows that in agile organizations employees would need to take responsibility and ownership over their own learning goals (statement supported by Ranasinghe and Sangarandeniya 2021). Furthermore, the data implies that the Learning and Development infrastructure would need to be adapted to the decentralized organizational design. This could be done by moving to an iterative, decentralized learning approach that takes into account micro-learning and on-the-job learning. This approach also results from Zavyalova, Sokolov, and Lisovskaya 2020's study. The empirical findings also suggest that learning goals should be customized to individual desires, and that learning should be fundamentally linked to growth opportunities, performance, and career paths. In addition, the findings suggest that learning, training, and development is becoming more agile, decentralized, individualized, and integrated overall through organizational agility and agile transformations. The study by A. Miles 2013 supports this by finding that HRM is not seen as a useful partner for learning and development new skills. Thus, employees prefer to acquire new skills with the help or in collaboration with their colleagues. This finding is supported by our data that suggests that learning, training, and development is not treated separately, but is also carried out while working. Regarding the desired profile shape, the data of this study is consistent with that of the literature, as both indicate that employees should evolve into a so-called T-shaped profile (Ranasinghe and Sangarandeniya 2021). More generally, Högfeldt and Lindwall 2018 simply mentions that HRM has the role to facilitate the creation and utilisation of education packages and facilitation of knowledge-sharing events. In addition to that, they mention that HRM is responsible for knowledge management to enhance commitment.

As mentioned earlier, onboarding makes up a major part of the Learning and Development dimension. Surprisingly, there is no evidence in the existing literature that onboarding is influenced by agile transformations or organizational agility. The empirical data in this study indicates that any key agile concepts, such as agile culture, or leadership would need to be integrated into onboarding to counteract bad practices and standards that have infiltrated employees from previous organizations. Overall, the literature is also consistent with the empirical findings regarding the purpose and role of HRM in learning and development. Thus, one can interpret the data to suggest that the goal is a continuously and iteratively growing learning culture in the form of a Learning Organization (consistent with Harraf et al. 2015). Conclusively, it can be said that the findings of this study are broadly consistent with those from previous studies that also describe implications of agile organizations and learning and development (e.g., Qin and Nembhard 2015; Teimouri et al. 2017).

Organizational Design/Structural fluidity   Organizational design was with 13% also one of the domains with rich data. Above all, the transformational approach of HRM (5.58%), as well as organizational structure change (4.34%; especially hierarchy change) were the main topics in this dimension.

Above all, the data consistently showed that HRM was primarily responsible for culture and work style change tasks during agile transformation. Other HRM responsibilities were also support for transformational change management and compliance, which is also indicated by Högfeldt and Lindwall 2018. Furthermore, the data supports the statement that HRM could play an important role in agile transformations together with leadership, but the knowledge and capacity for this is too low.

From the literature, the rule of thumb is that a flat, focused, decentralized, process-oriented, re-configurable, evolving, and team-based organizational structure fundamentally enhances agility (e.g., Shafer 1997). Even though this finding is supported by the data in this study, several things can be discussed beyond that: Basically, the data show agreement that HRM reviews organizational shape, reporting lines, and hierarchies for meaningfulness and functionality, as organizational design is one of the main tasks of HRM. Accordingly, HRM focuses organizational design on network structures with multidisciplinarity and cross-functionality. Literature, reviewed by Muduli 2013 argues that this is to achieve workforce agility. A minor finding from the empirical data set is that HR would also have to redefine itself, as the decentralized nature of agile organizational structures breaks the HR silo itself. Thus, a decision would have to be made to define HRM as a function/department or as a discipline. Högfeldt and Lindwall 2018 also finds that part of the HR profession is to support organizational development, and organizational structures.

Career Paths and Growth   As we noted in Chapter Two, HRM is responsible for guiding and supporting the employee along his or her employee life cycle. The data seem to confirm this. However, the data also show that changes in organizational design also result in changes in career paths, as hierarchies tend to be flatter and fewer leadership positions are available. In line with the study by Butzhammer 2020 and Zavyalova, Sokolov, and Lisovskaya 2020, it has been shown that career paths in particular have higher mobility in all hierarchical directions. Further, both the data and Butzhammer 2020 show that employees would now have increased responsibility for their careers in agile organizations, resulting in increased freedom and alternative career goals. This gained freedom can be both a curse and a blessing, as there can be uncertainty among employees, but the freedom can also be used to develop in the desired direction. Furthermore, the data showed a mixed picture regarding the acceptance of growth paths rather than career paths among employees and managers. Furthermore, the data showed that career paths should not be

treated separately, but should be linked to performance evaluations, learning and development, and growth opportunities in agile organizations.

Cross-functional Alignment and Change Management   A medium level of data richness was found in the dimension alignment (8%), which included alignment between functions, people, or IT infrastructure (2.67%) and change management (5.58%). There is no evidence in the literature that change management is a task of HRM. The empirical data is also inconclusive as to whether it is a task of HRM or not, there is evidence for and against. What has been recognized, however, is that agile transformation is a state change that requires buy-in from leadership/management and employees, as well as alignment of people, processes, and technology (also similarly depicted by Shafer 1997). HRM is partly asked to support this transformational change as a business partner. The empirical data also indicate that it is not only the transformation process that is challenging, but also retaining this transformational change in the organization in the long term. Consistent with this, Högfeldt and Lindwall 2018 find that one part of the HR profession is to support change management.

Performance Management/Reviews   Another dimension that emerges from the empirical data is performance management and reviews. Overall, this dimension has a share that seems relatively small (6%) compared to other dimensions. However, literature findings should not be neglected, which have addressed this topic area to a greater extent and have found a relationship between performance evaluations and organizational agility, consistent with the results of this study (Teimouri et al. 2017). The findings of this study imply that HRM is responsible for developing and providing a framework for performance management. However, the responsibility for conducting performance reviews is decentralized to the teams. Further, the data implies that performance in the agile environment is seen more as a team effort than as an individual effort. Further, the data indicated that due to uncertainty in the agile environment, traditional long-term performance goals were not appropriate. Because of these characteristics, traditional performance management systems reinforced incorrect employee behaviors. Implications for HRM that come from the empirical data are that annual or long-term performance reviews need to be eliminated, and more iterative and regular performance reviews need to take place to accommodate the agile environment. This iterative approach again suggests that performance management or reviews would need to be integrated into the decentralized, iterative agile rhythm. Further, the data indicates that agile organizations place more emphasis on qualitative metrics, which in turn should be forward-looking, positive, and performance-accelerating. Similarly, Shafer 1997 argues that general performance metrics positively influence organizational agility. Thus, overall, a healthy, positive performance culture could be created in the agile environment (Concurring with Huzooree and Ramdoo 2015). The data also show

that performance evaluation would be replaced by performance agreement between employees, and that an employee's performance would need to be aligned with learning and development goals. Consistent with the data in this study, Ranasinghe and Sangarandeniya 2021 finds that performance management in agile organizations is role-based and allows peer reviewing at the same hierarchical level. Therefore, it can be said that also in this dimension the literature is mostly consistent with the empirical results.

IT Infrastructure The IT infrastructure/environment category is only 2% represented in our data set. However, it has been covered much more frequently in the literature. The data from this study indicate both that HR is supported by IT and that HR supports organizational agility through IT, such as tools for learning and development. literature findings support these statements, but go into even more detail, claiming that electronic HR enhances organizational agility (Hamidianpour, Esmaeilpour, and Firoozi 2016, Bahadorifard 2021, Boudlaie et al. 2021). Furthermore, the IT infrastructure would need to be, among other things, highly integrated and flexible, and have an open system architecture and client-server technology (Shafer 1997).

5.2 Conceptual Framework that Depicts Relationship between Organizational Agility and Human Resource Management

As mentioned in the previous key findings sub-chapter, a conceptual framework was developed which presents the interrelationship between the different HRM challenges and domains that come with agile transformations and organizational agility. Previous literature so far has failed to provide such as representation of the relationships between organisational agility/agile transformations and Human Resource Management. However, the Figure displayed is a dimensionality-reduced representation. Nodes were kept if they appeared more than four times, whereas edges where kept if they appeared more than two times. "Lose-ends" were cut (Which means a node not connected to an edge or vice versa). The extensive conceptual framework with thresholds ¿= 1 for both nodes and edges can be found in Appendix C.

