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An abstract, textured background image with a color palette of teal, blue, and orange, resembling a close-up of a flower or a natural surface. The colors are layered and blended, creating a sense of depth and movement.

DEVELOPING RESILIENT HUMAN CAPITAL TO COPE WITH ENVIRONMENTAL UNCERTAINTIES

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Abstract

The external environment, currently considered as VUCA environment, in which organizations and individuals operate can be characterized by numerous uncertainties. As a result of these uncertainties, one significant aspect that is affected is the individual KSAOs as part of the human capital concept. A thorough understanding of how uncertainties affect KSAOs allows individuals and organizations to adapt, be resilient, and respond effectively to the changing environment. One research field that encompasses the external environment and its uncertainties as well as individual KSAOs is strategic human resource management (SHRM). However, the relationship between these key concepts has not yet been addressed. Also, much of SHRM research has been devoted to the company's perspective, largely ignoring the employees' point of view. Thus, this research aims to fill a gap in prior research by exploring the relationship between the external environment with its uncertainties and individual KSAOs from the employee's perspective. To further implement this knowledge in practice, two scenarios are created to demonstrate the factors companies should focus on in order to increase their human capital's resilience.

To identify the relationship between external uncertainties and individual KSAOs, a conceptual framework was developed. The framework outlines the foundation for a qualitative case study with a Swedish consultancy company as a single case. A comprehensive data foundation was constructed through data triangulation, which involves combining both primary and secondary sources of data. In this study, organizational documents provided by the case company were used as secondary data while primary data was gathered through semi-structured interviews with six employees of the case company.

The findings indicate differences between prior literature and the collected empirical data. For example, employees' view on prioritizing different KSAOs (knowledge, skills, abilities, and other characteristics) showed that soft skills were seen as far more important than hard skills when coping with uncertainties. This challenges the prior literature on human capital that has mostly focused on hard skills and the importance of their development through education and training. By using COVID-19 as a recent and accurate example of uncertainty, the data revealed changes in ways of working and work-life balance. It also revealed that environmental and technological uncertainties are currently considered the most effective. While they were seen to have unpredictable, and possibly even negative long-term effects, they were also considered as possibilities for the future. With subjective research philosophy, we could find contradictory opinions within the sample which further extended prior research by highlighting the need for considering individuality rather than the company perspective when making decisions that relate to the external environment, its uncertainties, and the individual KSAOs.

Keywords: *External environment, VUCA, Uncertainties, Human capital, KSAOs, Scenario planning, COVID-19, Resilience.*

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List of Abbreviations

KSAO	Knowledge, skills, abilities, other characteristics
PESTEL	Political, economic, social, technological, environmental, legal
SHRM	Strategic human resource management
VUCA	Volatility, uncertainty, complexity, ambiguity

1 Introduction

This introductory chapter provides a short introduction to the research subject, as well as an overview of the problem background and knowledge gaps identified for the research. Following the problem background, a research question will be presented. After that, we will discuss the research purpose and its theoretical and practical implications. Lastly, we will describe the structure of the remainder of the paper.

1.1 Choice of subject

In selecting the topic we are going to discuss, we combined our shared interests and areas of expertise with topics that had to do with the rapidly changing environment businesses are operating today. As this thesis is going to take a close look at a Swedish consulting firm, it has been noted that in this relatively young company, human capital (i.e., company resource that consists of the collective knowledge, attributes, skills, experience, and health of the workforce) is viewed as the most important asset in its current strategy. Its importance is apparent in every aspect, from its company mission to its company values and goals. Nevertheless, the managing director has claimed that the work done by each individual employee affects not just the company as a whole but also other employees within the company. Therefore, caring for the employees and fostering their development is considered an important managerial priority.

Due to the constant changes in the external environment (i.e., environment outside of company borders), with the uncertainty (i.e., lack of predictability and information in the external environment) posed by these changes and the effects they have on employees, this topic is relevant in today's business world. A recent example of this can be found in the events associated with COVID-19 and the major changes that it brought along with it. The pandemic has served to prove how fragile our systems really are and accordingly, a large number of people throughout the world have had their jobs affected as a result of the pandemic. This further underpins the importance of doing research from the perspective of the employees, rather than the perspective of the companies which has been the most common pattern in previous research (Wright, Nyberg & Ployhart, 2018, p. 144). This aspect has further prompted and intrigued us to select the topic for research.

Our belief is that this type of research further encourages companies and individuals across the world to attempt and predict what the future might hold for us and what might happen. However, since making predictions can be a futile task, there have been calls for researchers to use scenarios as an alternative approach in order to identify uncertainties in the environment and build scenarios to introduce the different futures that are likely to emerge (Davis, 2002, p. 1). By understanding the uncertainties, companies can develop contingency plans to protect their human capital and ensure that they remain resilient (i.e., successful in adapting to challenging circumstances) in the face of change. As a result of this research, we seek to identify uncertainties in the external environment, identify their effects on the employees' knowledge, skills, abilities, and other characteristics (KSAOs), and finally develop scenarios that will assist in building more resilient human capital for the case company.

1.2 Problem background

Whenever businesses operate, they are bound to encounter multiple influences. Some of these influences are out of their control. Yet the fact remains that, despite this reality, no business can exist without recognizing and continuously coping with the external environment's influence. Hence, it would be prudent for managers to take into consideration external factors that could potentially have a positive or negative impact on the company and its employees in the future. Ivančić, Mencer, Jelenc and Dulčić (2017, p. 51) argue that for a business to flourish and grow, it is vital for managers to be able to anticipate, recognize, and effectively deal with any changes that may occur within its external environment.

According to Ivančić et al. (2017, p. 52), environmental changes increase environmental uncertainty. Several previous studies have concluded that external change has accelerated due to the rapid pace of technological advancements, shorter product life cycles, and constantly evolving business models, leading to an increase in the frequency and momentum of disruptive changes arising in the environment (Duncan, 1972; Vecchiato, 2015). Similarly, it has been acknowledged that there is an even greater need for this to be addressed in the case of SMEs, which, according to Zutshi, Mendy, Sharma, Thomas and Sarker (2021, p. 1), are confronted with multiple significant challenges during times of uncertainty. The fact is that change in any form comes with its own set of consequences and how they affect a business comes down to how well the company is prepared for them (Biginas, 2021, p. 100). In light of this, it is necessary to regularly assess significant drivers of change as well as their impacts on the business environment (Biginas, 2021, p. 100).

We can see, for example, that with COVID-19, the years of 2020 and much of 2021 were wake-up calls regarding how quickly and significantly change can occur. Nevertheless, it was also an indication of what is coming - not necessarily another pandemic of different strains, but flux of all kinds (Rinne, 2021, p. 1). Individually, we stress and often wonder about our jobs, health, and future (Rinne, 2021, p. 1) which can influence our working life. Grondys, Ślusarczyk, Hussain and Androniceanu (2021, p. 1) argue that many companies have experienced a significant decline in income and employment levels since the pandemic began. Even though our research has a broader perspective, pandemics provide an example of possible external threats.

The possible negative impact that uncertainty has on job attitudes and work behavior has made it an important variable (Bordia, Hobman, Jones, Gallois & Callan, 2004; Hui & Lee, 2000; Schweiger & DeNisi, 1991). As a result of uncertainty, commitment, and motivation are negatively affected, whilst absenteeism and turnover increase (Schweiger & DeNisi, 1991, p. 110). Most employees experience uncertainty as a source of stress, so their reactions become a key issue for organizational leaders (Haynie, Harris & Flynn 2016, p. 228). It is likely that individuals view the lack of certainty about a change, the impact it will have on their jobs, and their ability to meet any new demands created by the change as obstacles in the course of their daily work (Haynie et al., 2016, p. 228). Thus, it would seem that uncertainty in the external environment, which results in changes in the work environment, can negatively impact employees in several ways. These include decreasing job security, reducing employee morale, and increasing levels of stress and anxiety.

To cope with the changing environment, companies need to be adaptable and flexible. The concept of flexibility rises often in previous research when it comes to resilience against environmental changes (Bell, Brown & Weiss, 2018; Sanchez, 1995; Wright et al., 2018). Bell et al. (2018, p. 460) have mentioned different mechanisms to achieve flexibility as a fruitful area for future research. A few studies have examined building resilience through human capital management strategies in the context of uncertain environmental conditions (Lengnick-Hall et al., 2011; Douglas, 2021). This is in line with Adner and Helfat's (2003, p. 1023) argument that previous research on managerial human capital exists, but much less focus has been put on its effect on the ability of corporations to adapt.

In accordance with the above, it becomes increasingly important for companies to take a look at their employees as a resource and to build resilient human capital that has the ability to withstand and overcome shocks. Human capital includes employees and the knowledge, skills, abilities, and other characteristics they possess, also known as KSAOs (Bhattacharya & Wright, 2005, p. 932). Generally, it has been said that employees are one of the key assets of any organization, and it is up to the organization to take the necessary steps to ensure the retention of those assets (Becker & Huselid, 1998; Snell, Youndt, Wright, 1996; Wright, McMahan, McWilliams, 1994).

When it comes to resilience, management scholars have developed their own conceptualizations based on the purposes of their investigations (Duchek, 2020, p. 220). According to the first group of scholars, resilience refers to the ability of an organization to withstand adverse circumstances in an attempt to recover (Horne, 1997; Horne & Orr, 1998; Robert et al., 2010), while a second group of scholars focuses on the advancement of organizational processes and capabilities rather than simply maintaining and restoring organizational functionality (Lengnick-Hall & Beck, 2005; Robb, 2000; C. Lengnick-Hall, Beck, & M. Lengnick-Hall, 2011). The latter will be used in our research. According to Lengnick-Hall & Beck (2016, p. 41), a firm's capacity for resilience is shaped by a combination of individual knowledge, skills, and abilities as well as other characteristics (KSAOs). These orient a firm conceptually, enable it to act decisively, and overcome the potentially debilitating effects of a disruptive shock by creating an environment of diversity and adjustable integration (Lengnick-Hall & Beck, 2016, p. 41). Strategic human resource management (SHRM) as a research field encompasses this, and its systems are important for developing the necessary KSAOs and implementing the appropriate collective routines and processes that lead to resilience (Lengnick-Hall et al., 2011, p. 244). Resilience is needed when coping with the uncertain environment and it can be built by developing the KSAOs which offers a relevant opportunity to build a bridge between the external environment and employees of a company. Building this bridge would require understanding the relations between the external environment's uncertainties and individual KSAOs which have not been addressed in previous research creating a research problem for our research.

One common tool that builds on uncertainties is scenarios (Tapinos, 2012, p. 340), a tool that has been described as crucial for addressing uncertainties in the 21st century (Davis, 2002, p. 1). "Scenarios are a technique that develops plausible alternative views of how the environment might develop in the future" (Whittington, Regnér, Angwin, Johnson & Scholes, 2020, p. 52). The core of scenario development lies in the assessment of the macro-environment, as it is considered to be the biggest source of uncertainty (Tapinos, 2012, p. 338). Scenarios have been used in business contexts for over

50 years (Wack, 1985, p. 73) but have rarely taken the employees' perspective, which creates another research problem in that aspect.

1.3 Research gaps

Since the key problems behind this thesis drive us to investigate both the relations between the external environment's uncertainties and individual KSAOs, and how scenarios regarding these uncertainties can assist companies in building resilient human capital, it stands to reason that the field of Strategic Human Resource Management, also referred to as SHRM, is the field that is most relevant to this study. According to Wright et al. (2018, p. 141), the field of SHRM is relatively new, having only emerged over the last 30 years. Wright and McMahan (1992, p. 298) defined SHRM as "The pattern of planned human resource deployments and activities intended to enable an organization to achieve its goals". According to them, SHRM differs from HRM in that (a) HR decisions should be aligned vertically with the company's strategy and (b) HRM practices are coordinated horizontally. The researchers posited that the field includes determinants of human resource practices, the composition of human capital resource pools (KSAOs), specifications of required human resource behaviors, and the effectiveness of these decisions given a variety of business strategies and/or competitive conditions (Wright & McMahan, 1992, p. 298). This definition of SHRM provided by Wright and McMahan includes both people and the practices that are used to manage them.

However, previous research has mostly had its focus on linking HR practices and performance, rather than having its emphasis on the people (Wright & McMahan, 2011, p. 93). This prompted Kaufman (2015, p. 404) to note that the field quickly became focused on the HRM - Performance relationship. It is noteworthy to mention that SHRM has been affected by changes in technology, especially in terms of how companies interact with their employees (Wright et al., 2018, p. 146). These changes have since accelerated along with COVID-19. Yet, despite the fast pace at which organizations should be able to adapt to their rapidly changing environment, SHRM research has largely ignored this challenge (Wright et al., 2018, p. 146). It has been acknowledged that existing theories, approaches, and methodologies in the field are not appropriate anymore and need updating (Wright et al., 2018, p. 141). It has been shown in multiple published articles on the field of SHRM that high-performance work systems have an important impact on firm performance (Becker & Huselid, 2006; Combs, Liu, Hall & Ketchen, 2006; Guest, Paauwe & Wright, 2013) which highlights the trend of looking at the company perspective. Consequently, it seems that there is still a gap in the research on SHRM at the moment, which allows us to study SHRM from the employees' perspective as opposed to the company's perspective in order to create a deeper understanding of the relationship between environmental uncertainties and individual's KSAOs and further help build the resilience of human capital towards these uncertainties. This research will therefore aim to identify the relations and further use scenarios as an adequate tool to go in line with the concerns of the 21st century.

To fill the gaps in the previous research by generating theoretical contributions and managerial implications our research questions are presented in two parts. The first question our research aims to answer is:

RQ1: How do the external environment and its uncertainties relate to individual KSAOs from the employee perspective?

While the first question enables the theoretical contribution and builds the ground for solving the research problem, with the second question we further contribute to the managerial implications by building scenarios and answering the question:

RQ2: Which factors to focus on in building the resilience of human capital?

To build the resilience of the human capital tackling the changes in the external environment, a further understanding of their relation is needed. The aforementioned is done by first forming a conceptual framework by reviewing previous research on human capital and its importance as a company resource and exploring the meaning of uncertainties that lie in the external environment opposing opportunities and threats to human capital. With the conceptual framework, we form a basis for the case study on a single case from a Swedish consultancy company. The case company has 7 employees. In our research, we use qualitative research methods with semi-structured interviews as primary data and existing sources as secondary data. With the primary data, the objective is to gain information from all the company employees on how they perceive the external environment and its uncertainties in relation to their KSAOs. Scenarios are later built by using this data offering the case company future directions on where to focus on building the resilience of their human capital.

1.4 Research purpose

The main task of strategic management from a larger perspective is to predict changes and prepare organizations for changes using modern methods of analyzing (Lashmanova, Fedorova & Koskhina, 2017, p. 54) relating to the purpose of this study. Bider and Kowalski (2014, p. 110) have argued that no good strategic decision is possible to be made without considering the human side of the organization, and it would rather be counter-productive to do so since it is the individuals whose contribution determines the execution of the strategies. According to Wright et al. (2018, p. 155), more recent research has also shown that even if the focus would be on the organization-level outcomes, the processes which are influenced by HR practices take place within individuals. Related to this, there is a need to change human resources policies with reorientation to align them with the strategic goals of the organization which is what the field of SHRM contributes to (Lashmanova et al., 2017, p. 56). Nahapiet and Ghoshal (1998, p. 261) have argued that a lot of research is still to be done combining the concepts of organizational advantage and the significance that human capital has in it.

Therefore, the purpose of this study is to find out how individuals in a company experience uncertainty in the company's external environment and how they feel that different uncertainties influence their KSAOs. To contribute to the research gaps more precisely, this research is made by taking the employees' perspective. In order to study the relationship between the external uncertainties and the individual KSAOs we will consider three different types of uncertainties that are 'state uncertainties', 'effect uncertainties', and 'response uncertainties' (Milliken, 1987, p. 137). We will focus our efforts on 'state uncertainties' when identifying the elements that influence the external environment. Further, in the managerial implications, we will develop scenarios based on the effects of environmental changes referring to 'effect uncertainties'. This will be done by identifying threats and opportunities associated with them as well as the effects they will have on the external environment. The third type, 'response uncertainty' is considered by providing

recommendations on how the company can respond to the early indicators of the scenarios.

1.5 Theoretical contribution and managerial implications

Our research contributes to two different fields in the literature. First, it contributes to the field of strategic management by taking a resource-based view on human capital and using scenario planning as a modern method to help develop the resilience of human capital. Second, it contributes to strategic human resource management (SHRM) by extending the knowledge of the relations between the external environment's uncertainties and individual KSAOs. From a broader perspective, it contributes to the field by updating the knowledge on adapting to a rapidly changing environment which has been largely ignored in previous studies (Wright et al., 2018, p. 146) by lacking dynamism from its views. It further contributes to SHRM by using scenario planning as a modern method building a stronger bridge between SHRM and strategic management. It also extends previous knowledge in the field by taking the employees' perspective rather than focusing on the relationship between HR practices and firm performance like many previous studies (Wright et al., 2018, p. 144).