Figure 16: Conceptual Framework: Relationship between Organizational Agility/Agile Transformations and HRM-Challenges
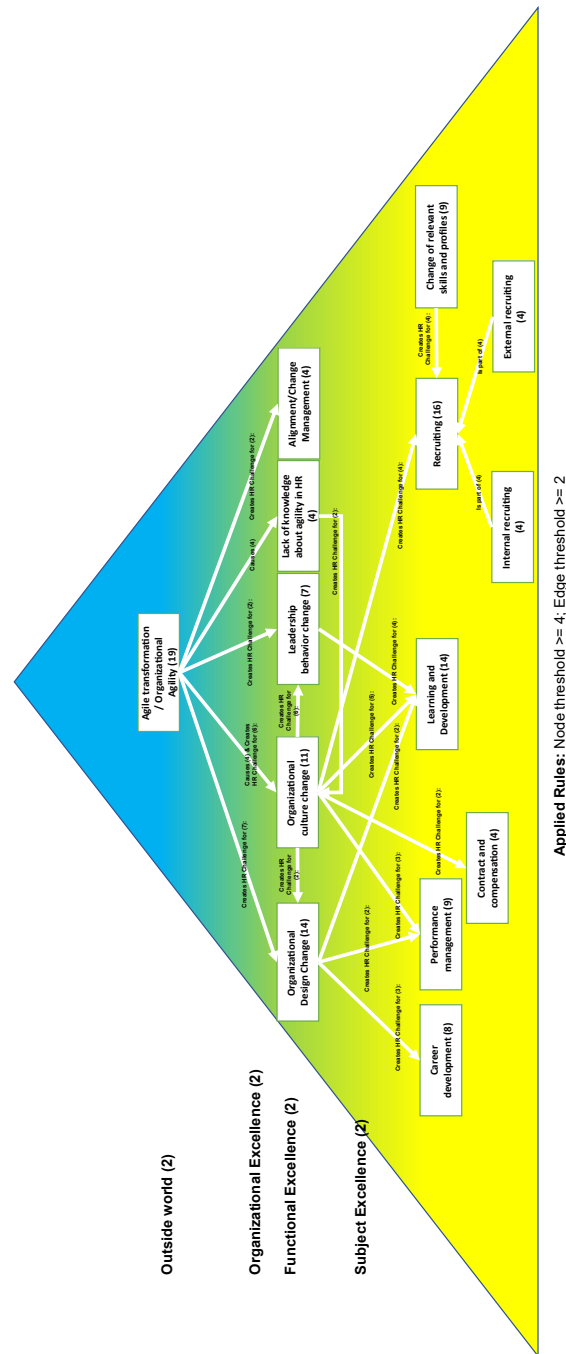
Figure 16 shows a conceptual framework that shows the relationship between the agile Transformation/Organizational Agility and the domains of Human Resource Management (HRM). It is important to note that this framework was developed as described in Chapter 3 (Methodology). This procedure is interpretive and therefore not intended for the results, but for the discussion. Furthermore, Figure 13 can be understood as a conceptual framework that shows the connections between the HRM domains. This representation is based on interpretations.

What is striking first is that the conceptual framework is framed by a pyramid. The color gradient represents the transition from the outside world (blue) to the organizational level (green), to the functional level (green-yellow) to the subject level (yellow). It can be seen that the variable (Agile transformation/Organizational Agility) creates challenges for organizational design change, organizational culture change, leadership behavior change, and change management. Furthermore, the transformation causes a lack of knowledge about agility in HR and the culture change. The cultural change in turn creates HRM challenges for organizational design change and leadership behavior change. Organizational design change and organizational culture change bring further challenges for the subjects of performance management, contract and compensation, and learning and development. The organizational design change still creates challenges for career development. Recruiting challenges also result from the organizational culture change. Leadership behavior change creates challenges for learning and development, while the lack of knowledge about agility in HR creates challenges for culture change. The change in the relevant skills and profiles of the candidates causes HR challenges in recruiting.

5.3   Answering the Research Question

The research questions which implications organizational agility has for Human Resource Management is answered in the following three parts. The first part describes the findings regarding the interrelationship between organizational agility and agile transformations and Human Resource Management. The second part answers which role HRM is playing in an agile organization, which challenges arise and which solutions were given for those challenges.

The relationship between organizational agility/agile transformations and Human Resource Management

The relationship between the HR domains has already been shown in Figure 13 and Figure 14 and in more detail in the network graph presented in Appendix D. In addition, the conceptual framework, which was presented in the previous subchapter, also explains the connections of the individual HRM domains. What is particularly striking from the result chapter is that the lack of knowledge of HR managers about agile concepts has a significant impact on the culture change of the workforce, the organizational design change, i.e. also on recruiting. However, as the empirical data has shown, these domains in particular are crucial for organizational agility. It is also noticeable that the cultural change of the employees is closely linked to the cultural change of the leadership styles and behaviors. The data indicates that the cultural change of the employees goes hand in hand with that of the management level. It is also particularly noticeable that organizational design, cultural change,

and recruiting are closely interlinked with each other and all other domains. This can be interpreted in such a way that these three domains are the ones that are directly impacted or required for an agile transformation. Something similar can be inferred from the conceptual framework. Above all, organizational design change, organizational culture change, leadership behavior change, and alignment are the domains that seem to be directly challenged by agile transformation. Performance management, learning and development, career development, and recruiting are domains that seems to be indirectly challenged by the above. The interpretation is similar to that just mentioned. Culture change seems to be the overarching challenge for HRM in the agile transformation which then has implications for the other sub-domains/challenges.

HRM challenges arising with organizational agility

The empirical data indicates that HRM challenges in the context of agile transformations occur primarily in external and internal recruiting, employee and leadership culture change, learning, training and development, especially onboarding and implementing a learning culture, organizational design, change management, alignment, employee career management, performance management, alignment, agile knowledge, employee satisfaction, and IT infrastructure. Literature has also identified that HRM plays a role in those dimensions. In recruiting, the main agility related HRM challenges are that HR staff do not know whether to use internal or external candidates in agile positions, what profiles and skills to look for, how to identify candidates, and what job descriptions should look like. In internal recruiting, the challenges are which traditional roles correspond to which agile roles and how to sustainably manage the transition from traditional to agile roles. When it comes to culture change, the empirical data primarily shows the challenges of employees and leaders being skeptical of agile transformation, fearful, reluctant, and despondent, agile leadership styles not being observed, employees not seeing the value of agile transformation, and culture not being aligned with infrastructure, technology, and processes. The challenges in learning, training, and development are that learning tools are not flexibly available, employees are not responsible for their own learning, and the learning and development structure was not adapted to the decentralized organizational structure. In addition, onboarding is challenging because employees from previous organizations have inherited poor and non-agile standards and ways of working. Furthermore, implementing an agile learning culture was challenging as well as developing employees into a desired skill profile. Looking at the organizational design, the empirical data shows that especially the transformation approach is challenging due to the lack of know-how of the HR managers, the lack of employees, and the lack of time. Related to this, hierarchical change is also challenging due to strong hierarchical thinking, lack of leadership knowledge about empowered employees, lack of HR expertise, and the mix of centralized and decentralized parts in the organization. Career paths are an HR challenge because fewer leadership

positions are available, employees are overwhelmed and insecure, employees prefer standardized career paths, and are stuck in their roles without perspective. In addition, the fading and reduction of hierarchy levels makes career paths challenging. Change management is the next challenge that emerges from the empirical data, as processes, and technologies are not aligned, employees are not aligned with leaders, different ideas of agile transformation exist, and fear due to agile transformation is prevalent. It is also challenging because departments or functions operate as silos. Performance management is challenging for HR because traditional performance indicators support wrong employee behavior, OKRs are abused, performance management systems are based on individual rather than team-oriented performance measurements, and long performance targets are not suitable for the agile structure. It is also challenging for HRM to maintain employee satisfaction during the transformation

Solution approaches for HRM related challenges

In order for HRM personnel to know whether to recruit external candidates or choose internal employees for agile roles, HR was trained about agile concepts and the corresponding roles, policies were introduced which candidates to prioritize, mixed approaches between hiring and transferring existing employees were followed, and corporate-minded people were put into teams with agile-minded people to learn from each other. Moreover, to find out which skills and profiles to recruit, HR conducted assessment of available and required skills of their workforce, recruiting and headhunting strategies were created and prioritization was defined. Also, in-house agility training and focus on soft skills, aptitude, trade, and drive of candidates was put. In addition to that, HR increased its openness for diverse candidates. In order to identify candidates, head-hunters were hired that gave coaching to HR how to identify candidates, talent connectors were hired, college events, hackathons, open office days, and candidate pools for active sourcing were implemented. Focus was put on potential rather than skills. Job descriptions were designed to be more inclusive. In order to transfer the workforce from traditional roles to agile roles, the mapping was conducted according to value streams. Also people were educated about tasks and responsibilities of agile roles, and agile concepts. Moreover, HR analyzed willingness to change role with consideration of individual preferences. Culture change was solved by linking leaders to agile coaches, observing leadership behavior, driving culture change top-down, and changing leadership programs to include mindset and culture. Moreover, HR created awareness programs, attitudinal change programs, communication architectures, developed change agents, observed meetings for culture change and engaged with leaders first to change the culture. Learning, Training, and Development challenges were solved with the implementation of learning platforms with internal and external sources, defining learning goals with mentors considering individual learning desires, connecting learning with growth, performance, and career paths, changing learning to an iterative approach,

introducing communities of practice, learning groups, on-the-job learning, rotation programs or (stretch-) assignments, and micro-learning. Furthermore, HR included relevant agile components, and agile leadership training into onboarding training, implemented learning champions and an onboarding tool which was reviewed and adjusted on a monthly basis. Moreover, learning from internal and external coaches was made possible. To develop the skills of the workforce, HR defined learning champions, analyzed learning needs and tailored cross-functional learning programs. Regarding the agile transformation approach, HR created a transformation plan, conducted workshops, checked reporting lines and hierarchies, executed awareness programs, and orchestrated the transformation by rolling out agility in one part of the organization to spread it from there. Regarding organizational design, HR supported the change from function-based hierarchies towards network structures and multidisciplinary and cross-functional teams. HR taught agile leadership behavior, broke its own HR silo, designed the organization as flat as possible, and opened communication channels from bottom-up to top-down and vice versa. Looking at the career related HR challenges, HR promoted alternative ways of growth in the organization, transferred ownership of the career from HR to the workforce, implemented titles for different seniority levels, allowed movements between businesses in one organization, removed up-or-out culture, implemented rotation programs, provided standardized career paths, provided and reviewed its career frameworks and lastly switched the wording from career paths to growth paths. Moreover, growth paths were coupled to performance management, learning, development, and career paths. Solutions for change management were to start the transformation by improving the mindset and knowledge about agility within HR. Moreover, trusted change champions were defined, the culture and mindsets were aligned top-down, a change vision which detected internal and external stakeholders of the transformation was created, iterative transformation plans were developed, awareness programs implemented, corporate values communicated, and the workforce was assessed and a strategy created. In order to solve cross-functional alignment challenges, role based trainings were conducted in order for the workforce to function in cross-functional teams, desk sharing programs were implemented, and the workforce was deployed cross-functional. Regarding performance management, HR eliminated annual reviews and put regular and iterative performance feedbacks in place. Moreover, HR switched to performance agreement instead of evaluation, and switched from performance management to performance acceleration. Moreover, mentoring instead of controlling was suggested, and evaluating according to qualitative instead of quantitative indices. Also, alignment of employee purpose and organizational purpose could be found in the empirical data. In order to solve the massive lack of knowledge of HR about agility, external and internal trainers were used to educate HR. In order to maintain employee satisfaction, HR held feedback talks and provided individual support during the transformation, and also provided lifelong learning opportunities.

5.4 Propositions

In addition to the main results of this study, there were also smaller results which were partly not directly related to HRM. Additionally, the empirical data also indicated tendencies as to how agile transformations could be more or less successful. Since these results could also be relevant, they will be presented in the form of propositions. These smaller results are now listed as propositions. These results should be inspiring, as they are not main results, but interesting side results.

- *Proposition 1:* An agile transformation tends to be more challenging in East-Asian countries (compared to countries in the western hemisphere) due to a higher and stricter degree of organizational hierarchy.

- *Proposition 2:* An agile transformation tends to be more successful if HRM starts the transformation by spreading awareness and explaining the meaning of the transformation.

- *Proposition 3:* An agile transformation tends to be less successful if HRM starts the transformation by changing the culture.

- *Proposition 4:* An agile transformation tends to be more successful if the HRM unit has a high knowledge about agility themselves since they would be able to support crucial activities such as recruiting, organizational design, leadership styles and culture.

- *Proposition 5:* An agile transformation tends to be more successful if it happened top-down since leadership culture has an influence on the workforce culture.

5.5 Outlook and Scenarios for the Future Role of Human Resource Management

Based on the results and discussion of the data, this section gives an outlook for the HRM function. It is important to notice that three scenarios are taken into account. The first first one describes a scenario where the HRM function stays as it is despite the organizational efforts to transform into agile. The second scenario says that HRM adapts itself to the current development and becomes agile itself. The last scenario discussed says that HRM will undergo a fundamental redefinition itself within agile transformations.

Scenario 1: HRM stays as it is   The first scenario is that HRM will stay as it is at the moment. This means that HRM is a separate silo which is mostly defined as a separate department. However, all the aforementioned challenges will continue to exist and increase if no action is taken. Moreover, cross-functional impediments

will not be resolved and the issues with HRM will increase. HRM function will probably be seen as an outdated, disabled function if the whole organization changes to be agile except HRM. Even thought this is not likely to happen according to the interviewees, it has the advantage that there is no need to change the way HRM is currently run. However, the data has indicated that HRM is taking action to adapt to the current stream of agile transformation. The drawbacks of this scenario are that HRM will probably not be able to serve the teams because their lack of knowledge about agility, centralization approach, and outdated working styles do not serve the agile organization.

Scenario 2: HRM adapts itself to the current developments The second scenario that could happen to HRM is that the HRM function or department will implement agile practices partly or fully for its own department. In literature, this is known as "Agile for HR" (McMackin and Heffernan 2021). As a consequence of that, the HRM department would empower teams to make crucial decisions by itself and thus decentralize decision making. The HRM function itself will be serving the teams and will be an an overarching function that provides frameworks, guidance, policies, and support if requested to do so. Thus, the HRM function will just keep the tasks where expert knowledge and deep understanding of HRM is necessary, and decentralize all other parts. As a consequence of that, HRM will be a facilitator and administrator for learning and development, recruitment, performance management etc. with the provision of support via several means. The advantages would be that HRM function keeps its advantages of being a provider of support in areas with expertise in human related activities. Moreover, HRM keeps the role as a communicator, and people's representatives. On top of that, McMackin and Heffernan 2021 argues that operational HR could be more adaptive and reactive to the organizational by quick and efficient reconfiguration of strategy, structure, processes, and people. Drawbacks are that HRM functions will not be totally decentralized which means that agile principles would not be implemented to its full degree. As a result, HRM will adapt to their internal organizational environment and will be able to directly communicate with their internal 'clients'. Moreover, they can still have a centralized role as a communicator and connector within the organization. They can both empower the teams to take ownership of the HRM decisions they want to take, but also support with HRM activities that teams do not necessarily want to take the responsibility for for several reasons such as lack of knowledge or lack of capabilities. The requirements for this scenario to happen are that HRM needs to familiarize itself with agile concepts. Also, HRM must restructure their own silo or department partly so that it fits the decentralized agile organization. HRM also needs support in doing so with agile experts or coaches.