The research aims to explore the role of human capital as an important company resource that can serve as a source of sustainable competitive advantage. Taking the employee perspective, this study will contribute with managerial implications on how companies can better develop the resilience of their human capital and prepare themselves by building future scenarios. When the relations between external uncertainties and individual KSAOs are identified, the scenarios provide practical guidance that helps in adapting to future changes.

1.6 Thesis structure

Chapter 1 (Introduction): As a starting point, this chapter presents the topics addressed in this thesis, as well as how the topic was chosen. Following is a description of the research problem background, which provides context and a clear insight into the problem or issue that the research is seeking to address. By highlighting the significance of the problem and the knowledge gap that the study aims to fill, it sets the stage for the development of a research question. Afterward, the purpose of the research is presented, followed by theoretical and practical contributions.

Chapter 2 (Theoretical framework): The theoretical framework provides an in-depth description of the theories used in this thesis, including existing research in the field and possible connections between various articles. We provide a theoretical framework that brings together classic literature and textbooks with the latest theories in academic articles to present a thorough background to the theories discussed. In this thesis, two key theories have been examined, namely the external environment and human capital. As a final step, the two theories are then integrated within a conceptual framework we have developed.

Chapter 3 (Methodology): This chapter begins with an overview of how we collected and reviewed relevant literature for this study. Following that, we take a closer look at our philosophical positions regarding ontology, epistemology, and axiology, and argue in favor of them. Next, we present our research approach and research design. Lastly, we summarize this chapter by providing a brief overview of its conclusions.

Chapter 4 (Research methods): The purpose of this chapter is to describe the practical methodological choices we made. Our general data collection method is presented first. After that, we discuss how participants were chosen for this study and how interviews were conducted. Lastly, we provide a progressive approach to our data analysis, quality criteria, research ethics, and scenario planning.

Chapter 5 (Findings): This chapter focuses on the empirical findings and begins by reviewing our interview process retrospectively. Furthermore, the empirical findings chapter summarizes the research findings, including any unexpected or unexpected findings in light of the answers provided by our interviewees.

Chapter 6 (Analysis and Discussion): This chapter starts by explaining the process of analyzing the empirical data through coding and using the Gioia method. After the analysis, the revised framework is presented, and its different dimensions are further discussed in the discussion part of the chapter.

Chapter 7 (Conclusion): As part of this chapter, we provide our contribution to theory as well as present two future-oriented scenarios that will take the form of managerial implications. We will also present societal implications that our research provides considering society. After providing a brief overview of our study's potential limitations, we conclude our paper with a handful of research areas that could be explored in the future.

2 Theoretical framework

In this chapter, we review existing literature on the external environment and human capital. In reviewing and demonstrating the research field, the literature background will help frame the current study and provide a deeper understanding of the phenomena under investigation. Additionally, the literature review will allow us to formulate a theoretical framework that will be used to analyze the research findings. The theoretical framework will begin with a discussion of the external environment and then cover the concepts of the VUCA environment and further, uncertainties. Next, the chapter discusses human capital in depth, including human capital as a competitive advantage, COVID-19, flexibility, and continuous learning. As a final step, the two parts of the theoretical framework will be connected by creating a conceptual framework.

2.1 External environment

Organizations operate in complex environments that have multiple levels. At the macro level, organizations are influenced by forces outside of any market or industry which can be for example political, economic, social, technological, legal, or environmental, often referred to as PESTEL forces (Whittington, Regnér, Angwin, Johnson & Scholes, 2020, p. 14). Constant need and desire for companies to manage uncertainties can benefit from looking into trends that take place in the environment (Powers, 2020, p. 14). Long-term trends often have social, economic, or political implications (Saritas & Smith, 2011, p. 293). Previous and some still ongoing macro-environmental trends that have influenced all organizations beyond the industry boundaries have been for example internet, climate change, economic growth rates, and pandemics. Some of these large-scale trends are slower to form than others but can influence many industries possibly over decades (Whittington et al., 2020, p. 51).

According to Pandya and Boukareva (2022, p. 39), the fourth industrial revolution has started over the last five years, and it has transformed many business practices demanding them to be more innovative against the increased volatilities. Companies that both realize and accept the existence of any crisis have better opportunities to be equipped to also combat it (Pandya & Boukareva, 2022, p. 49). Examples of crises seen in the last five years are the COVID-19 pandemic and the Ukrainian war which have both caused volatilities in the global business environment. The ability of human resource management to deal with uncertainties during crises has proven the novelty of HRM practices when it comes to both operations as well as human capital sustainability (Pandya & Boukareva, 2022, p. 55).

Moving towards the micro-level which is the company itself, industry and markets lie in between forming the other dimensions of the external environment (Whittington et al., 2020, p. 35). Industries as the second level of the external environment include their own threats and opportunities. An example of a threat can be obsolescence, meaning that a resource or knowledge that used to be valuable and unique can lose its value. The threat of obsolescence is also a good example of highlighting the importance of continuous updating and development of resources and capabilities along with the changes in the external environment (McGahan, 2004, p. 88). Understanding the changes in the industry can also be beneficial for companies since it helps them to take advantage of possible opportunities as they emerge. Overall, generating analysis of the business environment in a

systematic way helps companies to make better strategic decisions (McGahan, 2004, p. 94).

2.1.1 VUCA environment

VUCA environment describes the world we currently live in and is built from the concepts of volatility, uncertainty, complexity, and ambiguity. As a term, VUCA reflects an increasingly unstable and rapidly changing business environment (Bennet & Lemoine, 2014, p. 311). Dynamic environments have shown their power already in the past, for example during the financial crisis of 2008-2009, various business models became outdated when they could not adapt to the changes in the environment (Lee et al., 2009, p. 1). Changes require constant innovation and development in company operations and strategies (Teece et al., 2016, p. 20). Examining the VUCA environment is justified to avoid misinterpreting the environmental changes and making strategies that are either irrelevant or directing resources in the wrong direction (Bennet & Lemoine, 2014, p. 312).

To justify the importance of the VUCA mindset in the 21st century, the different VUCA elements are presented with more specific descriptions. Volatility describes the speed at which the forces and dynamics are changing the environment, meaning that the more volatile the environment is, the faster the change (Bennet & Lemoine, 2014, p. 312). To be able to cope in a volatile environment, companies need to have agility and adaptability to help them identify the opportunities and threats that are inherent under the circumstances (Bennet & Lemoine, 2014, p. 312; Baran & Woznyj, 2021, p. 6). Uncertainty refers to the lack of predictability and information. Both cause and effect of something can be unknown. Also, whether or not something's impact is significant and what is the ultimate effect of it are unknown. To cope with uncertainty companies should embrace the importance of information. Constant extension of knowledge and updating data becomes crucial in the VUCA environment. (Bennet & Lemoine, 2014, p. 313). Complexity means many interrelated parts. It does not include the cause-effect relation making it hard to see how things are related to each other. To cope in a complex environment, companies should aim to restructure their internal operations to match the external complexity. Ambiguity as the last VUCA element refers to something that is unclear even if there is information provided. It also refers to not having any precedent or understanding of the cause-effect relations. When the existing rules do not apply and there are no prior examples, the most useful way to cope with ambiguity is experimentation (Bennet & Lemoine, 2014, p. 316).

Understanding a company's VUCA and using the VUCA lens in leadership helps to evaluate different solutions. VUCA can also help leaders to learn from previous mistakes which further helps building resilience and abilities to continuous improvement (Baran & Woznyj, 2021, p. 6). Companies that use VUCA for their benefit are overall more likely to develop strategies that are based on efficiency, creativity, and control, boosting resilience to survive the worst-case scenarios (Bennet & Lemoine, 2014, p. 312). Because we are interested in understanding how employees perceive uncertainty within the external environment of the case company and how different uncertainties influence their KSAOs, we have chosen to focus on the uncertainties that exist within the VUCA environment as it pertains most to our topic.

2.1.2 Uncertainties

Companies are in constant need of becoming increasingly aware of the importance of identifying uncertainties that might have an impact on their strategies at a time when the business environment is rapidly changing. Frank Knight (1921), the famous Chicago economist, was the first to introduce the concept of uncertainty as we use it today. A critical aspect of Knight's analysis is the definition he provided of the concept of risk, which he argued describes a known probability distribution based on a set of events (Knight, 1921, p. 233). According to Bloom (2014, p. 153), flipping a coin is considered risky by Frank - It is said that there is a 50 percent chance of the coin landing heads and a 50 percent chance of the coin landing tails for a fair toss. By contrast, Knight defined uncertainty as the inability of people to predict the likelihood of an event occurring (Knight, 1921, p. 233). As an example, it is not known how many coins mankind has ever produced. In order to calculate this, one would have to estimate the distribution of coins minted throughout history across the hundreds of countries that exist today, which is a task that most people would not even know how to begin with (Bloom, 2014, p. 153).

Strategic management has long dealt with uncertainty, particularly when investigating the nature of the relationship between firms and their external environment (Dill, 1958; Duncan, 1972; Lawrence & Lorsch, 1967; March & Simon, 1958; Milliken, 1987; Thompson, 1967). In a similar vein, March and Simon (1958, p. 139), the pioneering management scholars whose book *Organizations* has been cited over 36,000 times, argue that the firm's business environment is inherently unstable, thus creating uncertainty for rationally bounded managers who are incapable of gathering, processing, and comprehending information regarding change and new developments. In more detail, 'environmental uncertainty' is caused by managers not having accurate information about corporations, operations, and events occurring in their external environments; namely, when managers lack confidence in their ability to predict what major changes will emerge (Duncan, 1972; Lawrence & Lorsch, 1967).

If the word 'environmental' is used to describe the term uncertainty, then it suggests that the source of uncertainty lies within the external environment of the organization (Milliken, 1987, p. 136). It has been proposed by Milliken (1987, p. 136) that in terms of uncertainty, there are three types that act together and determine the overall degree of uncertainty that strategic decision-makers face. The first type of uncertainty is called 'state uncertainty' (also known as perceived environmental uncertainty), and it refers to the inability to determine how the environment is changing based on its elements (Milliken, 1987, p. 136). Among the three types of uncertainty, it is the state type of uncertainty that is conceptually closest to the use of the term 'environmental uncertainty,' this is because it refers to the status of an organization's environment. Rather than describing an objective world state, its use here is to describe a perceptual experience of uncertainty (Milliken, 1987, p. 136). Secondly, there is the 'effect uncertainty', which refers to the inability of managers to predict the effects of the drivers of change that might have on their organization due to a lack of knowledge of their impact (Milliken, 1987, p. 137). Finally, there is 'response uncertainty', which entails an attempt to determine what response options are available to an organization, and what value or utility each of those options might provide (Milliken, 1987, p. 137). These three types of uncertainties are used in this research starting from identifying the elements that influence the external environment and leading to the building of scenarios that further help the case company to prepare and respond to the possible changes in the future.

Over time, there have been several typologies proposed by scholars over the years to help us better understand uncertainties. There are some categorizations based on the particular event in question. A study conducted by Miller (1991, p. 40), for example, highlights five aspects of uncertainty within the broad environmental spectrum in terms of political uncertainty, government policy uncertainty, macroeconomic uncertainty, social uncertainty, and natural uncertainty. Other scholars conceptualize uncertainties in terms of the characteristics they share, regardless of the specific event or incident that is being discussed. One of the main characteristics of environmental uncertainty is the lack of information available about the changes occurring in the environment (Milliken, 1987, p. 136).

In the context of SHRM, the concept of uncertainty has been utilized to assess and analyze external opportunities and threats that may have an impact on an organization. The underestimation of uncertainty can lead to strategies that are neither able to defend against threats, nor take advantage of opportunities presented by high levels of uncertainty (Courtney, Kirkland, & Viguerie, 1997, p. 69). Thus, the company's strategic planning process will be affected as a result (Milliken, 1987, p. 139). As such, with increasing uncertainty, new analytical approaches to decision-making and long-range planning have been developed: these approaches are referred to as strategic foresight (Coates, Durance, & Godet, 2010; Vecchiato & Roveda, 2010, p. 1527). Mendonça and Sapio (2009, p. 286) describe strategic foresight as having two main functions: first, scanning the environment and identifying relevant events and factors that drive change. Second, identifying and implementing appropriate techniques to anticipate the likely evolution of drivers of change (state uncertainty), their effects on the organization (effect uncertainty), and the most appropriate responses (response uncertainty). Foresight techniques such as roadmaps, scenarios, and strategic options are by far one of the most commonly used (Vecchiato & Roveda, 2010b, p. 1527).

It can be argued that volatility and complexity are factors that contribute to uncertainty in the VUCA environment. It is inevitable that the speed, turbulence, and dynamics of change, combined with multiple interdependencies in the midst of worldwide interconnectivity, contributes to a climate that is unfamiliar and uncertain. Therefore, there is a need for this literature since it will enable us to examine the relationship between uncertainties in the external environment and employees' KSAOs. In terms of ambiguity, one usually starts with uncertainty before arriving at ambiguity. Consequently, as a means of reducing ambiguity, we will further develop a broader picture of the possible scenarios that may arise from the most concerning uncertainties.

2.2 Human capital

The development of human capital theory, relating the concept to economic growth and organizations started in the 1960s when Theodore Schultz (1961) first introduced the idea of skills and knowledge as a form of capital. Another early contributor to the subject was Gary Becker (1962, cited in Dawson, 2012, p. 4) who expanded the definition of human capital and its theory bringing along the concept of investing in human capital. Becker (1964, p. 1020) has referred to learned skills as part of the human capital that needs investment in education, training, or learning in general. The investments in human capital at its early definition have also included for example on-the-job training and medical care. Later studies have added a new direction to human capital theory by emphasizing the

importance of organizational culture and its importance in developing human capital (Dawson, 2012, p. 4).

When it comes to the success of the company strategies, it needs to be acknowledged that it is the people in the organization who deliver the strategies (Whittington et al., 2020, p. 394). Dawson (2012, p. 6) has argued that it is important to acknowledge that companies do not own their human capital, individuals do, so it is up to the individuals whether they want to behave in a beneficial manner contributing to the role they have been signed in a company. This has been agreed by Bider and Kowalski (2014, p. 110) who stated in their research that it is the individuals who decide the extent to which they contribute to successfully accomplish the company's strategic goals. There are still actions that companies can take in order to influence their employees' actions. HR practices to increase motivation and commitment can be for example reward systems, flexibility in job design, and strong socialization systems. Relating to the socialization system, it has been acknowledged that people who feel like they are part of a social community are more likely to stay motivated and behave in a way that fits the organization's values and norms (Dawson, 2012, p. 6). Whittington et al. (2020, p. 394) have highlighted different questions that companies should think about when it comes to their employees. These questions include thinking about whether the people in the organization currently have appropriate competencies to deliver the current strategy, and whether the systems provided by the organization are supportive of developing the needed competencies. Structures and systems are in an overall important role to give people their formal roles and support and control them to carry out these roles and responsibilities (Whittington et al., 2020, p. 435).

As mentioned, already from the beginning of human capital theory, knowledge and skills have been the main part of human capital. Building on this original concept, abilities, and other characteristics, such as personality traits like flexibility, have been added to these competencies, altogether forming KSAOs. Although it might be debatable that some soft skills or personality traits as other characteristics are something people are born with, generally KSAOs are the individual competencies that can be developed with learning. Specifically, knowledge is the declarative or practical information required to perform a task as well as the basis from which skills are developed (knowledge may be applicable to a broad range of jobs or only one specific job), skills represent an individual's scope of proficiency and capabilities to carry out certain tasks and can be honed with practice, abilities are a more lasting capability that can be applied to a range of occupational tasks, and other characteristics refer to personality traits and cognitive dispositions that influence the individual's performance on a variety of tasks (Ployhart, Nyberg, Reilly & Maltarich, 2014, p. 376). Individual KSAOs and attitudes influence collective outcomes and can also be shaped by HR practices (Wright et al., 2018, p. 155). Overall, human capital resources are capabilities that are based on individual KSAOs that are both usable and meaningful for the company and its strategic goals (Bell et al., 2018, p. 453). Relating to Dawson's (2012) and Bider and Kowalski's (2014) earlier-mentioned view on individuals' importance, also Simon (1991, p. 125) has argued that organization-level learning cannot happen without individual learning happening first. Personal growth of individual employees as the basis of organizational growth has also been seen to influence the company's adaptability which depends on the level of its human capital according to Aliev and Sigov (2017, p. 64). This highlights further the importance of the individual perspective including KSAOs and their development.

When building teams inside a company, or considering a company as a team, the compatibility of the KSAOs is important (Bell et al., 2018, p. 451). Many potential KSAOs and configurations of KSAOs can affect the team's effectiveness. This is relevant since many consulting firms, for instance, compose project teams based on the client's demands and the employee's expertise. Once a project is over, the teams will be reconfigured which allows the company to stay adaptable to the client's needs and this way support its human capitals fit with the changing external environment (Wright & Snell, 1998, p. 765). Acknowledging the importance of human capital influences the HR policies and practices of companies. Considering the employees as individuals, companies need to understand that their working time occupies most of their lives, and placing money on their well-being should not be seen as a cost but rather as an investment in human capital (Aliev & Sigov, 2017, p. 65) which had been acknowledged by Becker (1962, cited in Dawson, 2012, p. 4) already in the 1960s. Investing in human capital includes for example professional development of the employees and taking care of their well-being and health. The role of HRM has increased its importance over time by outgrowing the organization's boundaries and extending to the wider community and personal life of an employee (Pandya & Boukareva, 2022, p. 54).