Scenario 3: HRM undergoes a fundamental redefinition The last scenario, which is the most radical one would be to totally dissolve HRM departments and

decentralize all of its functions to the teams. This would result in the highest possible degree of freedom and flexibility for the teams to make their own decisions regarding the HRM functions such as recruiting, talent management, learning and development, performance management, and others. Moreover, this would have the result that the teams must find their own ways of dealing with the HRM responsibilities in accordance with agile principles in order to integrate those functions to the teams. This scenario would result in a total redefinition of the HRM function from being a separate silo/department/function to being a variety to disciplines that are executed by each team. As already discussed, in this scenario, activities that would usually reside within the HRM function would be decentralized and also restructured so that it would fit the iterative agile workflow (Also agreed on by Huzooree and Ramdoo 2015). This could mean that especially performance management/-reviews, or learning, training, and development would have an iterative characteristic and embedded into the iterations. The advantages of this scenario are that flexibility, individuality, empowerment to take HRM decisions by the teams and thus agility would be maximized. The drawbacks are that there would not be a central place in the organization to address HRM specific issues or matters with HR experts. The requirements for this scenario are that teams must be empowered to take HRM activities by giving them the freedom to create their own ways of dealing with the traditional HRM activities having the agile principles in mind. Also, there must be trust that the teams are able to develop the necessary solutions about HRM matters/issues by themselves.

5.6 Research Contributions

The present study attempts to address multiple gaps of literature and in doing so makes important contributions to the field. Firstly, the study extends the limited research on the understanding of the implications of organizational agility and agile transformations on Human Resource Management. This study is the first one to provide a detailed understanding which HRM domains are impacted and challenged. Thus, the largest and for practitioners probably most valuable contribution of this study is the collection of HRM challenges and solutions that come with agile transformations (See answer to research questions for more details). This study gave a detailed and extensive view on the challenges of each domain that gets impacted by agile transformations. However, this information could be useful to prepare for the transformation and prevent or delimit possible damages that might result from agile transformations. The solutions to those challenges could be valuable for practitioners to successfully transform their organizations.

This study also made an empirical contribution to existing knowledge by extending the knowledge which HRM domains are impacted by organizational agility. Chapter 2 (Research gap subsection) has already detected the intersections between

HRM and organizational agility, which might give an indication which HRM activities might be impacted by organizational agility and agile transformations. However, this study extended this knowledge by finding additional dimensions which are in this intersection (e.g., onboarding and internal recruiting) and has extensively shown and described the implications for those. Furthermore, this study extended the knowledge from which HRM domains are impacted to also how these domains are impacted, which was not backed by empirical evidence before. The findings of this empirical study can serve as a prototype for further qualitative and quantitative evaluation.

The next contribution of this study is the conceptual framework which depicts the relationship between organizational agility/agile transformations and the challenges that arise for the HRM domain. No previous study to the best of the author's knowledge and through search in peer-reviewed databases has provides such a detailed conceptual framework. This framework could assist future researchers in designing their quantitative or qualitative studies. More importantly, this conceptual framework could also provide valuable information for practitioners on how agile transformations might impact their own organizations.

A small methodological contribution is also made by this study by adding to the literature on how agile transformation could be approached from the HRM perspective. Thus, this study provides some information which measures HRM can take to successfully support and execute an agile transformation and which approaches might not be recommended (See propositions). Thus, the findings can provide some guideline for practitioners how to approach agile transformations from an HRM perspective.

5.7 Recommendations

In this sub-chapter recommendations both for practical use of the study results as well as for future research directions will be given.

5.7.1 Practical Implications

Now the practical implications and possible applications of the results of this study will be discussed. The data has shown the role HR takes, can take, and should take in an agile organization. Based on this study, organizations might consider focusing HRM in the implementation of an agile transformation on those HRM areas that are directly affected by the agile transformation. These are primarily Organizational Design, and Culture Change with the sub-areas of Leadership Styles and Behaviors, Employee Culture, Collaboration, and Communication, since Organizational Culture is the dimension of agile transformation that spans the areas of Recruiting, Performance Management, and Learning and Development. The conclusion from

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this is that Human Resource Management should create capacities and the necessary know-how to be able to support the transformation in these areas. The data indicates that HRM should embrace agile concepts. This would allow HRM to move from being a lagging silo to being an advancing and leading one along with executive leadership. Specifically, the solutions to the challenges can be applied in practice. Organizations that are in the process of agile transformation or want to make their organizations more agile can apply the successful solutions presented in this study in their own business context (see answer to research question or results chapter).

5.7.2 Future Research Directions

This study has covered a very large scope to explore the implications for HRM in the context of organizational agility. Ten dimensions have been discovered (Talent, Culture, Learning and Development, Organizational Design, Career, Alignment, Performance, Knowledge, Employee Satisfaction, and IT-Environment), which could be explored individually and in more detail in future literature. Recommendations for this would be to look more closely at the areas that seem to be strongly affected by organizational agility (Recruiting and Culture), as well as those that are based on less rich data. Domains such as IT-Environment or Alignment need more empirical backing.

In addition to the recommendations to use the research results as a basis for further qualitative studies, there are mainly interesting opportunities to establish quantitative research. It should first be noted that yes, there was not even sufficient qualitative research in the research gap, so quantitative research would be a novelty. The specific recommendations for quantitative studies are, first, to quantitatively test the existing conceptual framework presented in this chapter to fully or partially support it or to discard it (Independent Variable Agile Transformation/Organisational Agility; Dependent Variable: HRM). In particular, the framework could be extended to investigate whether other moderating or supporting variables play a role. Further, as a basis for quantitative research could be the dimensions that emerge from literature and this study. Furthermore, the propositions, which were not all tailored to HRM, could be included in a quantitative research. An example would be to consider cross-country effects (see Proposition 1).

5.8 Limitations

This study conducted a grounded theory approach to explore the implications of organizational agile transformations for human resource management and to extend empirical validity in the field. Although the author took utmost care in conducting this study, there are some internal and external limitations that are now discussed.

Selection of Qualitative Research Methodology   Even though many papers, such as Silverman 2010, Njie and Asimiran 2014, and Leedy and Ormrod 2016 argue that qualitative research is in general a very powerful and suitable methodology to structurally and systematically deeply explore research questions and solve research problems, it also comes with limitations. The first limitation to be mentioned here is the restriction of generalization, reliability, transferability and validity of the results outside the research problem under study. This limitation has to be counteracted with a sample as large as possible (Queirós, Faria, and Almeida 2017). The aim for this study was also to get a sample as large as possible. Furthermore, even though Strauss and Corbin 1998 and Glaser and Strauss 1967 argue that the sample size is sufficient if there is saturation, there are still limitations regarding generalization of the results. Another trade-off and limitation occurred during the data processing. Data dimensionality was reduced and thus, trade-offs because of the elimination and non-consideration of some dimensions might have occurred. Figure 8 lists the limitation for each data transformation step in detail. In addition to that, the data was transformed in a way that it contained the same dimensions. One example would be that some interviews were conducted in German. Even though the author is familiar with German and translated and interpreted the statements to his best knowledge, some nuances might get lost in translation.

Subjective Influence   Even though the author has taken great care to conduct the study objectively, a subjective influencing component cannot be ruled out. This subjective component primarily influenced the selection of expert interview candidates. As described in the methodology chapter, the interview candidates were identified via LinkedIn, and from the author's and supervisor's personal network. The data indicates that the choice was not random, but took into account availability, the author's opinion, and willingness to participate.

Generalization from Small Sample Size   In the transformation of the data, as well as in the analysis of the results, a limitation is something that statisticians would call a bias-variance trade-off. As usual, the qualitative data set for this study was characterized by high dimensionality, which was reduced to make results tangible in order to make general statements. The author took great care to balance bias and variance in such a way that neither over-fitting (overly detailed results) nor under-fitting (overly general statements) effects occurred. However, the results of this study should still be treated carefully, because the sample size were just 19 interviews, which made it challenging to generalize the results. Thus, the results should be understood as an impetus for further research and not as valid principles.

"HRM-Lens" and Personal Opinions of Interviewees   Another non-negligible limitation was that experts were interviewed who have expertise with both agile methodologies and human resource management. This in turn could have caused

interview candidates to have so-called "HRM glasses", which indicates that the results partly over-fit HRM. Furthermore, it is always possible that the inclusion of consultants as interview candidates has caused them to reveal their own opinions instead of relating their statements to specific organizations they have worked with.

In addition to the listed limitations, there were also time constraints, meaning that the time to complete this thesis is limited, which could result in inadequacies. Also, only one researcher was involved in the evaluation, so the results have not been evaluated from multiple perspectives. In addition to that, the execution of the interviews was via online meetings, which raises the constraint that things like gestures and mimics might have been lost or something got lost because of a bad internet connection.

Concluding the limitations one can say that the research methodology suited the research questions and the aim of this study. Rich and comprehensive analysis and interpretations could be derived from the obtained data. Thus, the research results surpassed the expectation of the author. However, limitations also applied to this study.

6 Conclusions

This paper contributes to the understanding of the implications of organizational agility and agile transformations for Human Resource Management (HRM). Previous literature review has only shown limited information about the intersection between organizational agility and HRM activities (e.g., Shafer 1997; Harraf et al. 2015; Ranasinghe and Sangarandeniya 2021; Zavyalova, Sokolov, and Lisovskaya 2020; Butzhammer 2020) and no empirical evidence about which challenges, and solutions arise from such a transformation.

This study conducted a purposefully sampled grounded theory study that included in total 20 participants, from which 12 were practitioners within one specific organization and seven were consultants or coaches affiliated with more than one organization that enriched the data set. One answer was invalid. The research questions asked which implications organizational agility has for Human Resource Management. Concerning this research question, it can be concluded that organizational agility and agile transformations have implications for recruiting, hiring, selection, culture change of leadership styles and behavior and employees, learning, training, and development, organizational design/structural fluidity, career paths and growth, (cross-functional) alignment, performance management/reviews, and IT infrastructure. The main findings can be summarized in the following list.

1. The biggest challenges for HRM during an agile transformation are culture change (especially leadership behavior and styles, and employee buy-in), recruiting (especially identifying candidates with agile mindset and profile shape), and guiding and leading the organizational design change.

2. HRM does not have sufficient knowledge about agile concepts to successfully fill their role as a supporter of the agile transformation (Lack of knowledge particularly in organizational design, culture change, required skills and profiles). Furthermore, HRM often lags behind its organization's agile transformation, which further limits its capability to support.

3. The role of HRM during the agile transformation should be guiding and supporting the transformational change which involves organizational design change, culture change, and alignment of people, technology, processes, and functions.

4. HRM is a provider of support in form of frameworks, policies, guidelines, and (IT-)Tools (Especially for learning and development, onboarding, performance management, career paths).

5. Organizational culture change is the overarching challenge which contains sub-challenges leadership, learning and development, performance management, IT

infrastructure, organizational design, collaboration and communication. The direct and indirect impacts of agile transformations and organizational agility will be further described in a conceptual framework.

6. HRM is still responsible for the support of performance management, learning and development, career management. However, these disciplines become more and more blurry and need to be tackled holistically.

7. An integrated IT infrastructure supports HRM with organizational agility.

However, it is noticeable that those research results do not contradict with the existing literature. Therefore, they just add to the existing literature and provide a more comprehensive and detailed description of the HRM dimensions impacted by organizational agility and agile transformations.

The main research question was answered by discussing the role of HRM in agile organizations and agile transformations, the challenges that arise, and the solutions for those. The data indicated that HRM is expected to support a high variety of organizational activities such as recruiting, culture change, learning, training, and development, performance management, and organizational design. However, based on the evidence presented, the current capabilities of HRM in terms of knowledge about the agile concepts, understaffed HR functions, and lack of HR-IT support seem to make it highly challenging for HRM to support those tasks. Moreover, since HRM's capabilities seem to be highly limited, the majority of interviewees mentioned that the HRM function needs support from agile coaches to improve their knowledge, additional HR-staff to be able to also focus on other tasks than recruiting and hiring, and supportive HRM-IT tools that facilitate and automate communication and standard processes. Thus, in the current environment, one can realistically expect from HRM that they have a limited understanding of agility, and need support from coaches and tools. Thus, even though HRM is considered to be a facilitator, and supporter, expectations of HRM to support the agile transformations must be lowered. It seems reasonable to expect that HRM with its current capabilities seems to be able to support mainly culture change, learning and development, recruiting, performance management, and career management by providing frameworks, platforms, (leadership-) training, being a central communicator, supporting empowerment, contributing to organizational structures and design, facilitating knowledge-sharing and education within the organization.

Another important factor which was mentioned by only three experts was the decentralization of the HRM function (Interviewees B, K, I). Thus, it was argued that in truly agile organizations, most of the HRM functionality lays within the teams itself and becomes decentralized (Scrum Master I). Thus, it is reasonable to assume that the role of HRM as a separate silo must be rethought as a whole.

Connected to this decentralization the data also suggests that the activities HRM is supporting (learning, training, and development, performance management, recruiting, career management) should become decentralized and agile themselves, which means an increase of flexibility, availability, and iterative characteristics. The data therefore indicates, that HRM should be a provider of frameworks for those different disciplines and leave the execution to the decentralized teams. To conclude the role of HRM in an agile transformation, one can say that most of the HRM supports organizational agility to the best of their knowledge, but are mostly unable to lead and pioneer the transformational processes with their current capabilities.

Concerning the challenges that arose with the introduction of organizational agility, one can conclude that the culture change that organizational agility brought was the overarching challenge for the sub-challenges such as recruiting, performance management, career management, and IT Environment. Moreover, especially the organizational design change and the lack of knowledge of HRM staff was considered to be the most challenging. Solutions of those challenges was the main contribution to the research field and thus also discussed extensively. However, the starting point to tackle the agile transformation was to enhance the knowledge about agile concept within the HRM staff to be able to support the necessary activities.

Having the empirical evidence in mind, the author recommends practitioners to focus HRM on organizational design, culture change which contains the sub-areas leadership styles and behaviors, employee, culture, collaboration, and communication. This recommendation is based on the shared belief of the interviewees that HRM plays a major role in those domains and has the capabilities to influence and lead the change in those domains. To do that, HRM practitioners might consider building and creating capacities and the necessary know-how to be able to support the transformation in these areas since the data showed a clear lack of knowledge of HRM regarding agile concepts. Since the data indicated that HRM has to firstly build the necessary knowledge and capacities to support the transformation, it is recommendable to provide guidance of agile coaches for HRM. Moreover, this study has made contributions by describing challenges and listing their successful solutions. The recommendation is to use this information to plan and foresee an agile transformation and define the role of HRM there.

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8 Appendices

8.1 Appendix A: Interview Guidelines

Case Study Interview Guide

Introduction

- Thanks for your time and the support in this exploration.
- My name is Louis Krol, I am a student of ICT in Business at Leiden University.
- I am working in collaboration with Dr. Christoph Stettina who is an expert in Agile Excellence.
- This exploration is part of my master's thesis about the challenges for HR in the context of organizational agility and its implications for agile career paths.

Aim of Today/Disclaimer

- Today, I want to understand your perspective during this interview.
- Please be open-minded.
- There are no right or wrong answer.
- Your answers will not be shared with any of your superiors.
- The answers will be tracked anonymously, no one will be able to track your answers back to you or your organization or any other person or organization that you mention during the interview.
- I will record the interview only for the purpose of creating a transcript.
- This transcript will then be evaluated in a scientific work which is my master's thesis.
- Do you agree to this procedure?

Personal background

- Can you tell me something about your role (What is the role, which department, what experience (with agile methodology), and daily tasks)?
- Can you tell me something general about your organization (What products or services do you offer etc.)?

Organizational Background

- What does an agile transformation and organizational agility mean to you?
  - (Hint: What does it mean for the organization?)
  - (Hint: What does it mean to HR?)
- Could you tell me about the journey of the agile transformation in your organization?
- Could you tell me something about the size and impact of the transformation (Hint: Number of people involved/departments etc.)?