2.2.1 Human capital as a source of competitive advantage

Strategic human resource management (SHRM) is a relatively young field that evolved around the 1980s (Wright et al., 2018, p. 141). As mentioned in the introduction, as a field it targets vertical alignment between HR decisions and strategy and horizontal alignment of the variety of HRM practices (Wright et al., 2018, p. 143). The field has mostly embraced the resource-based view (RBV) as a theoretical paradigm but has failed to keep pace with the external environment and its changes, thus lacking dynamism from its views.

Capabilities were first mentioned by Ansoff (1965, cited in Long & Vickers-Koch, 1995, p. 9) but were not considered as part of the strategy until the late 1970s. Before this, most researchers in the field of strategic management considered the creation of competitive advantage to evolve solely from the selection of products and markets (Long & Vickers-Koch, 1995, p. 10). RBV was first introduced by Wernerfelt (1984) exploring the usefulness of analyzing the company resource side rather than the product side. Rumelt (1991), Barney (1991), and Teece et al. (1997) have further argued that firm-specific factors exceed the industry effects in importance. They have all contributed to the strategic management field with a resource-based perspective that focuses on exploiting firm-specific assets that exist in a company. Company resources include for example assets, capabilities, organizational processes, and knowledge that are controlled by the company itself (Barney, 1991, p. 101). RBV includes an assumption that all companies are heterogeneous when it comes to resources and capabilities (Teece, Pisano & Shuen, 1997, p. 514).

Barney (1991) introduced the VRIN framework which focuses on resources' abilities to offer competitive advantage. Competitive advantage as a term refers to a situation where a company implements a strategy that creates value and is not simultaneously implemented by any of its competitors (Barney, 1991, p. 102). For the competitive advantage to be sustainable, a resource needs to be all valuable, rare, inimitable, and non-substitutable (Barney, 1991, p. 105-106). Later in 1995, Barney changed the last letter of the framework to O introducing the VRIO framework where instead of the non-substitutability, the O stands for organization. Organization in this context refers to the fact that a firm

must also be organized to exploit its own resources and capabilities (Barney, 1995, p. 56). According to Barney (1991), human capital is the most valuable and most difficult to imitate from the resources of a company. Inimitability is often achieved with socially complex resources. Therefore, it also relates to the KSAOs of individuals that form collective human capital resources, which are also likely to be inimitable (Wright et al., 2018, p. 156). Human capital becomes strategic when it provides a competitive advantage which it can do by either exploiting opportunities or mitigating threats in an organization's environment. Wright et al. (2018, p. 157-158) have suggested that combining strategic HR practices with strategic human capital could extend our knowledge of how companies manage their people as a source of competitive advantage, extending the value of the SHRM research field. Also, Bell et al. (2018, p. 451) have argued that human capital is positioned as a source of competitive advantage. Furthermore, it can even be used to differentiate the company (Bell et al., 2018, p. 454).

Wright et al. (2018, p. 149) discovered in their research that studies in SHRM have often focused on HR practices and their influence on company performance. They have rather rarely taken the employees' perspective. It should be still noted that focusing only on the people side does not complete the picture of SHRM processes either. Both sides should be considered while researching the area since the companies do not have the same luxury of excluding the other as researchers do. Along with the changes in the environment, there are constant evolvments of new skill gaps that can impact the competitiveness of a company which has further called for new avenues of research in the field of SHRM (Wright et al., 2018, p. 148). Helping people to understand the company's core capabilities and possible changes in them is crucial in helping them to understand the overall purpose and direction of the company (Long & Vickers-Koch, 1995, p. 19). Companies need to keep in mind that their employees are the key to achieving competitive advantage (Wright et al., 2018, p.148). Research by Wright et al. (2018, p. 157-158) further suggests that strategic HR practices with strategic human capital could extend our understanding of how competitive advantage can be accomplished by managing people. Dawson (2012, p. 6) has further argued that HR is only valuable if it contributes to the competitive advantage of the company meaning that the people need to be willing to exhibit productive behavior. On the other hand, how much a company is capable of being adaptable and flexible depends on the level of its human capital (Aliev & Sigov, 2017, p. 64). Thus, the quality of human capital has an influence when it comes to the competitiveness of the organization. Since human capital is built from the individual KSAOs, competitiveness is also dependent on the KSAOs.

2.2.2 COVID-19 impacts on the human capital

The latest coronavirus (COVID-19) outbreak serves as an example of the most disruptive events the world has recently faced. It was declared a pandemic in March 2020 by World Health Organization (WHO, 2020) immediately impacting businesses with different restrictions like lockdowns and supply chain problems. When it comes to predicting trends or crises within the future of businesses, global pandemics have rarely been mentioned. Therefore, the unpredictability of a pandemic brought crucial uncertainty about the future when the COVID-19 outbreak took place (Baran & Woznyj, 2021, p. 2). COVID-19 also serves as an important example to show the importance of considering multiple aspects when it comes to changes in the external environment. It also shows an example of an outbreak in the VUCA environment where the rate of change can be very high, and the direction of the change is constantly unknown.

When it comes to changes forced to be made in companies during the pandemic, COVID-19 started by influencing the work-life balance by transferring people from offices to remote work. This created a need for HR to be informative making the role of virtual communication more important. Communication, including individual messages needed to be carefully drafted and include correct information in order to manage employees and their stress (Pandya & Boukareva, 2022, p. 47). Continuous information flow to the employees considering both internal and external status as well as the future targets of the company has been seen as a way to build resilience during a pandemic (Pandya & Boukareva, 2022, p. 54). Especially in companies where employees were mostly working from home or on virtual platforms, the priority of HR has mostly been on employee well-being (Pandya & Boukareva, 2022, p. 52). Genuine care for the well-being of employees has been seen to enable sustainable employee performance.

COVID-19 has been reported to infuse stress, anxiety as well as uncertainty among people in companies creating additional challenges for human resources. Also, being scared of the financial situation of a company in a time of crisis can influence the willingness to recruit, which can further have an impact on the existing employees by increasing their workload (Pandya & Boukareva, 2022, p. 49). Highlighting the importance of mental health and reducing workplace-related stress is crucial for employees to be able to reach their full productivity and innovation in times of crisis, like the COVID-19 pandemic (Pandya & Boukareva, 2022, p. 54). Also, post-crisis well-being is one of the key factors to ensure that employees are both physically and psychologically fit to work. This relates to building resilience among employees with different HR practices so that they can better withstand and defeat future crises (Pandya & Boukareva 2022, p. 56).

When it comes to coping with the changes brought by COVID-19, according to the research made by Negi, Pant, and Kishor (2021, p. 48), engaged employees have been more adaptable to changes than non-engaged employees. Being part of a social community has been seen to increase the engagement of the employees and this has been supported by HR practitioners for example in the form of social-virtual lunches and coffee breaks through virtual platforms during remote work. Building a stronger community through virtual platforms improved consistency in HR practices reducing lay-offs, job insecurity, and stress among employees (Pandya & Boukareva, 2022, p. 53).

2.2.3 Need for flexibility and continuous learning

The VUCA environment has challenged organizations to turn their focus towards a more people-centered approach. The meaning and the purpose of an activity have become crucial when it comes to motivation. Organizations should therefore strive for a clear vision that helps their employees better understand their job description and develop their KSAOs related to the job (Baran & Woznyj, 2021, p. 7). The key drivers for change should be the factors in the external environment that are most likely to impact industries and the possible success or failure of strategies that are being built in the companies within the industries (Whittington et al., 2020, p. 49). Since the external environment is constantly changing and dynamic, companies should focus on the same attributes when it comes to developing their resources and capabilities as well. When resources and capabilities can quickly adapt to changing circumstances, they contribute to resource flexibility (Bell et al., 2018, p. 454). Flexibility has been seen helpful in adapting to changes more quickly and more efficiently (Wright et al., 2017, p. 153).

The challenge of matching companies' adaptability to the variability of their external environment has been of concern in the scientific community for over a decade (Aliev & Sigov, 2017, p. 60). When it comes to navigating in a constantly changing environment, the importance of organizations' flexibility and adaptability has been argued by multiple authors in previous research (Teece et al., 1997; Wright & Snell, 1998; Adner & Helfat, 2003; Bell et al., 2018). Wright et al. (2018, p. 158) have even proposed that exploring how to create flexible practices and develop individual KSAOs to be more adaptable could modernize research to match the constant environmental changes.

In the external environment, there is a constant threat of different uncertainties turning into a crisis. A crisis has been defined by Turner (1996, cited in Pandya & Boukareva, 2022, p. 49) as "an acute emotional upset in an individual's usual steady-state, accompanied by a perceived breakdown in his or her usual coping abilities. A crisis state is time-limited, taking weeks or months for an adaptive or maladaptive resolution to be reached". This definition highlights quite literally the importance and need for adaptability. Bell et al. (2018, p. 451) have also acknowledged that organizations in the 21st century are required to strive for strategic flexibility to be able to meet the demands of their dynamic environments, including the possibility of crisis. They have further argued that strategic decisions should be complementary and possible to integrate with other HR activities flexibly, maximizing the company's ability to pursue alternative strategies (Bell et al., 2018, p. 461). Dynamic capabilities, as part of RBV, is a term introduced by Teece et al. (1997), and it refers to the organization's ability to renew and recreate its resources and capabilities, thus being able to meet the needs of its constantly changing environment. Dynamic capabilities, highlighting the importance of flexibility and adaptability, were first mostly used in high-technology industries but have since increased their importance in other fields as well (Teece, 1997, p. 515).

Even though the focus is on human capital and resources and capabilities related to the human side of the organization, these resources, like any other resource or capability, should not be treated as ready or developed by setting them aside as isolated units. When it comes to isolating resources from each other, isolating mechanisms have a risk of becoming a liability to a company if they start preventing the company from adapting to changes. Thus, isolating mechanisms should be rather based on flexibility and adaptability when it comes to the external environment (Dawson, 2012, p. 7). This relates to the need for dynamic capabilities introduced by Teece et al. (1997).

Another view to take on developing adaptability and flexibility is organizational learning. Companies operating in unstable environments are in constant need of lifelong learning (Aliev & Sigov, 2017, p. 57) which requires both adaptability and flexibility. Thus, the main task of a learning organization is the constant updating of individuals' knowledge and skills (Aliev & Sigov, 2017, p. 67). When it comes to individual qualities, there is a universal need for people who have professional and creative skills that can be adapted according to the conditions of uncertainty. This relates to the main working skills predicted by the World Economic Forum (2016; cited in Aliev & Sigov, 2017, p. 58) to be on-demand starting from 2020 like complex problem-solving, critical thinking, emotional intelligence, and decision-making. In addition to these qualities being in demand in the job market, it should be noted that motivation for employees to strive for them comes also from the fact that people need something more than just a material pay. Both formal and

informal learning at work is impacted by the organization's culture and it has been researched that a more positive psychological environment contributes more to learning and development (Aliev & Sigov, 2017, p. 60). Creating a learning organization is also a way to adapt an organization to its unstable environment by investing in its human capital (Aliev & Sigov, 2017, p. 68). To succeed in the creation of a learning organization it needs to be acknowledged that managers cannot be reluctant to apply new knowledge and methods but rather embrace them to secure constant development.

2.3 Conceptual framework

In theory-building case studies the final product can be either concepts, propositions, mid-range theory, or a conceptual framework (Eisenhardt, 1989, p. 545). This research aims to the latter. Theory-building in case studies is a bottom-up approach where the details of the data help to produce the generalization of the theory.

The literature review discussed the uncertainties caused by the external environment and the importance of human capital in companies. The following conceptual framework presented in Figure 1 works as a guide to identifying the relations between different environmental uncertainties and human capital regarding individuals' KSAOs in the following steps of this research.

In the conceptual framework, the external environment and the VUCA environment stand for the broader concepts as a starting point. From the VUCA, and the external environment, uncertainties were chosen as the focal point and divided into different aspects of uncertainties based on PESTEL. On the other end of the framework, human capital stands for the broader concept and relates to the individual KSAOs which are the focus points for finding the relation that the uncertainties have to them. The boxes in between the KSAOs and the uncertainties will further explain the dimensions that the relations derive from. By turning the conceptual framework into a revised framework, the research will contribute to filling its identified research gap.

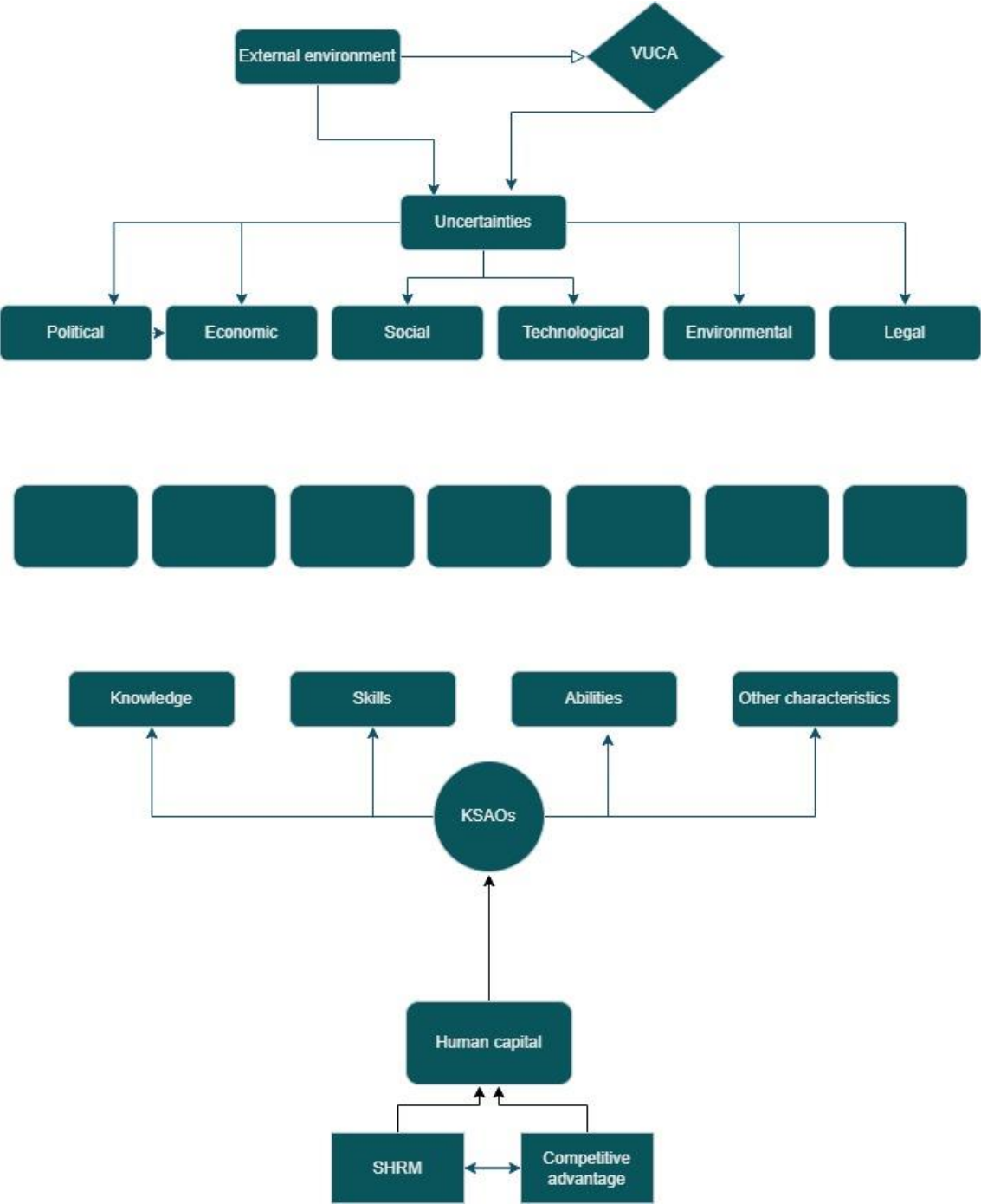


Figure 1. Conceptual framework.

3 Methodology

The first part of this chapter will cover our process of collecting and reviewing relevant literature for this paper. After that, we will discuss in-depth and argue in favor of our philosophical positions concerning ontology, epistemology, and axiology. Next, we will present the research approach we intend to employ and the research design we plan to use. Finally, we will summarize this chapter by providing a brief overview of its conclusions.

3.1 Literature review

The purpose of the literature review is to share knowledge gained from previous studies and gather information that is related to the topic being studied. While the literature review can reveal gaps in previous research, it also serves as a benchmark for comparing results with previous findings (Cresswell, 2009, p. 23). Overall, the point of the literature review was to show a broad preview of the topics being discussed in the study including relevant prior studies and authors that have contributed to the fields. In this thesis, we aim to explore the literature considering the external environment and its uncertainties, as well as human capital. We have further aimed to find previous relations between these topics and explored literature considering the importance of their relation. Both main theory streams of external environment and human capital date back multiple decades. Human capital as a concept was relatively easy to track down to its origin, and the origin of its usage in business context. The largest challenge appeared when concerning the external environment and its definition. The external environment, business environment, macro-environment, industries, and markets were falling under the broad definition and different articles considering the external environment used these different terms for it, which made it challenging to find large-scale or relevant articles with a single search.