General HR questions

- Which HR related challenges do you see appearing in the context of your organization's agile transformation?
- Which of these challenges do you think are the most important?
- Can you prioritize those challenges/On which challenges would you focus on?

Questions for each prioritized challenge mentioned before

- Why is it a challenge?
- How does this challenge show up in your organization?
- How does HR deal with this challenge? / What solutions did you try and see working targeting this challenge?
- *… Go more into detail and ask follow-up questions from general to specific.*

- Where and how does HR support the agile transformation at your organization?
- As part of the agile transformation, which roles were introduced? How were they introduced?
    - Hint: Transitions between roles, e.g., do project managers have the ability to become scrum masters or product managers?
- What impact do those roles have from an HR perspective?

Deep Dive HR Questions (Only if specifically named challenges provide too little content)

- Do you see a change in setting up job architectures?
    - Prompt 1: To what extent does the agile transformation challenge role hierarchies?
    - Prompt 2: To what extent and how did the agile transformation challenge career management, and career development?
    - Prompt 3: To what extent do standardize career pathways exist in the agile part of your organization (Hint: How to develop to seniority)?
    - Prompt 3: To what extent did the agile transformation challenge desired skillsets of candidates?
    - Prompt 4: What kind of people profiles are you looking for now?
- How does your organization deal with performance management in your agile transformation?
    - Prompt 1: To what extent and how regularly are there performance reviews?
    - Prompt 2: On what basis are employees evaluated (hint: which qualitative/quantitative metrics, qualities, and indicators play a role in the evaluation)?
- To what extent and how did the agile transformation challenge the recruiting process at your organization?
    - Prompt 1: What kind of skillsets are now relevant in the recruitment process?
- To what extent did the agile transformation influence learning and development at the organization?

- What do you think should be the role of HR in some of those potential changes?
- What topics should be driven by HR and what topics should be driven by other parts of the organization?

Consultant Interview Guide

Introduction

- Thanks for your time and the support in this exploration.
- My name is Louis Krol, I am a student of ICT in Business at Leiden University.
- I am working in collaboration with Dr. Christoph Stettina who is an expert in Agile Excellence.
- This exploration is part of my master's thesis about the challenges for HR in the context of organizational agility and its implications for agile career paths.

Aim of Today/Disclaimer

- Today, I want to understand your perspective during this interview.
- Please be open-minded.
- There are no right or wrong answer.
- Your answers will not be shared with any of your superiors.
- The answers will be tracked anonymously, no one will be able to track your answers back to you or your organization or any other person or organization that you mention during the interview.
- I will record the interview only for the purpose of creating a transcript.
- This transcript will then be evaluated in a scientific work which is my master's thesis.
- Do you agree to this procedure?

Personal background

- Can you tell me something about your role and experience (What is the role, which department, what experience (with agile methodology), and daily tasks)?
- Can you tell me something general about your organization (What products or services do you offer etc.)?

Organizational Background

- What does an agile transformation and organizational agility mean to you?
    - ○ (Hint: What does it mean for the organization?)
    - ○ (Hint: What does it mean to HR?)
- Do you think the organizations you worked with have the same understanding or agility? If not, how does it differ?
- Could you tell me how agile transformations usually take place?
    - ○ Can you describe the process of an agile transformation?
    - ○ Which parts of the organizations are impacted by the transformation?

General HR questions

- Which HR related challenges do you see appearing in the context of an organization's agile transformation? Maybe you can just name all challenges that come to your mind?
  - Prompt: Which HR functions are impacted by the transformation (e.g., recruiting, performance management, etc.)
  - Prompt 2: Which HR functions are not impacted?
- Which of these challenges do you think are the most important?
  - Prompt 1: Can you prioritize those challenges?
  - Prompt 2: On which challenges would you focus on? / Are those prioritized challenges also the ones you would focus on?

Questions for each prioritized challenge mentioned before

- Why is it a challenge?
- How does this challenge usually show up? Do you have an example case?
- How does HR deal with this challenge? / What solutions did you try and see working targeting this challenge?
- *… Go more into detail and ask follow-up questions from general to specific.*

- Where and how does HR support agile transformations?
  - What topics should be driven by HR and what topics should be driven by other parts of the organization?
  - What do you think should be the role of HR in some of those potential changes?
- As part of the agile transformation, which roles are usually introduced the first? How are they introduced?
  - Hint: Transitions between roles, e.g., do project managers could become scrum masters or product managers?
- What impact do those roles have from an HR perspective?

Deep Dive HR Questions (Only if specifically named challenges provide too little content)

- Do you see a change in setting up job architectures?
  - Prompt 1: To what extent does the agile transformation challenge role hierarchies?
  - Prompt 2: To what extent and how did the agile transformation challenge career management, and career development?
  - Prompt 3: To what extent do standardize career pathways exist in the agile part of your organization (Hint: How to develop to seniority)?
  - Prompt 3: To what extent did the agile transformation challenge desired skillsets of candidates?
  - Prompt 4: What kind of people profiles are you looking for now?
- How does your organization deal with performance management in your agile transformation?
  - Prompt 1: To what extent and how regularly are there performance reviews?

- o Prompt 2: On what basis are employees evaluated (hint: which qualitative/quantitative metrics, qualities, and indicators play a role in the evaluation)?
- To what extent and how did the agile transformation challenge the recruiting process at your organization?
  - o Prompt 1: What kind of skillsets are now relevant in the recruitment process?
- To what extent did the agile transformation influence learning and development at the organization?

Fallstudie Interview-Leitfaden

Einleitung

- Vielen Dank für Ihre Zeit und die Unterstützung bei dieser Erkundung.
- Mein Name ist Louis Krol, ich bin Student der IKT in der Wirtschaft an der Universität Leiden.
- Ich arbeite mit Dr. Christoph Stettina zusammen, der ein Experte für Agile Excellence ist.
- Diese Untersuchung ist Teil meiner Masterarbeit über die Herausforderungen für das Personalwesen im Zusammenhang mit organisatorischer Agilität und deren Auswirkungen auf agile Karrierewege.

Ziel des heutigen Tages/Disclaimer

- Heute möchte ich in diesem Interview Ihre Perspektive verstehen.
- Bitte seien Sie aufgeschlossen.
- Es gibt keine richtigen oder falschen Antworten.
- Ihre Antworten werden nicht an Ihre Vorgesetzten weitergegeben.
- Die Antworten werden anonym aufgezeichnet. Niemand wird in der Lage sein, Ihre Antworten zu Ihnen oder Ihrer Organisation oder einer anderen Person oder Organisation, die Sie während des Gesprächs erwähnen, zurückzuverfolgen.
- Ich werde das Gespräch nur zum Zweck der Erstellung eines Protokolls aufzeichnen.
- Diese Abschrift wird dann in einer wissenschaftlichen Arbeit, meiner Masterarbeit, ausgewertet.
- Sind Sie mit dieser Vorgehensweise einverstanden?

Persönlicher Hintergrund

- Können Sie mir etwas über Ihre Rolle erzählen (welche Rolle, welche Abteilung, welche Erfahrung (mit agiler Methodik), und tägliche Aufgaben)?
- Können Sie mir etwas Allgemeines über Ihr Unternehmen erzählen (Welche Produkte oder Dienstleistungen bieten Sie an usw.)?

Organisatorischer Hintergrund

- Was bedeutet eine agile Transformation und organisatorische Agilität für Sie?
    - (Hinweis: Was bedeutet sie für die Organisation?)
    - (Hinweis: Was bedeutet das für die Personalabteilung?)
- Können Sie mir etwas über den Weg der agilen Transformation in Ihrer Organisation erzählen?
- Können Sie mir etwas über den Umfang und die Auswirkungen der Umstellung sagen (Hinweis: Anzahl der beteiligten Personen/Abteilungen usw.)?

Allgemeine HR-Fragen

- Welche personalwirtschaftlichen Herausforderungen sehen Sie im Zusammenhang mit der agilen Transformation in Ihrem Unternehmen auftauchen?
- Welche dieser Herausforderungen sind Ihrer Meinung nach die wichtigsten?
- Können Sie diese Herausforderungen priorisieren/auf welche Herausforderungen würden Sie sich konzentrieren?