In our literature review, the biggest source was different articles in different academic journals. To be included in our thesis, the articles needed to be peer-reviewed. In addition to articles, we also used textbooks, and in some instances conference papers and websites (i.e., WHO). Electronic articles as the biggest source, were mostly accessed through Umeå University Library's database and Scopus. In addition, Google Scholar was used to find possible extensions and updates on existing theories. We aimed to find the primary source for every citation but ended up using secondary references in cases where we did not have access to the original source. Examples of these situations were for example when the original source was not available in English or would have been too costly to get access to (e.g., Turner, 1996, cited in Pandya & Boukareva, 2022, p. 49). Overall, the intention of the articles and books was to provide knowledge that would be both relevant and up to date considering the two main theory streams. By starting with the history and the origin of the theories we wanted to demonstrate the development of the theories as well.

Facing the challenge with definitions like external environment, we used a snowball tactic looking for further readings from the references used in other relevant articles. Scopus worked well with this approach since the articles are listed in order of relevance and include information like how many times the article has been cited. Scopus also gives the referenced articles in a list that includes hyperlinks enabling quick access to move forward into reading them. Other than the snowball tactic, literature was searched by using

different keywords. Our search keywords were based on the discussed theories and the direction of the thesis that starts from the problematization and purpose of the study. Key words included words such as: *external environment, business environment, macro-environment, uncertainties, external threats, external opportunities, human capital, strategic human capital, human capital in SME's* and combinations of those.

3.2 Research philosophy

The concept of philosophical assumptions can be thought of as a framework for guiding how researchers view reality, and what it means for them to develop what they consider to be acceptable knowledge. There is a direct correlation between what we know about the phenomenon, what we encounter during the research process, and the ways in which our values play a role in the research process, which would eventually impact the findings of the research (Brand, 2008, p. 431; Marsh & Furlong, 2002, p. 17; Saunders, Lewis & Thornhill, 2019, p. 130). Consequently, understanding these assumptions when conducting research is imperative. As reported in the social science literature, researchers need to have a clear understanding of paradigms and worldviews as they provide philosophical, theoretical, instrumental, and methodological foundations (Zukauskas, 2018, p. 123). Nevertheless, Marsh and Furlong (2002, p. 17) argue that the researcher's own viewpoint should guide the research instead of shifting assumptions to suit the subject. On the basis of what has been stated above, we will introduce the concepts of ontology, epistemology, and axiology in the following sections, along with other viewpoints and positions that can be proposed. We will end each chapter by identifying our own ontological, epistemological, and axiological assumptions.

3.2.1 Ontology

The concept of ontology pertains to the nature of being, which can be equated with its literal meaning as a theory of being (Marsh & Furlong, 2002, p. 18). Therefore, we can say that the ontological assumption lies at the very heart of our existence, as it seeks to question the nature of reality and how we perceive it. In terms of ontology, two positions can be taken depending on how one sees the world, namely objectivism and subjectivism (Bahari, 2010, p. 25). According to Saunders, Lewis, and Thornhill (2019, p. 135), the objectivist approach incorporates assumptions that are inherent in the natural sciences and argues that the social reality that is being researched is external to us and others (i.e., social actors). According to this view, the interpretations and experiences of social actors do not affect the existence of the social world, meaning that an objectivist at its extreme form believes that all social actors experience only one true social reality (Saunders et al., 2019, p. 135). An objectivist viewpoint recognizes that social and physical phenomena exist independently of individual perspectives on them and have universal, enduring characteristics (Saunders et al., 2019, p. 135).

Contrary to that is subjectivism. Subjectivism incorporates assumptions of the arts and humanities, asserting that social reality is made from the perceptions and consequent actions of social actors (people) (Saunders et al., 2019, p. 137). In other words, subjectivism adopts an alternative view of social reality which emphasizes the importance of the subjective experiences of individuals in the creation of the social world (Burrell & Morgan, 1979, p. 3). Hence, to understand what is happening or how realities are being experienced, researchers must study a situation in detail, including historical, geographical, and

sociocultural contexts (Saunders et al., 2019, p. 137). In contrast to an objectivist researcher who looks for universal facts and laws governing social behavior, a subjectivist researcher is interested in different perspectives and narratives of individuals that can help explain the social realities experienced by different social actors (Saunders et al., 2019, p. 137).

As we believe the world to be a social construct and that each individual is able to experience the reality of the world differently based on their own set of values and experiences, we consider ourselves to be subjectivists. Further, since our research aims to identify uncertainties in the external environment by interviewing individuals, we anticipate that these individuals might interpret the situations differently depending on their view of the world and the meanings that they have drawn from such events, which in turn may have a bearing on the overall research findings. It is unlikely that the data is black and white, which means that different interpretations are likely to exist. It can therefore be concluded that this study will neither produce generalizable results nor assume that social actors in the surrounding environment do not affect the studied phenomenon.

3.2.2 Epistemology

Epistemology is a theory of knowledge and refers to a researcher's views of what we can know about the world and how we can gain this knowledge (Marsh & Furlong, 2002, p. 18, 19). Thus, it refers to the assumptions we make about “the grounds of knowledge – about how one might begin to understand the world and communicate this as knowledge to fellow human beings” (Bell & Morgan, 1979, p. 1). A person's epistemological assumptions determine the kind of contribution that they are likely to make as a result of their research (Saunders et al., 2019, p. 159). Within epistemology, there are three main approaches: positivism, critical realism, and interpretivism (Marsh & Furlong, 2002, p. 20).

Positivism, as the first approach emphasizes that the world exists independently despite our knowledge of it and that it is real and not socially constructed (Marsh & Furlong, 2002, p. 22). In the opinion of positivists, social science and natural science are in many ways analogous. It is imperative for positivists to establish regular relationships between social phenomena and use theory to generate hypotheses that can be tested by direct observation of these phenomena (Marsh & Furlong, 2002, p. 22). Accordingly, positivists emphasize a scientific empiricist method that is designed to produce pure facts and data free from human interpretation or bias (Saunders et al., 2019, p. 144). Because of this, most positivist research is quantitative, since the emphasis is placed on quantifiable observations that can be analyzed statistically (Saunders et al., p. 147).

As the second approach, critical realism occupies a middle position within the objective-subjective spectrum (Marsh & Furlong, 2002, p. 30). According to the philosophy of critical realism, what we see and experience is explained by the underlying structures of reality that shape observable experiences (Saunders et al., 2019, p. 147). In critical realism, reality is most important, and a structured and layered ontology plays a crucial role. Critical realists believe that reality is external and independent, but not accessible to us directly through observation and knowledge; rather, what we experience is 'the empirical', in other words, sensations that are some manifestations of reality, rather than actual things (Saunders et al., 2019). A variety of methods is used by critical realists to analyze changing or enduring societal and organizational structures. Critical realists are epistemological

relativists who embrace a (mildly) subjectivist approach to knowledge as part of their focus on the historical analysis of structures (Saunders et al., 2019, p. 148).

On the other end of the epistemological spectrum is interpretivism. Like critical realism, interpretivism has developed in response to positivism, but from the perspective of a subjectivist perspective (Saunders et al., 2019, p. 148). Interpretivism emphasizes the difference between humans and physical phenomena, because humans create meaning and the interpretive approach focuses on studying these meanings (Saunders et al., 2019, p. 148). They argue that social sciences research should be different from natural sciences research rather than attempting to mimic the latter (Saunders et al., 2019, p. 148). Interpretivism emphasizes the meaning of phenomena rather than their quantifiable qualities. There are clear methodological implications to this position. A fundamental tenet of interpretivism is that there is no objective truth, that the world is socially constructed, and that scientists should aim to study those social constructions (Marsh & Furlong, 2002, p. 26). Quantitative methods, according to interpretivism, can lead to misleading data, making them blunt instruments, while qualitative methods can help us understand how people perceive their worlds (Marsh & Furlong, 2002, p. 26-27).

Based on the above, we consider ourselves interpretivists by nature. We will be examining uncertainties in the external environment through the lens of a small sample of interviews with employees. Taking into account the fact that uncertainty is a broad phenomenon and is highly dependent on the individual's view and experience, our research takes a stance in favor of an interpretivism-based epistemology. We assume that the parties involved will experience uncertainty in different ways, and we expect different perspectives to come from different individuals. This is especially important due to the fact that we will be using individual KSAOs as the key concept to address the personal opinions of the interviewees. Additionally, to learn from different perspectives and perceptions, we have chosen a qualitative method based on Marsh and Furlong's recommendation.

3.2.3 Axiology

Values and ethics play an important role in axiology (Saunders et al., 2019, p. 134). The extent to which we can view the impact of our values and beliefs in research as positive is one of the key axiological choices researchers face. Thus, we need to decide how we will treat both our values and those with whom we are conducting research. As Heron (1996, p. 25) argues, our values are the guiding force behind all human actions, and despite the inevitable inclusion of our values during the research process, it is crucial that we explicitly acknowledge them as we conduct and write up our research. In other words, axiology asks us whether we should aim for moral neutrality when we are conducting research, or whether we let our values guide our decisions. Positivism, for example, advocates value-free research in which researchers maintain an objective stance and are detached, neutral, and independent from what is being studied (Saunders et al., 2019, p. 144). Alternatively, critical realism involves value-laden research where the researcher acknowledges their bias due to their world views, cultural experiences, and upbringing, but tries to minimize them and remain as objective as possible (Saunders et al., 2019, p. 144). As a final notion, interpretivism is based on value-bound reflexive axiology, where the researcher is part of what is being researched and whose subjective interpretation is key to the contributions (Saunders et al., 2019, p. 145).

As subjectivists ontologically and interpretivists epistemologically, it only follows that our values will influence our research which points to the value-bound reflexive axiology. Due to the formulation of our research question as well as the theories underpinning it, we are strongly involved in every step of this research. The choice of data collection method is also related to the fact that the study must engage with and interact with the respondents. Despite that, we plan to take precautions so that our biases will not disturb our interviews or cause them to be misinterpreted.

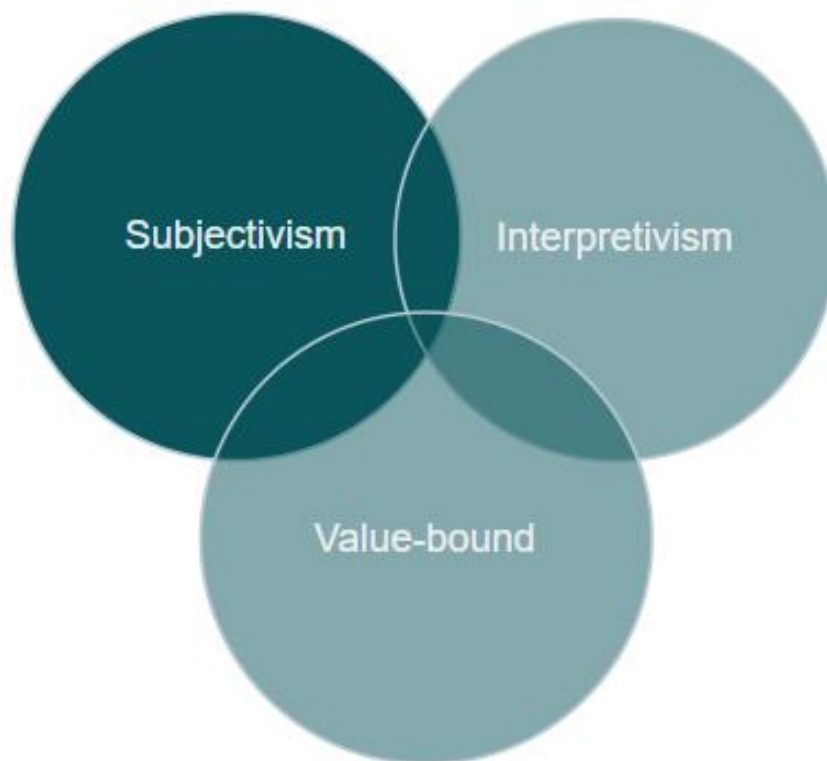


Figure 2. Research philosophy.

3.3 Research approach

There are three types of reasoning that can lead to knowledge acquisition: deductive reasoning, inductive reasoning, and abductive reasoning. In deductive reasoning, the researcher develops a conceptual and theoretical framework and then tests this framework by conducting empirical observations to identify specific instances based on the conclusions drawn (Collis & Hussey, 2014, p. 7). For this reason, the deductive method is referred to as moving from the general to the particular. With prior knowledge about a phenomenon and the population in which it is embedded, as well as a robust method of sampling, deductive reasoning is based on a logic of confirmation, enabling a researcher to make confident assumptions about the characteristics of the sample (Bamberger, 2018, p. 3). The approach taken by researchers varies depending on their philosophies. For example, deductive reasoning utilizing quantitative methods dominates the positivist perspective (Boeren, 2015, p. 420).

Alternatively, inductive reasoning involves developing theories based on observing empirical reality; therefore, general conclusions are derived from particular instances (Collis & Hussey, 2014, p. 7). Inductive reasoning can be described as moving from the specific to the general since it involves moving from individual observations to general statements. The presence of a theory within inductive reasoning might be absent; however, data drives this type of research in order to gain new insights with the goal of developing theory (Boeren, 2015, p. 420). Inductive reasoning is a defining characteristic of interpretivism (Boeren, 2015, p. 420). Qualitative research also rests on inductive premises, since the questions that the researcher tries to answer come usually from observational elements (Williams, 2011, p. 67).

Abductive reasoning is the third and last approach to theory-building that can be found in research, and it is based on observing a surprising fact at the beginning of the process (Saunders et al., 2019, p. 152). In some cases, the surprising fact is not the premise of the argument, but rather the conclusion. Based on this conclusion, a set of plausible premises are determined that are believed to be sufficient to support the conclusion. Assuming these premises are true, the conclusion should be true as well. Since the premises are sufficient or nearly sufficient to generate the conclusion, it is reasonable to assume that it is also true (Saunders et al., 2019, p. 152). Abductive reasoning naturally appeals to critical realists and pragmatists (Saunders et al., 2019, p. 157).

Throughout the scope of this study, the aim is not to prove theories true or to eliminate them as false. Neither do we intend to formulate hypotheses nor test them by matching them with data. As such, this study will not be conducted deductively. Furthermore, it is not our intention to construct a theory and elaborate on it iteratively in a similar manner to an abductive approach. Rather, we seek to better understand the nature of the problem by investigating how environmental uncertainties affect human capital through the individual KSAOs, and based on that, we will develop a conceptual framework that links the two theories of human capital and the external environment and show their relations. This is consistent with the characteristics of the inductive approach as well as the chosen research philosophies, which we believe will be most noticeable in our research. However, differences between reasoning types are better viewed as tendencies instead of clear-cut distinctions (Bryman & Bell, 2011, p. 14). In other words, there may be several types of reasoning present in research, but researchers tend to focus on one. For us, it is inductive reasoning.

3.4 Research Design

One of the important decisions to make at the beginning of research is to choose its design which should be complementary to the research question and the purpose of the study. Also, the research problem influences the choice of research design (Creswell, 2009, cited in Charli, Eshete, & Debela, 2022, p. 2957). Saunders et al. (2019, p. 130) have compared choosing a research design to choosing a strategy since its purpose is to fulfill the research objectives. Further, it determines what kind of data is needed for the study and how it should be collected.

Two main research designs are qualitative and quantitative research which differ in both their purpose and their ways of collecting data. These two methods can also be used simultaneously by choosing a mixed method design. To collect the data in a qualitative study, interviews, observation, documentation, and audiovisual data are often used (Creswell,

2009, cited in Charli et al., 2022, p. 2959). In a quantitative study, the data collection is usually executed by surveys or other quantifiable ways. Compared to qualitative studies, quantitative studies need a much larger sample size to execute the primary data collection in order to generalize the results. In mixed methods design, data is usually collected in both ways to examine hypotheses and simultaneously find meanings in different contexts that are being studied (Bryman & Bell, 2011, p. 28).

The research design is connected to the philosophical approach that the researcher has chosen. Positivists and objectivists, for example, would most likely choose the quantitative design including measures and hypotheses to test a theory. In alignment with our ontological and epistemological positions being subjectivist and interpretivist, as well as having an inductive approach thriving for theory building, we are conducting qualitative research. Qualitative studies emphasize meanings that individuals experience in their social worlds rather than statistics (Bryman & Bell, 2011, p. 27).

In addition to research design, the nature and the purpose of the research are important aspects to be considered. Four main categories for this are exploratory, descriptive, explanatory, and evaluative. The main purpose of exploratory studies is to ask open questions to find out what is happening and to gain knowledge on the topic that is being researched (Saunders et al., 2019, p. 186). Descriptive studies focus on achieving accurate profiles of specific situations, circumstances, or persons for example. Explanatory studies seek to establish causal relationships between different variables. Its focus is being able to explain the relationships (Saunders et al., 2019, p. 188). Evaluative studies as the fourth type of nature for research seek to find out how well something works. This can be for example the effectiveness of an organization or any singular policy, strategy, or process that takes place inside an organization. Research can also include any mix of these (Saunders et al., 2019, p. 174). For example, descriptive research may serve as extensions to exploratory research or a preliminary piece for explanatory research. Since our inductive study aims to gain an understanding of the relationship between environmental uncertainties and individuals' KSAOs, our thesis is exploratory by its nature even if its main purpose is being a case study. Exploration, also in management, often refers to the future which further confirms its suitability for this research. Exploring the phenomena by using literature review, and in-depth interviews help us to fill our theoretical framework and create scenarios based on the secondary and primary data.