Fragen für jede zuvor erwähnte priorisierte Herausforderung

- Warum ist es eine Herausforderung?
- Wie zeigt sich diese Herausforderung in Ihrer Organisation?
- Wie geht die Personalabteilung mit dieser Herausforderung um? / Welche Lösungen haben Sie für diese Herausforderung ausprobiert und für gut befunden?
- ... Gehen Sie mehr ins Detail und stellen Sie Folgefragen, die vom Allgemeinen ins Spezifische gehen.

- Wo und wie unterstützt die Personalabteilung die agile Transformation in Ihrer Organisation?
- Welche Rollen wurden im Rahmen der agilen Transformation eingeführt? Wie wurden sie eingeführt?
  - Hinweis: Übergänge zwischen Rollen, z. B. haben Projektmanager die Möglichkeit, Scrum-Master oder Produktmanager zu werden?
- Welche Auswirkungen haben diese Rollen aus Sicht der Personalabteilung?

Vertiefende HR-Fragen (nur wenn spezifisch genannte Herausforderungen zu wenig Inhalt bieten)

- Sehen Sie eine Veränderung bei der Einrichtung von Job-Architekturen?
  - Prompt 1: Inwieweit stellt die agile Transformation Rollenhierarchien in Frage?
  - Prompt 2: Inwieweit und wie hat die agile Transformation das Karrieremanagement und die Karriereentwicklung herausgefordert?
  - Prompt 3: Inwieweit gibt es standardisierte Karrierewege im agilen Teil Ihrer Organisation (Hinweis: Wie entwickelt man sich zur Seniorität)?
  - Prompt 3: Inwieweit hat die agile Transformation die gewünschten Fähigkeiten der Kandidaten in Frage gestellt?
  - Frage 4: Nach welcher Art von Mitarbeiterprofilen suchen Sie jetzt?
- Wie geht Ihr Unternehmen bei der agilen Transformation mit dem Leistungsmanagement um?
  - Frage 1: In welchem Umfang und wie regelmäßig finden Leistungsbeurteilungen statt?
  - Aufforderung 2: Auf welcher Basis werden die Mitarbeiter bewertet (Hinweis: welche qualitativen/quantitativen Kennzahlen, Qualitäten und Indikatoren spielen bei der Bewertung eine Rolle)?
- Inwieweit und wie hat die agile Transformation den Rekrutierungsprozess in Ihrer Organisation herausgefordert?
  - Prompt 1: Welche Arten von Fähigkeiten sind jetzt im Rekrutierungsprozess relevant?
- Inwieweit hat die agile Transformation das Lernen und die Entwicklung in Ihrer Organisation beeinflusst?

- Welche Rolle sollte Ihrer Meinung nach die Personalabteilung bei einigen dieser potenziellen Veränderungen spielen?
- Welche Themen sollten von der Personalabteilung und welche von anderen Teilen der Organisation vorangetrieben werden?

8.2 Appendix B: Codebook

1. **knowledge: Category that contains codes about knowledge of certain parts of the workforce in the organization.**
   a. knowledge_hr: Category that contains codes about the knowledge of people responsible for human resource management in the organization.
      i. knowledge_hr_agility: Interviewee talks about the knowledge of HR people regarding agility concepts.
      ii. knowledge_hr_agileRoles: Interviewee talks about the knowledge of HR people regarding agile roles.
   b. knowledge_leaders: Category that contains codes about the knowledge of leaders.
      i. knowledge_leaders_agility: Interviewee talks about the knowledge of leaders regarding agility and agile concepts.
      ii. knowledge_leaders_leadership: Interviewee talks about the knowledge of leaders regarding leadership concepts.

2. **learningAndDevelopment: Category that contains code about learning and development in an organization.**
   a. learningAndDevelopment _onboarding: Interviewee talks about learning and development during onboarding and onboarding processes for new employees.
   b. learningAndDevelopment _cultureAndMindset: Interviewee talks about learning and development of agile culture and mindset concepts.
   c. learningAndDevelopment _leadership: Interviewee talks about learning and development of leadership topics for leaders.
   d. learningAndDevelopment _agility: Interviewee talks about learning and development about (organizational) agility topics.
   e. learningAndDevelopment _talentEnablement: Interviewee talks about learning and development in the context of talent enablement.
   f. learningAndDevelopment _talentDevelopment: Interviewee talks about talent development which is related to learning and development.
   g. learningAndDevelopment _framework: Interviewee talks about learning and development frameworks.
   h. learningAndDevelopment _skillShape: Interviewee talks about the skill shape of employees or workers.
   i. learningAndDevelopment _talent_enablement: Interviewee talks about talent enablement related to learning and development.
   j. learningAndDevelopment _hr: Interviewee talks about learning and development for HR people.

3. **cultureChange: Category that contains codes about culture change in the context of agile transformations or organizational agility.**
   a. cultureChange_leadership: Interviewee talks about culture change of leadership and leaders regarding their leadership styles or behaviors.
   b. cultureChange_employees: Interviewee talks about the culture change of employees and the organization in general.
   c. cultureChange_communication: Interviewee talks about communication in the context of the organizational culture (change).
   d. cultureChange_collaboration: Interviewee talks about collaboration in the context of organizational culture (change).

e. cultureChange_learning: Interviewee talks about learning culture (change).
f. cultureChange_resistanceToChange: Interviewee talks about the resistance to change cultural aspects or behavior.
g. cultureChange_workplaceWorktime: Interviewee talks about workplace and worktime culture.
h. cultureChange_hr: Interviewee talks about HR culture.

4. **alignment: Category that contains codes that refer to alignment on different dimensions.**
   a. alignment_crossFunctional: Interviewee talks about cross-functional alignment.
   b. alignment_peopleCulture: Interviewee talks about the alignment of the people culture.
   c. alignment_itInfrastructure: Interviewee talks about the alignment of IT infrastructure with people and organizational culture.
   d. alignment_changeManagement: Interviewee talks about change management.

5. **talent: Category that contains talent management codes.**
   a. talent_recruiting: Category that contains codes related to recruiting.
      i. talent_recruiting_extIntChoice: Interviewee talks about choosing internal or external candidates to fill an agile position.
      ii. talent_recruiting_external: Category that contains codes related to the recruitment of external candidates.
         1. talent_recruiting_external_skillsAndProfiles: Interviewee talks about the skills and profiles of external recruiting candidates.
         2. talent_recruiting_external_candidateIdentification: Interviewee talks about candidate identification regarding recruitment.
         3. talent_recruiting_external_candidateSelection: Interviewee talks about selecting external candidates.
         4. talent_recruiting_external_jobDescriptions: Interviewee talks about job descriptions for external candidates.
         5. talent_recruiting_external_jobInterviews: Interviewee talks about job interviews related to external recruiting.
         6. talent_recruiting_external_hiring: Interviewee talks about hiring external candidates.
      iii. talent_recruiting_internal: Category that contains codes related to internal recruiting for agile roles.
         1. talent_recruiting_internal_roleMapping: Interviewee talks about mapping internal roles to agile roles.
         2. talent_recruiting_internal_skillsDetermination: Interviewee talks about determining skills of internal employees with regards to internal recruiting.
         3. talent_recruiting_internal_mindsets: Interviewee talks about the agile mindsets of internal employees in the context of internal recruiting to agile roles.
         4. talent_recruiting_internal_willingness: Interviewee talks about the willingness of employees to change their role.
      iv. talent_retention: Interviewee talks about retaining talent at the agile organization.

     v.   talent_strategy: Interviewee talks about the talent strategy.

6. performance: category that contains codes that refer to performance challenges.
   a. performance_management: Interviewee talks about performance management.
   b. performance_acceleration: Interviewee talks about performance acceleration.