To gain more depth to the analysis and explore the role that environmental uncertainties play concerning the individual KSAOs, this research more specifically applies a qualitative single case study with an exploratory nature. Case studies offer an opportunity to focus on 'real life' and reach practical solutions. Case studies can be used for multiple purposes including providing a description, testing a theory, or generating a theory (Eisenhardt, 1989, p. 535) from which the latter serves as the aim of this study. Generating theory is often seen as most appropriate to use in the earlier phases of constructing a theory when the key variables and their relations are being explored (Eisenhardt, 1989, p. 541), relating the design to the purpose of this study. Generating a theory is an appropriate objective for this research based on its research gap that reveals a whole new theory to be generated regarding the relationships between the external environment and KSAOs. One of the strengths of a case study is the likelihood of producing a valid theory since the theory-building from cases includes intimate interaction and produces a theory that is closer to reality (Eisenhardt, 1989, p. 547). Another strength is that theory-building from

cases does not depend on previous literature and does not require previous empirical evidence (Eisenhardt, 1989, p. 548). Case studies have also been seen as a tool that has contributed crucial insights into the field of strategic management by both generating and testing theories (Gibber, Ruigrok & Wicki, 2008, p. 1465). Whereas a case study is often related to a qualitative spirit, it is also possible to construct a case based on quantitative data. This is why case studies should be thought of more as an approach or strategy than a research method (Eriksson & Kovalainen, 2008, p. 116). Methodologically case studies are often connected to interpretative approaches which makes it aligned with our philosophical choices. The aim of case study research is to gain detailed and holistic knowledge. Thus, the goal is to enable diversity and complexity of the results by avoiding overly simplistic research designs (Eriksson & Kovalainen, 2008, p. 117). Despite this, the boundaries of the case should still be identifiable. When executing a case study, the researcher must choose whether it is an intensive case study or an extensive case study. In the latter, the focus is on creating generalizable theoretical constructs by replicating a number of cases. In this thesis, the research is done as an intensive case study, focusing on interpretation, and providing a holistic, thick, and contextualized description of the studied phenomena (Eriksson & Kovalainen, 2008, p. 118-120).

Lastly, research often contains a time scope. The time scope depends on whether the research focuses on a single point in time or observes the subjects at different points in time. These two different methods are called longitudinal study and cross-sectional study (Bryman & Bell, 2011, p. 54). In longitudinal studies, data is collected at several points which enables analyzing the variances between different times. The cross-sectional study collects the data at a single point in time and the variations can focus on differences between people in interviews for example (Bryman & Bell., 2011, p. 57). Since we are conducting interviews with all employees in a company, taking a subjective position and focusing on their individuality, our choice is to complete a cross-sectional study.

3.5 Summary of methodologic choices

This chapter explained how our methodological views affect the design and approach we will use to answer our research question. We hold subjective ontological positions since we believe the world is a social construct and that each individual experiences reality differently. Our epistemological position then becomes interpretivism when we recognize the fact that knowledge in this subjective reality is highly dependent on the experiences and feelings of social actors. Considering our aim of developing a conceptual framework linking the two theories of human capital and the external environment, an inductive approach is the most suitable method to pursue both according to our research question and philosophical stance. Lastly, we have designed this thesis qualitatively as a case study that is exploratory by nature and focuses on a single point in time by being a cross-sectional study.

All the methodological choices were made in alignment with each other to ensure the coherency of the research. Starting from the research philosophies and moving towards the research methods presented further in the next chapter, we used Saunders' (2019, p. 130) research onion to demonstrate the choices (Figure 3) and extended it by adding scenario planning as a practical tool.

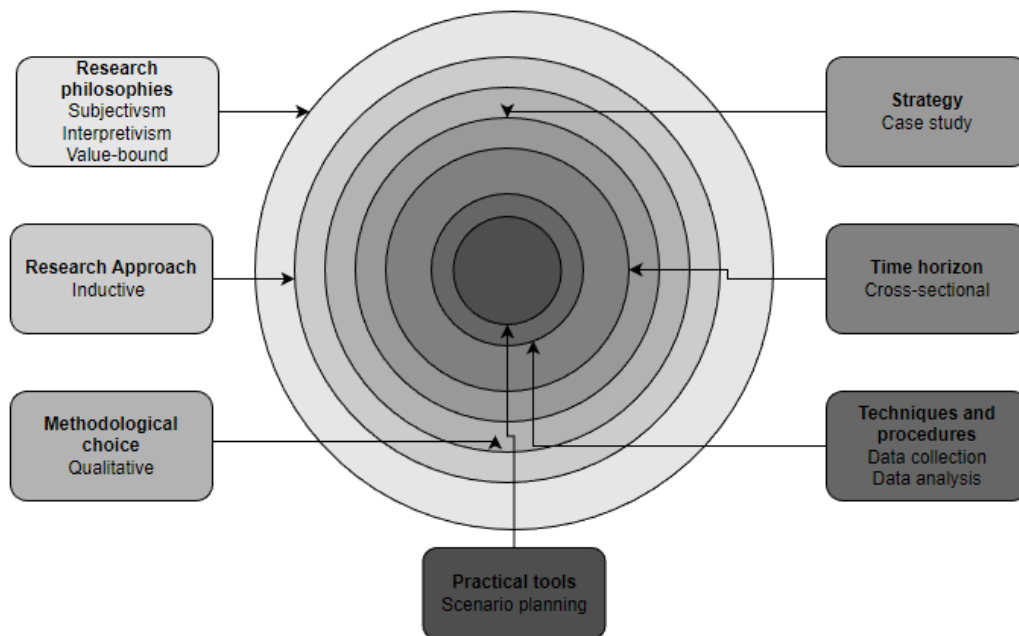


Figure 3. Research onion (Saunders, 2019, p. 130) with an extension of practical tools.

4 Research method

In this chapter, we will describe the practical methodological choices we made. We will begin by presenting our general data collection methods. Following that, we will describe how the sample was conducted, how participants were selected for this study, and how the interviews were conducted. Lastly, a progressive approach to our data analysis will be provided, followed by quality criteria, research ethics, and a description of the scenario planning tool used in this thesis.

4.1 Data collection

To understand what kind of empirical data would be most useful in specific research, the general purpose of the research, the chosen research approach, and the research question should be aligned and provide guidance (Eriksson & Kovalainen, 2008, p. 77). Without the research focus defined by the research question, it becomes easy to get overwhelmed by the amount of data (Eisenhardt, 1989, p. 536). Empirical data collected in qualitative research can be either primary, like interviews and observation, or secondary, like existing documents (Eriksson & Kovalainen, 2008, p. 77-78). Theory-building researchers often use multiple data collection methods combining them with each other (Eisenhardt, 1989, p. 537). To enable comprehensive data foundation and exploration this tactic was used in this research as well, by combining both secondary and primary data. This also refers to the use of triangulation based on more than one source of data which further improves the dependability of a study. In addition, the triangulation of a study improves the substantiation of a construct (Eisenhardt, 1989, p. 537). Data triangulation of this study was achieved by combining different sources of both secondary and primary data, demonstrated in Figure 4.

According to Eisenhardt (1989, p. 534) archives, interviews, and observation are typical data collection methods to be combined in case studies. Secondary data includes for example personal documents, public documents, organizational documents, as well as visual documents (Bell, Bryman & Harley, 2019, p. 500-507). In this study, we focused on the organizational documents provided by the case company. The purpose of using organizational documents as secondary data, including annual reports, company strategy, company presentations, LinkedIn articles, and company website was to deepen the knowledge of the context within which our research took place. Often, a large quantity of documentary information that organizations produce is easily accessible online offering researchers a heterogeneous group of sources to use in qualitative studies (Bell et al., 2019, p. 504). In case studies, the documents can offer valuable insights into former managerial decisions and actions that are particularly helpful if the study aims to influence some part of organizational change (Bell et al., 2019, p. 505). In this study, the secondary data helped in understanding the situation of the case company, and how human capital is perceived and included in their current strategy and values. This understanding further helped to prepare for the collection of the primary data.

The most common way to collect primary data in qualitative research is by interviewing (Eriksson & Kovalainen, 2008, p. 78). Depending on the characteristics of the research it is important to consider what type of interviews to use. Three main types of interviews are structured, semi-structured, and unstructured interviews (Eriksson & Kovalainen, 2008, p. 79-83). Structured interviews are often used in positivist studies asking questions

like ‘what’, ‘who’, or ‘where’. Structured interviews do not offer much flexibility considering the order of the questions or the wording of the questions. However, they are still considered to be qualitative if the answers provided by participants are open-ended instead of predetermined (Eriksson & Kovalainen, 2008, p. 81). Open questions, offered in qualitative interviews are suitable in research where the researcher cannot predict the answer or is looking for new ideas on an unknown subject (Fisher, 2007, p. 165). Semi-structured interviews most often focus on questions ‘how’ and ‘what’ (Eriksson & Kovalainen, 2008, p. 81). In semi-structured interviews, the wording and order of the questions can be quite freely changed, and the focus is more on the themes on which the questions are built. Even though the open-ended questions are usually predetermined, the interviewer has the freedom to ask follow-up questions and explore the topics in more depth (Creswell & Poth, 2017, p. 179). One of the advantages is that the materials are systematic and comprehensive, but the style of the interview can remain more like an informal conversation. Unstructured interviews, as the third type of interview, differ from semi-structured interviews by providing even more freedom for the conversation to move in whichever direction of interest that may come up during the informal conversation. Although unstructured interviews may still include some guiding questions or concepts to talk about, they are more narrative and open in nature. The purpose of unstructured interviews can be for example understanding the interviewee’s point of view and experience of a certain event, hence hearing their own story about a topic related to the research (Eriksson & Kovalainen, 2008, p. 82). Overall, semi-structured interviews being the middle approach provide a balance between both structure and flexibility, allowing researchers to gather more detailed data on a particular topic or research question (Creswell & Poth, 2017; Bernard & Ryan, 2010; Kvale & Brinkmann, 2015). Taking benefit of the balance and aligning the research methods with the methodological approaches, semi-structured interviews were used in this research to collect primary data and to gain new knowledge on the research topic.

Semi-structured interviews served as the main source of information that was needed to fulfill the theoretical framework considering the relationship between environmental uncertainties and individual KSAOs. From a broader perspective, the interviews offered knowledge on how the external environment relates to the human capital of the company, and what have been the subjective experiences of the employees in past uncertain situations. According to Bernard and Ryan (2010, p. 36), semi-structured interviews are especially useful when the research question is complex or poorly understood, as the flexibility of the interview allows the researcher to gain a deeper understanding of the participant's perspective. Focusing on the individual employees’ views in this research, semi-structured interviews were, therefore, a suitable choice for primary data collection.

Participants for the interview were all contacted through e-mail after receiving the list of contacts from the CEO of the case company. In the contact e-mail, different dates and times were provided for the interviewees to choose an appropriate time for the interview. The questions formed for the interview guide (Appendix 1) were sent to the participant beforehand, simultaneously when confirming the interview time, they had chosen from the provided schedule. All the interviews were held remotely within a 3-week period in March 2023 using Zoom. Interviews were recorded including video recordings reinforcing the validity of the data and offering the possibility to review the interviews in order to gain more insights related to observation. As noted by Kvale and Brinkmann (2015, p. 173), recording an interview allows the researcher to capture participants’ responses, including nonverbal cues and subtle nuances of language.

The research was executed in pairs allowing us to view the case from different perspectives. In the data collection, we were able to take different roles by letting the other person focus on the questions and interact with the interviewee while the other could take notes and observe the interview. This type of approach has been recommended by Eisenhardt (1989, p. 538). The advantage of having more than one researcher was also taken in the form of team meetings, where we gathered to share our thoughts and emergent ideas related to the data collection. This benefited the overlapping of data collection and data analysis which has been seen as a striking feature in theory-building case studies giving the researchers the possibility of flexible data collection (Eisenhardt, 1989, p. 538-539). Freedom to make adjustments during the data collection has been acknowledged as one of the key features of theory-building case research since it further allows researchers to understand the case in more depth (Eisenhardt, 1989, p. 539). In this study, the flexibility enabled us a possibility to include the secondary data that was received after starting the primary data collection. It also allowed us to adjust the follow-up questions in the interviews if a need to get more specific results or to get the interviewees to elaborate more on their answers emerged.

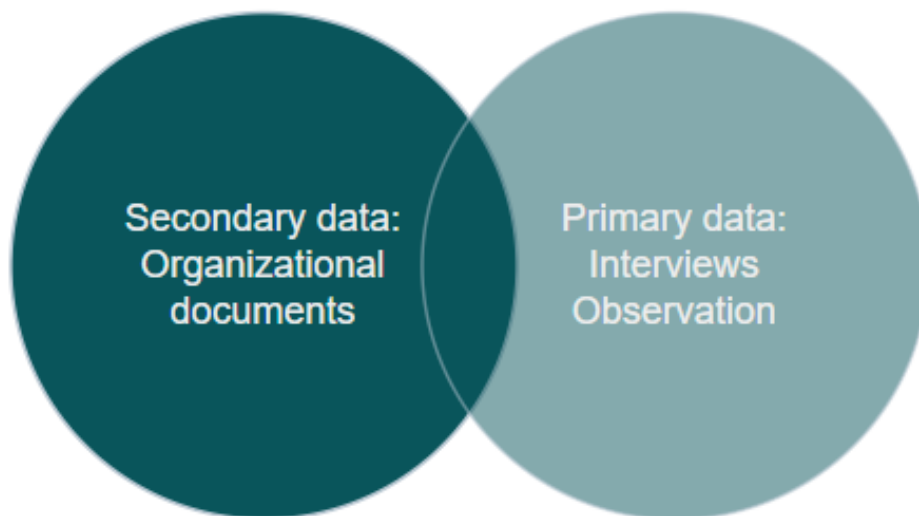


Figure 4. Data triangulation.

4.2 The sample

Planning the sample size is often required when the resources available are limited or when there are time constraints (Eisenhardt, 1989, p. 545). In this study, the sample size was planned based on the size of the case company. The case company is a small Swedish consultancy company, based in Northern Sweden. The company has seven employees. As a consultancy company, their customer base includes a variety of different fields which makes the company an excellent case company in research related to environmental uncertainties that exceed industry boundaries. As a consultancy company, it has people at its very core making it also a suitable company to study human capital. Further, it serves

as an appropriate case company because of its size. Since the research focuses on the individuals and takes a subjective position, the interviewees can be considered as separate cases. Eisenhardt (1989, p. 545) has argued that even if there is no ideal number of cases, a number between 4 and 10 is often sufficient. Since the case company has seven employees, the sample size is sufficient to be explored in this manner.

The size of the company is also appropriate relating to the type of business it represents. Small businesses need to pay even closer attention to the environment because they are often more vulnerable to changes than larger companies (Whittington et al., 2020, p. 22). Small businesses also more often have other objectives for their business than just gaining profit, for example staying independent or having a pleasant lifestyle. These objectives are often related to the company values which further influence the human capital of the company. Fortunately, making strategic changes in smaller companies is relatively easier since they do not face the same challenges doing so as more complex, larger organizations do (Whittington et al., 2020, p. 22). Small business owners and managers find it often extremely challenging to anticipate what is projected to happen on a short-term and long-term basis as the business environment continues to change. This is especially true when there is a high degree of dynamism in the external environment, where external threats increase and market uncertainty and technological uncertainty arise (Helfat et al., 2009, p. 15; Shane, 2000, p. 456).

4.3 Data analysis

As a case study, the data analysis followed the line established with the methodology. Considering the methodology of this research, including interpretivism as a philosophical position, and inductive reasoning as the research approach, the data analysis takes a full range of statements into account. This means that the experiences and perceptions presented to us by the interviewees clearly pointed out the differences among the individuals leaving no need to consolidate observed differences among the interviewees (Saunders, 2019, p. 639).

However, we took advantage of using the identification of cross-case patterns by looking at the interviewees as individuals that present different cases within the research. Without taking the cross-case patterns into consideration, the researchers would have been more likely to reach premature or false conclusions that might have resulted from information-processing biases (Eisenhardt, 1989, p. 540). With this, the advantage of having two researchers helped us to look at the data from divergent perspectives.