7. organizationalDesign: category containing codes that refer to organizational design.
   a. transformationApproach: Interviewee talks about the agile transformation approach.
   b. organizationalDesign_hr: Category that contains codes related organizational design of HR.
       i.   organizationalDesign_hr_definition: Interviewee talks about how to define the HR unit.
      ii. organizationalDesign_hr_department: Interviewee talks about the HR unit as an organizational department.
     iii. organizationalDesign_hr_discipline: Interviewee talks about the HR unit defined as a discipline.
   c. organizationalDesign_hierarchyChange: Category that contains codes about the hierarchy change during an agile transformation or with regards to organizational agility.
       i.   organizationalDesign_hierarchyChange_managers: Interviewee talks about the hierarchy change for the leaders.
      ii. organizationalDesign_hierarchyChange_hiringFiring: Interviewee talks about hiring and firing practices in the context of organizational hierarchy change.
     iii. organizationalDesign_hierarchyChange_employees: Interviewee talks about the hierarchy changes of employees.
   d. organizationalDesign_workplaceArrangements: Interviewee talks about workplace arrangements.

**8. career: Category which contains all codes that have relationships to career.**
   a. career_path: Interviewee talks about career paths.
   b. career_growth: Interviewee talks about career growth.
   c. career_promotion: Interviewee talks about promotion.
   d. career_compensation: Interviewee talks about compensation.
   e. career_mobility: Interviewee talks about career mobility.

9. employeeSatisfaction: Category that contains codes related to employee satisfaction.
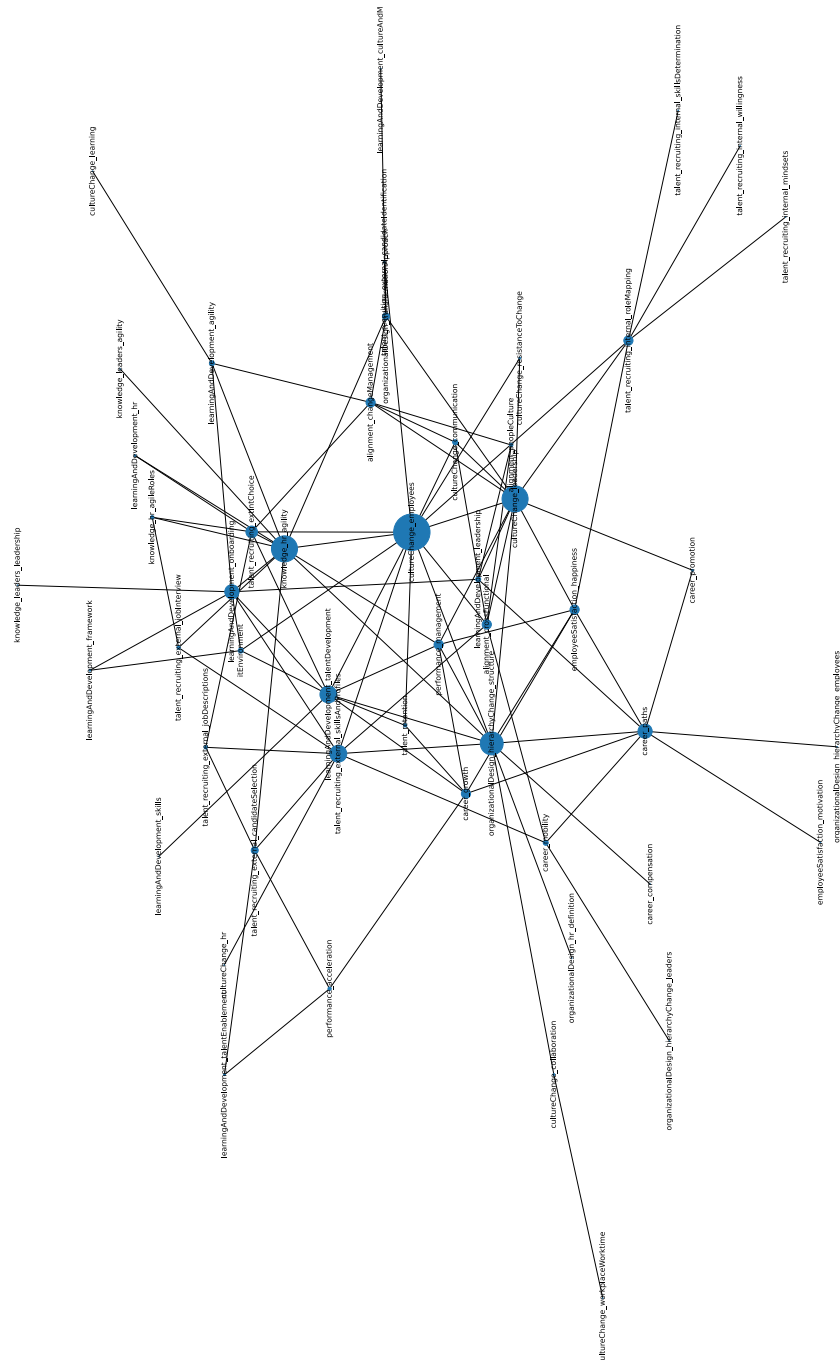   a. happiness: Interviewee talks about employee happiness.
   b. motivation: Interviewee talks about employee motivation.

10. itEnvironment: Interviewee talks about IT infrastructure and IT environment.

8.3   Appendix C: Detailed Conceptual Framework
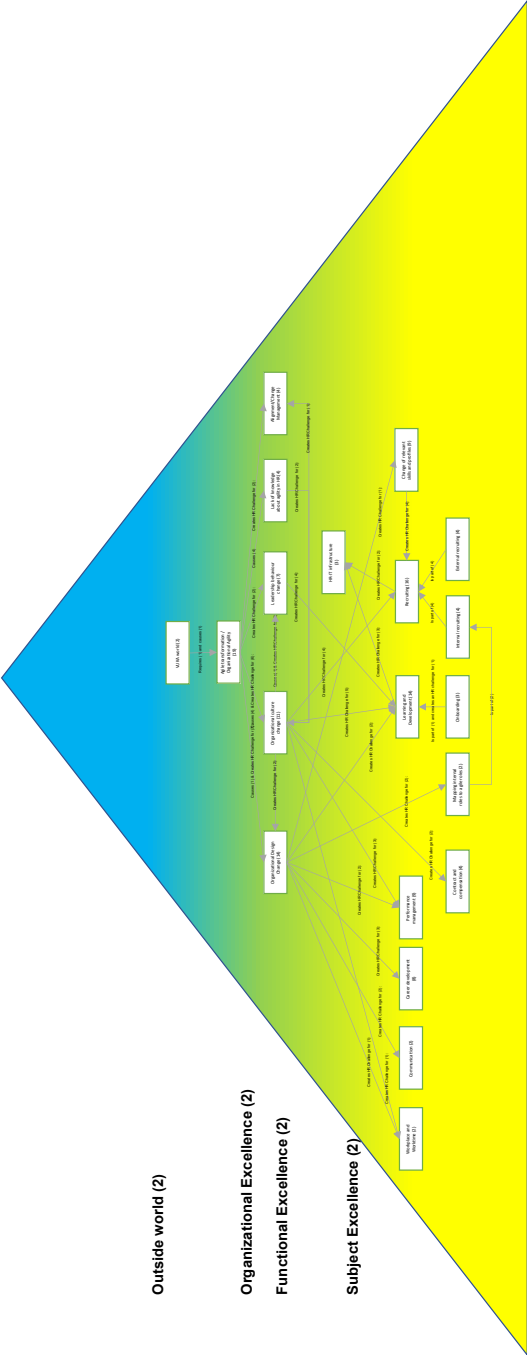
8.4 Appendix D: Detailed Network Graph

8.5 Declaration of Authorship

I hereby declare that the thesis submitted is my own unaided work. All direct or indirect sources used are acknowledged as references. I am aware that the thesis in digital form can be examined for the use of unauthorized aid and in order to determine whether the thesis as a whole or parts incorporated in it may be deemed as plagiarism. For the comparison of my work with existing sources, I agree that it shall be entered in a database where it shall also remain after examination, to enable comparison with future theses submitted. Further rights of reproduction and usage, however, are not granted here. This paper was not previously presented to another examination board and has not been published.

   - Louis Krol - Sulzheim, December 23, 2022