The analysis, including all the steps the process involves, is presented in Figure 5. The process starts with a detailed transcribing of all the interviews that have been recorded with the permission of the interviewees. During the process of transcribing, observation notes are made and later compared with the notes made during the interviews. The transcriptions are then further color-coded according to different themes and topics that could be identified as being repeated in the interviews. Coding is also used on the secondary data to find relations between the secondary and the primary data. Coding, used to find repeated topics, further helps in finding different themes that pointed out the differences and similarities between the interviews. Addressing the interviews as cases when it comes to cross-case analysis, comparing the *collected* data could be done in three different ways according to Eisenhardt (1989, p. 540-541). The first way is to select categories in which the similarities and differences are looked at. The second way is to select pairs of cases

and compare them with each other. The third way is to divide and compare the data by the source. To make the findings of this study clearer, we use the first tactic by separating the answers and looking into the different themes divided by the coding separately. This is done by creating a new document after color coding, where the color-coded answers are divided by the theme they relate to. Using this tactic was seen to improve the possibility of generating accurate and reliable theory with a closer fit to the data as well as the possibility of reaching novel findings that the data may have contained (Eisenhardt, 1989, p. 541).

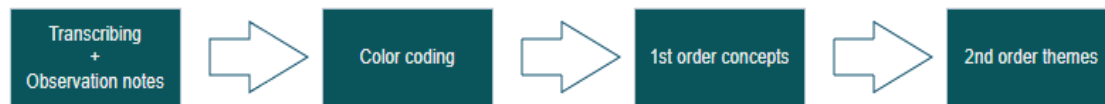


Figure 5. Process of data analysis.

After the coding is finished and organized with different colors by dividing the data, the Gioia method is used to continue the systematic content analysis further. The Gioia method was originally created to build an approach that not only extends existing knowledge but enables generating new theories as well (Gioia, Corley & Hamilton, 2013, p. 15). While extending existing knowledge and theories is most often suitable for research, it lacks encouraging originality which is beneficial for theorizing.

Applying the Gioia method (Gioia et al., 2013, p. 21), the data is first divided by identifying repeated topics, phrases, words, and terminology found during the coding. These findings then construct the 1st order concepts. These concepts are then further grouped into 2nd order themes with more abstract terms that are found by looking into the 1st order concepts more closely. Observing the 1st order concepts more closely helps in finding connections and patterns among them. The 2nd order themes are ultimately combined into aggregate dimensions that represent even higher coding abstraction levels related to the external environment and its influence on human capital. These dimensions are later seen as part of the revised framework. After the dimensions are produced, the founded answers to the research question are compared to the earlier presented theoretical framework in further discussion. The 1st order concepts and 2nd order themes are shown in Figure 9 in the discussion chapter.

4.4 Scenario planning

Since the main task of strategic management focuses on predicting changes and preparing companies for the future, it is also important to use modern methods in order to achieve this objective (Lashmanova et al., 2017, p. 54). COVID-19 served as the latest example of a situation that has challenged HR practitioners, along with other actors in the company to conduct scenario analysis in order to come up with adequate plans and arrangements (Pandya & Boukareva, 2022, p. 47). It has been acknowledged that one of the most common situations where scenario planning has been useful is when uncertainty is high relative to company managers' abilities to predict the future and their ability to adjust to it. When it comes to uncertain situations, scenarios can help even with the smallest decisions (Schoemaker, 1995, p. 27).

The origin of scenario planning is often related to Herman Kahn who was an American game theorist and futurist (Wilkinson & Kupers, 2013, p. 121). In the beginning, scenario planning was strongly part of strategies made for war, but their value was soon realized in the business context as well (Wack, 1985, p. 73). Scenario planning serves as a structured way to make sense of the future. It is often used to avoid tunnel vision by predicting different outcomes rather than counting on one outcome that at a time seems most likely (Schoemaker, 1995, p. 25). It differs from other methods related to future analysis like forecasting in that it accepts uncertainty, tries to understand it, and then incorporates it into the reasoning for the decision (Cornelius, Van de Putte & Romani, 2005, p. 94). A scenario is not a projection or a prediction, nor is it a preference, rather it is a cohesive and credible story, describing different paths that may lead to alternative futures (Cornelius et al., 2005, p. 95). In other words, it's not about predicting what will happen in the future, but rather preparing for all the different possible outcomes which may well happen in the future. In the business context scenarios offer plausible alternative views considering the development of the macro-environment, typically in the long term (Whittington et al., 2020, p. 52). Scenario analysis has been compared to sensitivity analysis in which one variable changes while another stays the same, but the biggest difference is that rather than just two, scenarios explore multiple variables side by side. Scenarios are made to tell a story of how different elements can interact under different conditions (Schoemaker, 1995, p. 26).

Scenario planning leads often to more open strategy-making since it also enables broader participation in strategy development (Whittington et al., 2020, p. 421). Creating scenario analysis in smaller companies, like our sample in this study, enables the whole staff to participate in strategy making. We as researchers represent another stakeholder group, participating as academics outside of the company.

Scenario planning should start with dividing our knowledge into two different categories. Roughly these categories are the things we think we know something about and the things we consider uncertain. Considering the first, it can be argued that nothing is ever 100 percent certain, it should be acknowledged that everything cannot be left uncertain either. Leaving everything uncertain would most likely cause paralysis in the strategy-making team and there are still quite certainly predicted outcomes like age structure for example. Predicted age structure is likely to happen as expected, which sets it apart from the more uncertain knowledge like future election results (Schoemaker, 1995, p. 27). The developing process of scenarios differs to some extent depending on the source (Schoemaker, 1995, p. 28-29; Whittington, 2020, p. 54). Whittington et al. (2020, p. 54) have introduced the basic model of the process including five steps which are 1. Define scope 2. Identify key drivers 3. Develop distinct scenario "stories" 4. Identify impacts and 5. Monitor progress. The last step includes paying attention to the early indicators that define the direction of which scenario is being approached at a time. In the article by Schoemaker (1995, p. 28-30) the process of developing scenarios includes twice as many steps to it. In addition to the steps seen in the book by Whittington et al. (2020, p. 54) he has broken down the identification of key drivers into identifying basic trends, and key uncertainties. He has also added the step of identifying the major stakeholders who are influenced by the scenarios and who could possibly gain something from them. At the later stage Schoemaker (1995, p. 29-30) has divided the development of the final scenarios into creating learning scenarios first and then, through identifying research needs and developing quantitative models, evolving decision scenarios. These last steps can be repeated until the

final scenarios are considered fully consistent and relevant, and until they represent something that company decisions can be based on. In this study, we combined the earlier scenario process structures making them suitable for our theoretical framework that relates different environmental uncertainties and individual KSAOs.

Recombining the basic elements in the scenarios can be done in three different ways. First, they can be recombined intuitively, meaning that the elements would be organized through storylines and major themes. Second, the elements can be recombined heuristically, selecting the two most important uncertainties, and placing them in a matrix. This matrix would then further provide four different combinations as starting points where other elements can be layered on. The third way to recombine the elements is statistical. This means a systematic combination of different outcomes that are provided by each uncertainty (Schoemaker, 1995, p. 36-37). Even though scenario planning can cause biases, the conjunction fallacy, introduced by Tversky and Kahneman (1983) shows that bias is not always disruptive. The conjunction fallacy can have a rather positive impact since it means that one outcome is seen as more likely than another. This helps in predicting future changes and their relations in the environment. It also points out the importance of storytelling, intermediate steps, and causality. In our study, the scenarios are built through storytelling which increases understanding and helps in identifying the cause-effect relations of the scenarios.

The steps included in the scenario planning process in this study start in alignment with previous literature by defining the scope. Since the study focuses on the human side of the organization and the employee perspective, it keeps the scope aligned with this view. The question in hand relates strictly to the theoretical framework of relating environmental uncertainties with KSAOs. Second, the biggest uncertainties were identified in cooperation with the company workforce. By interviewing the employees, we could find out what are the biggest threats and uncertainties the employees consider important when it comes to their KSAOs and motivation that influence their working life. To be able to offer managerial implications in addition to theoretical contribution, the interviews also focused on employees' experiences with former HR practices in uncertain situations, and their future needs in such situations. Our theoretical framework further helped with the theoretical contribution by enabling us to connect different uncertainties to different KSAOs based on the interviews. When understanding of their relations was gained, they were easier to be placed correctly into the scenarios recombining the elements through storytelling which is the third step of the process. The scenarios are presented in even numbers to avoid the possibility of picking the middle option. This has been advised by experts in the field of strategic management (Whittington et al., 2020, p. 55). The fourth step of the process is identifying early indicators in each scenario. It also includes analyzing both differences and similarities between the scenarios. Scenario planning has a purpose to avoid placing all odds into one scenario but in an ideal situation, there is a possibility to create strategic options that suit most of the scenarios. Systematic planning for the future also helps in decreasing the possibility for managers to misinterpret the surrounding environment and take the wrong direction with their strategy while possibly failing to address the actual challenge (Bennet & Lemoine, 2014, p. 312). In this study, the final step of deciding on scenario planning, making the strategic changes, and monitoring them is left to the case company to execute.

4.5 Quality criteria

The criteria debate in qualitative research has been greatly influenced by Lincoln and Guba's development of parallel criteria to the validity and reliability concepts (Spencer, Ritchie, Lewis, Dillon, 2003, p. 40). The reliability of the primary data in this research is assured by offering an interview guide (Appendix 1) and making the transcripts available upon request. However, reliability and validity are more commonly associated with quantitative studies. As a result, their alternative criteria have been cited in the research literature frequently and are still considered the yardstick or gold standard (Spencer et al., 2003; Whitemore, Chase and Mandle, 2001). As a means of assessing qualitative research rigor, Lincoln and Guba (1985, p. 300) employ the terms of credibility and trustworthiness, transferability, dependability, and confirmability to express the quantitative concepts of internal validity, external validity (generalizability), reliability, and objectivity respectively. However, other researchers like Eisenhardt (1989, p. 542) and Gibbert et al. (2008, p. 1466) have used concepts like internal validity and construct validity as such in qualitative research as well.

Credibility in qualitative research is the parallel criterion to internal validity in quantitative research. For Lincoln and Guba (1985, p. 301), credibility means ensuring that representations of research participants' socially constructed realities are accurate and reflect their intent. As a technique to increase the credibility of research, Lincoln and Guba (1985, p. 301) advocated triangulation. Data triangulation allows researchers to verify findings by applying more than one perspective (Gibbert et al., 2008, p. 1466). To establish internal validity, it is important to gather qualitative data that helps in understanding why or why not emergent relationships last and what are their underlying dynamics (Eisenhardt, 1989, p. 542). Denzin (1978, cited in Guba & Lincoln, 1985, p. 305) argues that there are four different modes of triangulation: utilizing several different sources, methods, investigators, and theories. Accordingly, to increase the credibility of our research, data triangulation was achieved by using different sources of data, including both secondary and primary data. Further, the research was performed in pairs, allowing us to read through each other's notes and observations regarding the data after reviewing transcripts by peers. The use of more researchers can also be useful in building confidence in the findings as well as increasing the possibility of uncovering surprising findings (Eisenhardt, 1989, p. 538). In addition, we used theoretical triangulation, having different theory streams in the theoretical framing of the research.

The second quality criterion suggested by Lincoln and Guba is transferability. Generally, a qualitative study is deemed transferable if the findings can be used in a similar setting (Lincoln & Guba, 1985, p. 316). In qualitative research, transferability is determined by the depth and richness of data as well as its contextual relevance. Lincoln and Guba (1985, p. 316) recommend a detailed description of the setting, context, people, actions, and events studied to ensure transferability. Thus, we have aimed in this study to provide detailed and transparent descriptions of the methods used, the sample characteristics, and the context in which the study was carried out. This will allow readers to assess the extent to which the study findings are relevant to their own context. To assure the accuracy of the data related to the research question in a case study, the sample company needs to be one where the researched phenomenon is transparently observable (Eisenhardt, 1989, p. 537). According to Eisenhardt (1989, p. 537), appropriate sampling also relates to the likeliness of the study to replicate or extend the emergent theory. To enhance transferability (Lincoln & Guba, 1985, p. 316) and external validity (Eisenhardt, 1989, p. 537) we

have therefore employed purposeful sampling linking the topic to an appropriate case company that is highly affected by the external environment and its rapid changes. According to Gibbert et al. (2008, p. 1468), it should be further noted that external validity is also dependent on internal validity and construct validity since it requires the research to have a link between the theoretical conclusions and the empirical results.

The third quality criterion suggested by Lincoln and Guba is dependability. Research's focus may change as it progresses in interpretive research; dependability in this context means recording the changes so that others can understand and evaluate the emerging research focus (Saunders et al., 2019, p. 217). Lincoln and Guba (1985, p. 316) argue that credibility and dependability are closely related, and demonstrating the former in practice takes a long way toward ensuring the latter. If the selection, justification, and application of research strategies, procedures, and methods have been thoroughly presented, and if their effectiveness has been evaluated by the researcher and verified by an auditor, the study will be dependable (Yilmaz, 2013, p. 320). We have therefore attempted to address the issue of dependability in a more direct manner by keeping relevant records and describing how the research design and implementation were performed, describing what was planned and executed, as well as the operational details of data collection. Upon completion of this thesis, it will also be subjected to peer review and opposition from other researchers. As such, the reader will be able to assess the extent to which proper research practices have been followed through in-depth coverage.

The fourth and final quality criterion suggested by Lincoln and Guba (1989, p. 242) is confirmability. In some ways, confirmability can be compared with the conventional objectivity criterion (Lincoln & Guba, 1989, p. 242). Confirmability refers to ensuring that the data, interpretations, and outcomes of inquiries are grounded in contexts and individuals outside of the evaluator and are not just his or her own speculations — the constructivist paradigm ensures the integrity of the findings by examining the data itself (Lincoln & Guba, 1989, p. 243). In other words, confirmability refers to how much a study's findings are grounded in the data collected and analyzed, rather than in the researcher's biases and preconceptions. Thus, data (constructions, assertions, facts, etc.) must be traceable back to their sources; therefore, interpretations in a case study are logically arranged into structures that are coherent and corroborating, and logic is applied explicitly and implicitly to analyzing these interpretations. According to Lincoln and Guba (1989, p. 243), it is usually the confirmability audit technique that is used to verify the data and interpretations of a study. Consequently, our approach has been to collect data from a variety of sources in order to ensure that conclusions are not solely based on a single source of information. In addition, we will maintain a detailed record of the research process for the purpose of reanalysis. Finally, peer review and opposition will further ensure that interpretations of the data are grounded in the data and not our own biases or preconceptions.

4.6 Ethical considerations

Designing research, gaining access to organizations and individuals, collecting and analyzing data, and reporting findings all raise ethical concerns (Saunders et al., 2019, p. 252). The concept of ethics in research refers to the standards of behavior to adhere in order to protect those who are the subjects of the research or who are affected by it (Saunders et al., 2019, p. 252-253). Throughout our thesis work, we have chosen to refer to

Bell and Bryman (2007) as a guideline for ethical considerations, as they offer several principles that should be considered.

The first principle that applies to our research is informed consent. According to Bell and Bryman (2007, p. 67), informed consent ensures the protection of vulnerable individuals. Informed consent involves informing participants of the demands, purpose, and nature of the research. In the context of our research, and since we will conduct semi-structured interviews as the primary data collection method, we will first make sure that we provide participants with thorough information about the purpose of the study, the types of data that will be collected, and how the data will be used, as well as any potential risks or benefits of participating. Moreover, we will allow participants to ask questions to fully understand all information before they agree to participate. It is also our responsibility as researchers not to divert from our research purpose and expand its scope afterward (Saunders et al., 2019, p. 258).

The second principle is harm and wrongdoing. Research participants are more likely to be wronged than harmed in management research, as stated by Bell and Bryman (2007, p. 68), and this should be considered when formulating ethical principles. Although the risk of harm in social research is relatively low compared to biomedical research, social scientists can still harm participants physically, and psychologically, or impact their self-esteem negatively (Bell & Bryman, 2007, p. 68). In wrongdoing, participants are not treated as important themselves; rather, they are treated as methods for achieving a goal (Bell & Bryman, 2007, p. 68). Keeping this in mind, we will conduct our research in a way that preserves the dignity, humanity, and values of others. To ensure full transparency, we will disclose all research-related information to our participants and give them the right to refuse participation. Additionally, we will strive to be flexible with our participants, giving them the possibility to conduct the interviews in Swedish if they are not comfortable with English. Furthermore, we will ensure that all participant's comments will remain confidential, and the information will only be used when compiling and documenting the research findings, after which the data will be discarded. We will therefore aim to treat each individual with respect and empathy and create an atmosphere that encourages everyone to speak openly and freely.

As the third principle, confidentiality and anonymity are also part of Bell and Bryman's ethical principles. Increasing pressure on management researchers to protect participants' confidentiality and anonymity is aimed to prevent harmful effects such as victimization (Bell & Bryman, 2007, p. 69). Confidentiality and anonymity may seem to overlap, but they have important differences; confidentiality refers to the protection of research participant information from outside sources, while anonymity refers to concealing names or other identifying information to protect a person's or organization's identity (Bell & Bryman, 2007, p. 69). Since this study takes a qualitative approach, complete anonymity is not a viable option. Respondents will, however, be assured that their participation will be confidential. Consequently, it is our responsibility as researchers to ensure that the data collected during the interviews are stored securely on password-protected computers as a means of preventing unauthorized access and that the data including the video recordings of the interviews will be disposed of as soon as research results are obtained. Additionally, we will ensure that we use language that will protect the confidentiality of the participants as well as the company in our research. As an example, we will use terms like "an interviewee" rather than specific identifying information or the names of individuals. In addition to this being a fundamental ethical principle, we will also gain an advantage since it

will be easier to receive rich and open answers from participants in the presence of confidentiality and anonymity. In the process of understanding the phenomena we are exploring, the quality of the answers we obtain in terms of their richness, honesty, and elaboration will be crucial to our success in gaining a deeper perception.

Finally, the fourth ethical principle to be considered is deception. According to Bell and Bryman (2007, p. 71), deception involves the potential for false or misleading information to be conveyed as a result of the research process. Deception in research can have serious ethical implications and can undermine the validity and reliability of the research results. As such, it will be of great importance for us to make sure that there is no deception by paying particular attention to how we use sources, present the theoretical framework, reproduce empirical data, and carry out analysis. The research will be conducted without any adjustments or modifications of data to suit our own needs. Overall, we will aim to produce research that will conform to the ethical considerations listed above and that will meet the criteria of highly ethical research.

5 Findings

In this chapter, the semi-structured interviews conducted for this research are presented including an overview of the process of the interviews. In addition, findings from secondary data are provided to ensure the liability of the primary data collection. Findings are presented following the structure of the thesis and its theoretical framework.

5.1 Interview process

The original goal for the interviews, as the primary data collection method, was to interview all the employees working for the case company. All of them were contacted through e-mail, following three reminder e-mails during a three-week period in March 2023. One of the interviewees needed to cancel her participation resulting in six interviews conducted as planned. Participants included employees, one subcontractor working for the company, and the CEO. To ensure the anonymity of the interviewees and further ethicality, the interviewees are coded in chronological order. The coding is two parted consisting of INT referring to the interviewee and a number that refers to the chronological order where the interviews were conducted (e.g., INT01 as the first interview). The interviews are presented in Table 1 below including their relations to the company, their age, and dates of the interview. All interviews were held online via Zoom because of the moving nature of the consultancy field and the possibility of the interviewees working either remotely, on-site with the customers, or outside of Umeå.

Table 1: Summary of the interviews

Code	Date of the interview	Interview recorded	Relation to the case company	Age	Time of the interview
INT01	16/3/2023	yes	CEO	52	50 min
INT02	23/3/2023	yes	Employee	39	40 min
INT03	24/3/2023	yes	Employee	55	31 min
INT04	29/3/2023	yes	Employee	29	33 min
INT05	30/3/2023	yes	Employee	57	31 min
INT06	3/4/2023	yes	Subcontractor	53	34 min

In all the interviews both of us authors of the thesis were present, and parts were divided so that the other could focus on questions and interacting while the other could take notes and observe the interviewee and the conversation. Despite the division of parts, both were able to add follow-up questions or ask the interviewee to elaborate on a subject that was seen as important.

Interviews started with a presentation of the thesis topic and the purpose of the interviews. Interviewees were made aware of the publication of the thesis and their consent to record the interviews was asked. After covering the ethical considerations related to this study the interview guide (Appendix 1) was followed starting with the basic information of the interviewees. The main questions were followed in the order of the interview guide. In some cases, the interviewees answered the planned follow-up questions without us having to directly ask them. In other cases, the follow-up questions were asked according to the interview guide. Since the interviews were conducted on employees working in a Swedish

company, English as an interview language, was no one's native language. Thus, to avoid misunderstandings and help the interviewees to elaborate on the questions that were broad in nature, examples of the topics and themes they might consider were offered. At the end of each interview, we had the possibility to return to any of the earlier asked questions if more questions on such answers had risen. Also, the interviewees were asked if they have anything to add to any of the topics covered during the discussion. This was done to minimize the threat of leaving out any information that could affect this study.

All interviews were conducted between the 16th of March and the 3rd of April. The audio recordings of the interviews were transcribed, and transcriptions were collected on a shared document resulting in a large amount of data. The interview transcripts totaled 53 pages and are available upon request. The video recordings were then used to double-check whether there had been any non-verbal communication that would have been missed during the live interview. Notes done both during the interviews and during the transcription process were then further collected on one document and compared with each other.

5.2 Environmental uncertainties from employee's perspective

After introducing the thesis and asking for the background information seen in Table 1, the interviews continued to the questions presented in the Interview guide (Appendix 1). Even if the questions were sent to the participants beforehand, it was observed that none of the interviewees had planned their answers. Some interviewees were observed to have reactions that implied that they had probably not even read the questions provided beforehand since they seemed surprised by the content of the interview.

5.2.1 Vision of the future

Starting with the broadest question, the interviewees were asked their perception of the future overall to find out their genuine attitudes and feelings about the external environment and how they see the future developing. With this question, they were encouraged to mention any aspect or idea that first comes to mind in order to assure the authenticity of the answers. During this question, three of the interviewees first thought of the environmental aspect which was more related to the bigger picture of the future.

INT01: *"Focus when I read that sentence is the environmental of course"*

INT02: *"If you look at the bigger picture with global warming and stuff like that it's slightly depressing - - on the long term the environmental aspect should have the most focus"*

INT05: *"I mean, in the bigger picture for the environment is issues that has to be solved."*

Thus, environmental issues were seen as taken-for-granted issues that have an impact in general and on a larger scale. These perspectives were expressed in a concerned and worried tone that implies the overall concern about the situation with global warming and climate change. To further elaborate on the concerns related to environmental issues, one interviewee mentioned examples of the impacts that are likely to occur in people's lives in the future.

INT02: *“If you go somewhere you might need to take slower transportation but more environmentally friendly, you probably won't be going on vacations all the time.”*

The actions people need to take to preserve the environment were not observed to have any negative tone in them but rather encouraging and accepting tone on how seriously everyone should take the issues and how everyone should do their best to improve the situation from its current state.

As another highly emphasized topic, technological issues were also mentioned as first thoughts related to the future by two interviewees. Technological aspect plays only a small part in the secondary data and has not been among the most discussed topics on the LinkedIn articles or website articles on the company thus far. When the technological aspect was mentioned as part of the future, they were mainly focused on artificial intelligence (AI) which has currently been an important topic and is under discussion in business life generally. The arguments provided by the two interviewees indicated that there are still a lot of unpredictable aspects to AI and its impacts are hard to predict. However, the possibility of AI increasing its share of work tasks was seen as a possibility.

INT04: *“I think that will be more AI controlled - - the work will be more done by AI”*

INT05: *“This technical evolution of the occupational artificial intelligence and so on. Yeah, that could be a huge impact.”*

Environmental and technological issues were both seen as part of the bigger picture and having more long-term consequences, but the attitudes regarding predictability differed between them. The environmental issues were referred to as permanent issues where the damage is already visible and taking care of the issues is not optional but necessary for everyone to participate in. The technological issues on the other hand were still elaborated on with caution, not stating its impacts as facts nor stating the impacts either positive or negative.

While environmental and technological issues concentrated more on the long-term perspective, economic changes, such as interest rates and inflation, were mentioned related to the short-term perspective.

INT02: *“If we just look with the short horizon - - the interest from banks”*

INT05: *“In the short term, I think it's the economy in most countries is declining rapidly”*

Also, the political situation, related to the current ongoing war between Ukraine and Russia was considered to play a role in the changes of the external environment. In the tone of the conversation, the unpredictability and being unable to impact the length of the war could be heard. It also seemed to cause fear and uncertainty of the future in a negative way. Referring to the bigger perspective again on this instance indicated that the consequences of the war are highly unpredictable and could end up influencing the world, and especially Europe, on a high scale.

INT03: *“I think it's going to be harder times. For most of the European, the big perspective I think, Russia is not good”*

INT05: *“And also, we don't know how long the war will between Ukraine and Russia will progress.”*

5.2.2 PESTEL forces as concerns

To gain a deeper understanding of the more specific uncertainties interviewees relate to their external environment, they were asked about their concerns using PESTEL forces as an example. Listing the political, economic, social, technological, environmental, and legal forces, the interviewees were asked which of these they found personally the most concerning. Interviewees were not restricted to picking only one of the forces but could mention all the ones they found concerning. As a follow-up question, to give more context to the main question, the interviewees were asked how these forces and concerns relate to their work.

Since all the employees, although working with consultancy, have different fields of specialty as well as customers from different fields, it is reflected in their answers. The answers related to the question varied between the interviewees. All forces, except the legal forces, were mentioned by one or more interviewees.

Starting with environmental concerns, it was mostly seen as a general threat to the world overall. Equivalent to the perceptions interviewees used when describing the general future, the environment was considered to be an important force and a long-term concern. However, it was also seen as something that everyone can influence and control.

INT03: *“I think the environment is this really important”*

INT05: *“I mean I think in the long term, I mean, it's environment, we have to take care of it now. - - So I think that long term, it's really important to stop the decline of all the nature so to speak.”*

INT06: *“The environmental is the, this is also something that we need to think about - - The environment is saying something too, but I think it's something that we can work we can help in some way.”*

As INT05 mentioned the urgency of taking care of the environmental issues, INT02 also criticized the priorities in general when it comes to dealing with the different uncertainties. This priority question relates not only to environmental and political aspects but also to the economic aspect of PESTEL.

INT02: *“Imagine taking all the money that goes into this war and putting it into solving environmental issues.”*

When interviewees were asked to elaborate on the relations they saw between the forces and their work, one mentioned relation was between environmental concerns and future service and product needs. Even though the original question of the interview related PESTEL forces to concerns, on this occasion environmental forces were also referred to as opportunities by INT01 and INT02. These interviewees mentioned different business opportunities for creating new types of services to sell as a consultancy company, as well as new types of products to produce with more focus on recycling and making products

more upgradable to extend their life cycle for example. Impacting the technological life span of a product was also mentioned as a feature that could impact the product development field in the future.

Taking a step back towards the current situation and working life, more practical examples of how environmental forces impact everyday work were presented. The mentioned examples relate to the HR policies that are often decided inside a company but can still be influenced by individual acts and attitudes as well.

INT01: *“Also how we inside of a firm are traveling, how much paper we are using, how often we use telephone, if we are using cars what sort of cars”*

While environmental forces were seen mostly as a general concern to the world and the working life, economic forces were more specifically considered a concern related to work as a consultant. Being an external stakeholder in a customer company created insecurities and uncertainties about the future among interviewees. Dependency on the customer’s economic situation expands the number of uncertainties to consider in the external environment. As consultants, the interviewees felt that the economic situation and instability of the markets pose a constant threat to their employment in the rapidly changing environment.

INT04: *“It can be unstable business markets. So it might be that you were to have financial crisis - - since as a consultant I'm always unsure - - they might have some changes as well and have to cut down on some of their money”*

INT05: *“It tends to be problems when the economy gets worse - - I mean, as a consultant, you're depending on the customer's economy, and if they have problems, it could be problems for hiring more consultants”*

As another force of PESTEL, technological concerns were present and considered to have an impact on the work in the future. Advancements in technology such as AI were both considered scary but also to offer opportunities in the future. Being seen as both a threat and an opportunity describes well the observation made during the interviews, that the interviewees see AI technology as unpredictable and want to withhold from making too many assumptions on the matter. There were seen aspects where AI may take a more permanent role and where AI was seen as a more efficient tool but its overall impact, especially in the long-term was seen as unpredictable.

INT01: *“The biggest concern for myself is not my wellbeing, but my occupation is more or less the AI. - - as a salesperson and if you are just telling volumes it's just marketing and then an AI is tremendously good doing that - - I think AI is both a threat and an opportunity”*

INT04: *“It's a little bit scary, actually. The AI control.”*

INT06: *“Because everything changed now, the technology is going very, very fast.”*

On the other hand, even if AI was considered a concern in the current state of the external environment changes, it was also seen as a passing wave, including a possibility that after the wave the development would change its course. Differences in the perceptions of AI

and other technological advancements were seen to relate to people's age as well in a way that younger people would more likely use AI while older people would have more appreciation for human contacts and relationships.

INT 01: *"Younger people don't really appreciate a good salesperson, they can use AI for example. Until they get older and see the benefit of having a relationship with a salesperson --I think it's gonna be like a wave, we will see a lot of salesmen and saleswomen get out of the door and in goes AI - - after that wave, I think a lot of people will go back and say it's quite nice to have a good relationship with the salesman or the saleswoman."*

Moving forward with the mentioned PESTEL forces, also political forces were seen as concerning by three of the interviewees, INT02, INT05, and INT06. The war between Russia and Ukraine was related to the conversation as well as China's role in the field of politics. The effects of the war were assumed to impact the world on a large scale and both Russia and China were seen as the most current threats because of their unpredictability and significant power of influence. Relating to both countries, the possible increment of power following their possible evolution was also mentioned as part of the concern when it comes to the political forces.

INT02: *"At the moment I think political. It's hard to look away from what Putin is doing at the moment and how that is affecting a lot of things, and also how China is going to react in this political play or arena."*

INT05: *"So I think that's politically, I mean, you have to worry. The problems could be bigger if China and other countries would evolve, no one knows."*

INT06: *"I am more concerned about the political actually - - it's dependent on the decisions they make the government that can change the industry or the technology or it can change something"*

Since the legal forces were not mentioned by any of the interviewees, the last aspect of PESTEL forces mentioned, was the social aspect. Even though the interviews focused on the personal opinions and attitudes of the interviewees, some interviewees also mentioned concerns with the economics that they did not find personally impacting them. Caring about the communities and considering also the people around you, and even in other countries, who are impacted by the changes of the environment when you are not, is more of a social concern. This is why they could be seen as more related to the social aspect of PESTEL.

INT01: *"Personally for me I'm not directly afraid but for many people that had bought a little bit expensive houses I think they might have some serious problem in half a year, a year from now - - more concerned about other people that live in communities and countries that not has its benefits as we have regarding money etc."*

INT05: *"People who do some jobs, have some difficulties paying their mortgage"*

5.3 Human capital as a competitive advantage

The importance of human capital to the case company was a saturated finding in the secondary data. A part of the values of the company is putting people first. Since the case

company is a consultancy company, this can be seen as implying to all stakeholders such as customers instead of being only about employees. However, putting people first has been further elaborated in the values by highlighting that a person who feels good also does well. The company strives to support its employees to reach their full potential by providing tools to improve their mental and physical health and creating secure conditions for them to perform at their peak every day.

The values of the company are visible in multiple articles on its website. Caring about human beings in a broader picture is evident from the causes they have expressed their opinions on. These are for example International Human Rights Day and World Mental Health Day. These causes represent the company's values which they have elaborated on in the articles. Considering Human Rights, the company has mentioned the importance of seeing each other as people. Caring for others has been mentioned to create better working relationships and a healthier environment for everyone to work in. Considering Mental Health, they have taken a stand drawing attention to the importance of increasing knowledge on the matter and reducing the stigma around it. The way people feel impacts their relationships and performance which makes it important to pay attention to early signals and to have an open dialogue catching up with colleagues regularly.

In an article considering recruitment at the case company, personal qualities and values are mentioned as the most important aspect to define a good match between the job seeker and the company. Technical skills and experience are mentioned as important but also as something that can be developed rapidly when the personal conditions as a basis are right. Grit has been mentioned as the most important quality of an employee, referring to the ability to commit to long-term goals and refuse to give up when facing difficulties. It has also been considered to outweigh the talent in the recruitment process. The company also wants to further support the development and strengthening of the grit of its employees. In the secondary data, it becomes visible that the personnel as the human capital are the biggest asset of the company to create competitive advantage.

Personnel is also an important part of the strategy of the company. In the strategy of the company, the adjectives to describe the personnel were committed, responsible, flexible, open to new insights, generous, genuine, and leading its own development. The importance of these characteristics, and the focus on the soft skills overall that were seen in the values, articles, and strategy from secondary data, were also visible in the primary data relating to multiple aspects of the interview, including handling crises situations.

INT01: *“The strategy is to find the right people - - we will compete with is the soft skills”*

INT01: *“The people that go through these crises with a little bit less anxious is the people that are more flexible in mind that are more pro changes overall.”*

Similar characteristics were also mentioned by the interviewees concerning both current and past companies and their management. One of the examples where these characteristics were seen as desirable for the company to have were the ways of working, including the support that was given to work remotely.

INT02: *“Company X, they were very open, you can work from home or you can work on-site as long as the work is done, and that was very good.”*

INT02: *“If you take the case company for an example, I think manager X is probably the most flexible person in terms of where you work”*

INT04: *“The company did give us computers and everything that's needed to manage to work from home. And we had good communication via Teams. And so on. So it was yeah, that was good.”*

Although the flexibility regarding the way of working was appreciated by most of the interviewees, one interviewee felt that the importance of interaction at the office was also important and conflicted with flexibility. Even if support is still on the idea of hybrid work, the relationships could benefit from assigning the days that people would work at the office. It was also seen as beneficial in case of situations where help was needed from someone since interacting in person was experienced easier.

INT06: *“Right now we don't have any direction to say you need to be in the company one or two or three days. So you can decide. So maybe there we need to be more concrete that say you need to be here two or three days - - we need a support from the people that is there or the manager or other people”*

From the employees' perspective, responsibility for different aspects was also given to the company. INT05 for example, mentioned that learning and being curious about technological advancements such as AI was something they would expect the company to do. Also, another interviewee saw AI as something that the company should act on.

INT06: *“So I think the company working for I really want that they act very much about that. And waiting to get more information, more results about that.”*

Another example considering the division of responsibility came from the management side. INT01 as the CEO of the company mentioned that in crises, the company is the one carrying the responsibility on behalf of the employees that do not have experience in the area.

INT01: *“That's what I try to learn my employees, don't, we will handle the most crises, don't get anxious, but if you've never gone through a crisis it is impossible to understand how we are gonna react when it happens - - giving them that comfortability before they have gone through a crisis before”*

On the other hand, one of the interviewees experienced responsibilities shifting the other way during COVID-19. Working from home and working more individually was experienced as having more responsibility for fixing issues alone while working at the office those issues could have been delegated to someone else.

INT06: *“Actually, I think the company put in a lot of the responsibility for us, I mean, we need to fix a lot of things that normally we get support in the company”*

Different experiences related to responsibility and the matter of flexibility could be observed to relate to the management style and lack of policies and set practices when it comes to human resources. In the case company, management was not seen on something that could be based on HR policies. In the case company, the mentality was the opposite. Having strict policies and measuring the performance of employees were seen to have a

negative impact on their personal development as well as the internal relationships in the company. This was aligned with the earlier-mentioned importance of being flexible.

INT01: *“Reduce data and go back to trust, trust your employees and then you don't need to measure them with tons of KPIs”*

INT01: *“We don't have policies - - Imagine that when you get kids, if you give them a plan, a developing plan and some policies, hey you are five months old now, see you in a year and hopefully you can walk and run as well. That's not how people evolve, so why do we always try to make a lot of policies and developments outlooks etcetera always written instead of just letting the human beings be and they will demand their development and they will find their own way without the policies.”*

Both secondary and primary data focused on the importance of human capital and the well-being of employees. Taking care of the people was seen to have a crucial impact on the performance of the company. This was further seen as crucial to the company's competitive advantage since it was mentioned to be based on human capital and soft skills in particular. The case company's success in caring about their employees was evident in the primary data when we discussed COVID-19 with a follow-up question of whether or not there was something more the employees would have hoped more from the company. For this question, the answers were aligned with each other by four of the interviewees, including everyone with the title of employee working for the case company.

INT02: *“No, not directly”*

INT03: *“No.”*

INT04: *“No, no, nothing I can think.”*

INT05: *“No, not really not.”*

5.4 KSAOs and technological advancements' impact on them

To maintain employability and career advancement, the KSAO questions aimed to promote self-reflection and encourage individuals to address potential threats and opportunities related to their KSAOs. However, according to our questions regarding KSAOs, we observed that the respondents' answers often overlapped with technological advancements. From all technological advancements and uncertainties, it was observed that artificial intelligence (AI) was the singular focal point of all interviewees. Our interviews revealed that interviewees often identified AI as a threat and an opportunity for their KSAOs. The existing view on AI was that it was unpredictable, as the interviewees were uncertain about what AI could bring to them.

INT01: *“I think AI is both a threat and an opportunity.”*

INT05: *“But then you have obviously, this technical evolution of the occupational artificial intelligence and so on. Yeah, that could have a huge impact. No one knows what it really is, like that you have to be curious and to see the full picture.”*

In terms of the advantages AI could provide, INT01 and INT02 welcomed it and were convinced that it could assist them with some of their tasks. An example of the use of AI in CRM was provided by INT01. In addition, even though INT01 and INT05 considered AI as a possible replacement for future work, both pointed out that as long as people can manage or benefit from its positive aspects, the results from using it should be positive. Regarding KSAOs both curiosity and being up to date with the technologies were mentioned as important characteristics for individuals to have regarding the changes.

INT01: *“It's quite interesting what AI can do for me, because I use it in CRM, I use it there so I can see when customers are looking some of the links that we are sending out and when they clicked it etc. So I'm using it and would like to use it more just to learn more about it. But mostly take benefits of it to understand what benefits can we grab instead of I'm not gonna program AI. It's really about how we use it.”*

INT02: *“There are some possibilities and advancements in product development that can be replaced by computers at the moment, but they are more a tool than total replacement. And I think a lot of the boring stuff in my work can easily be replaced by AI. Okay, so that's very welcoming.”*

INT05: *“So I think that all new technology has to be looked at with curiosity, but also be pragmatic and see, how will it help us? - - But you have to be updated in most, I mean, there's a lot of new technology ongoing - - So it's always good to get updated. I try to be curious.”*

On the other hand, there was a perception that AI posed a threat to the KSAOs of the interviewees at times. AI has caused concern among several interviewees, especially because it is viewed as unpredictable and constantly evolving. Most of the concern stemmed from the capacity of AI to replace the interviewees' everyday human tasks and the effects it would have on their employment.

INT01: *“Yes and regarding myself and my work I think when I start to analyze that the biggest concern for myself is not my wellbeing, but my occupation is more or less the AI. As a salesperson and if you are just telling volumes it's just marketing and then an AI is tremendously good doing that.”*

INT04: *“I think the future will be more AI controlled. It's a little bit scary actually, the AI control.”*

INT05: *“So perhaps if they go on to mankind and so on, that could also have big big changes in the working life.”*

There was, however, another perception that accompanied this threatening view, resulting in the rise of the perception of soft skills. One thing that interviewees reported that AI could not provide was namely the soft skills humans possess and the ability to socialize, interact and communicate with other fellow human beings. Soft skills, according to some, will allow them to compete with AI which was only seen to provide hard skills. INT01 went even further and referred to AI as a wave and argued that people will recognize the importance of soft skills shortly.

INT01: *“I think it's gonna be like a wave, we will see a lot of salesmen and saleswomen get out of the door and in goes AI as people solution's selling like every...like food etc. it's quite easy just to sell that via AI and marketing. After that wave I think a lot of people will go back and say it's quite nice to have a good relationship with the salesman or the saleswoman - - I think that will be a benefit to have soft skills in a more AI-driven world - - I think we need to ride the wave because the AI don't have that sort of skills - - AI will handle more of the hard skills and we will never be able to compete with that - - it's gonna be a tremendous benefit with social skills with softs skills and transferable skills as well, but it will take some time.”*

INT04: *“Because I'm a human, yeah, maybe, maybe just that you are a human is an effect, because you can as I said, I can feel the moment and I can read the people. I don't know how to say that, yeah. And just be there and listen. I guess that's the skill for me that I'm there listening, trying to get that's what AI can do also, probably better, but listen up from many channels and try to get a good solution and have the communication in between all of them. Try to reach out and get one or many good things to come together from many sides.”*

INT05: *“What we will compete with is the soft skills.”*

Competing with soft skills was evident also in the interview with INT01. The importance of soft skills as well as transferable skills was mentioned in the interview regarding how the company views its employees as human beings rather than as technical skills.

INT01: *“We are looking at human beings instead of just the technical skills. Because technical skills can be developed but not the soft skills, not that much at least - - soft skills are extremely important.”*

Also referring to the recruitment process and selecting new employees for the company that would suit its strategy, soft skills play a big part in the process. This is evident from the secondary data showing people as the core of the strategy, as well as the primary data where these aspects were mentioned by INT01.

INT01: *“Strategy is to find the right people instead of the right technical skills - - find the right people with soft skills and transferable skills - - only thing we measure is grit, the passion and the resilience.”*

Although soft skills were mentioned as vital when it comes to company strategy and building a team, the variety of skills was also taken into consideration. INT01 agreed that even though soft skills as a concept are important, there is no strict guideline on what these skills should be, or how they should be used.

INT01: *“It's really important to say this because my social skills, my soft skills - - it's not how everyone should have exactly the same skills because you need to have different skills.”*

When discussing the KSAOs needed in the future considering the rapid changes in the external environment and the technological advancements that come along with it, patience was mentioned as an important trait to be developed in order to move on with the AI safely and to learn on the technologies on the way.

INT04: *“Technology thing, so just keep on with that. Continue with the changes, just to get to learn more about all the technologies - - I think we need quite good control of the AI - - I think the safety around the AI, like malwares. So, on that part, just to be sure that AI isn't going to take over the world like all the movies.”*

INT06: *“I think that the people need to understand that the current technology now is a bit complicated.”*

Patience was also referred to when discussing the environmental forces that demand us to decrease our harmful consumption in traditional ways like taking a flight or a drive anytime we feel like it.

INT02: *“I don't really know but probably a lot more patience. I think we need to take it a little bit slower and not demand everything so fast all the time.”*

While most of the interviewees saw technological advancements and changes in the external environment to bring opportunities relating to their KSAOs, INT02 did not see a current threat on the KSAOs when it comes to the next 5 to 10 years, and INT03 had a completely different perspective. Because of the complexity of the current job, INT03 did not see a threat nor mentioned the possibilities these changes could bring.

INT02: *“Not (threat) directly if you look at it from a 5 or 10 years perspective. I think it's quite safe at least. I hope it's safe.”*

INT03: *“My work is too complex it's hard to automate - - I don't see it as a threat.”*

Although the threat was not seen at the moment, INT03 still mentioned a slight possibility that AI could make a difference in complex engineering work. It was still stated that it would not be a simple or easy task to do.

INT03: *“An engineering I'm not quite sure it could be so easily done. But you never know.”*

5.5 COVID-19 and other crises' impacts

The case company was found under the influence of COVID-19. For a company to succeed under such conditions, it is beneficial to have experience working under a crisis. When it comes to different crises overall, reflection on the previous crises was mentioned to help with coping with any crisis a person might encounter.

INT01: *“Need to go through one crisis then you need after that crisis or obstacle whatever it is really reflect. What did I do good and less good - - So learn from history and then you will cope with the unknown obstacles and the unknown pandemic and the unknown whatever happens so that's my learning through all these years.”*

Reflecting on the previous crises as a way to develop individual coping mechanisms and stress reduction holds inside the fact that the first crisis is always the most difficult and not all people had that experience when COVID-19 started to influence their working life.

It was further elaborated that trying to predict the future in uncertain conditions an individual has no control over, like pandemics, would only increase the stress and possibly lead to worse results.

INT01: *“But there is a pattern, even though I am really confident in every crisis because, not the first crisis of course, it was new - - “youngsters at Company X have never been in a crisis before they met the COVID that’s the first crisis and every people that I’ve met when they meet something like a crisis, financial or whatever, the first time is really hard to cope with. And it’s harder to cope with if you always try to predict what you need to do next week.”*

Considering that the case company is relatively new and did not exist before this crisis, the question related to COVID-19 was meant to determine how employees experienced pandemics, and how that has impacted and continues to influence their work and work-life balance. As a follow-up question to gain a greater understanding of the situation, the interviewees were asked which HR practices or policies they have found useful in the companies in which they have worked at such times or crisis, and what they would have expected more from these companies. Most of the interviewees agreed that COVID-19 has had a big impact in general and in particular on their working life, but this impact was not necessarily seen as negative.

INT01: *“We could put on the laundry at home and during the day we weren’t that stressed getting to the market and buying food and catching up with kids at kindergarten.”*

INT02: *“Considering the COVID work-life balance I think, for me personally, it's been better since the COVID.”*

INT03: *“COVID has made a big impact - - Yes, I think what I've learned, I've learned a lot from COVID.”*

The shift from being merely physically present in the office to remote work was perhaps one of the most noticeable impacts mentioned by most interviewees regarding COVID-19. Several interviewees mentioned that remote work was motivated by the pandemic and that this trend may continue in the future. As a point of interest, a few of the interviewees reported that they worked from home the day of their interview, and expressed their satisfaction with the flexibility of the arrangement that allowed them to work remotely, and which, in their opinion, was substantially facilitated by COVID-19.

INT02: *“The best thing I think it's the acceptance of working from home some days and because that opens up more flexible, both work times and how to spend your days especially when you have kids. It has helped a lot.”*

INT03: *“Yeah, welcome home, it's, it's driven by the pandemic. I think at the end of the day, it would be good for us all. I work on remote today, for example.”*

INT04: *“Yeah. The good part is that you may have more opportunities to work from home or other places. So that's the good side.”*

INT06: *“I understand a actually was a big impact for me or for my colleagues, because we start to work in house. And we continued with that. We work at home actually right*

now. So it was a big impact because the social meet is very, it's not so much from before - - we work in home alone - - I like to work at home, I like to work alone.”

However, even though most of the interviewees indicated an interest in having a remote working option available, this does not negate the fact that they have also expressed some doubts about working remotely at times. There was a general consensus among all of the interviewees that working remotely posed a downside in terms of social interaction with their colleagues. It was discussed how humans are naturally social creatures, and that such face-to-face interaction is essential to their well-being. In light of that, it was evident from the interviews that this was something lacking among interviewees during the COVID-19 period.

INT01: *“During the pandemic a lot of people went just and stayed in distance, but now we are still human beings, and we like to see each other. - - But as it goes on, I did and we measured that the well-being did decrease and it was because we didn't see each other. - - I think we like to be able to see each other in the digital world but we missed it after a while. We missed the face-to-face, we missed the real-life meetings.”*

INT04: *“Maybe in the long term, if you work more from home, you don't have the social skills for how to actually meet people. It gets lower.”*

INT06: *“But I think we need to meet other people.”*

These social concerns related to soft skills were only seen as problematic in remote working conditions. When the situation allows face-to-face meetings, the development of social skills is well considered in the company by arranging informal meetings.

INT01: *“We are always trying when we meet in real life we really spend time just meeting, instead of having conversations about how good or not good it's going for the company financially - - Having a nice chat, eating good food and drinking good wines and I think that is, even if it's not a policy with us it's how we do it in real life and I think that's a good thing to do.”*

Regarding the future of working life and the ways of working, interviewees saw that it is most likely to switch to something in between working remotely and working in the office. The hybrid model was also seen to differ among people based on their work tasks and life situations, which highlighted the importance of flexibility and was viewed in a positive light.

INT01: *“So I think we will go back to more normal, so I think that we will have less of distance work for some employees and more of others, or equal for the others.”*

INT02: *“A lot of companies have started to accept that you are not always the most productive when you're sitting in an office space. And it gets easier to work both onsite and offsite - - and also you don't all the days spend the time to get to the worksite. You can just open your computer and you're at work. And the next day you go to work and meet your colleagues.”*

INT03: *“Project leaders and so on they can easily work at home.”*

INT05: *“Yes. Yeah, of course I think the work would be more like a hybrid, both working at the office or the plant and at home or at other places, I think is more like a hybrid. You don't have to be at the same place all the time - - So I think that's the difference that started with a COVID.”*

Not only was the reduction of the time used on commuting seen as a beneficial way to save time, but technological advancements were also considered to save time as well. The beneficial improvements of technology that were accelerated by COVID-19 were further seen to influence working life in reduced working hours in the future.

INT04: *“I think maybe the time of how many hours per week you will work with the longer students the work will be more done by AI.”*

5.6 Flexibility and open-mindedness

Flexibility and having an open mind including curiosity stood out from the primary data as saturated findings. Flexibility could be seen as a necessary characteristic for an employee to have working in a rapidly changing, uncertain environment relating it to the KSAOs of the individuals. These were seen as crucial characteristics when it comes to environmental uncertainties that are beyond individuals' control. These characteristics, representing the soft skills of individuals, are looked for by the people in the recruitment process of the case company. The ability to be both flexible and open-minded was seen to have an impact on how people are able to cope with different changes in the external environment including crises.

INT01: *“People that like changes, embrace changes, are flexible in mind, always cope with this a lot better than people try to control their future because you can't control your future.”*

As personal characteristics, open-mindedness was also seen as a crucial trait in order to embrace the change and accept the development of the future by taking advantage of the possibilities and opportunities it can bring along. Open-mindedness and curiosity were seen as keys to developing individual's own abilities to keep up with the change and benefit from them.

INT02: *“I think that if you have the mindset to learn and refine your skills daily or weekly, I think you will come a long way and with curiosity and open mind when it comes to designing and developing products.”*

INT06: *“We need to fit to the change.”*

Also relating the abilities of individuals to adapt to different environments, one of the interviewees explained the importance of adaptability as a consultant. Since consultants repeatedly have new customers and changes of scenery at work, the need for adaptability is present even without any additional crisis or changes from the macro environment.

INT02: *“When you work and as a consultant you always have to adapt to the company you are working for at the moment”*

Similar characteristics rose from the conversations also relating them to the company's side. From the company, flexibility was appreciated by the interviewees as a saturated finding when they were asked about their experiences regarding COVID-19.

INT02: *"The best thing I think it's the acceptance of working from home some days and because that opens up more flexible, both work times and how to spend your days especially when you have kids it has helped a lot"*

INT05: *"Good experience, I think more flexible."*

INT06: *"The situation that we have adds more flexibility in our day too."*

Flexibility from the company's side has made an impact on employees' lives also improving their work-life balance. Especially interviewees that mentioned having kids appreciated the possibility of flexible ways of working and elaborated on how it makes handling the different aspects of life easier.

INT02: *"It's great to have the flexibility to work off-site when it's needed like today. - - They have stomach bug at the preschool so we said it's better to have X at home to avoid getting sick and he can play, and I can work so that is really good with the flexibility."*

Curiosity in a similar way was mentioned to be an important characteristic of a company. When it comes to technological advancements and enabling employees to take advantage of rising opportunities as well as mitigating risks that could possibly distract their work, the companies were hoped to be curious and make themselves familiar with the new technology to better prepare themselves better for the future.

INT05: *"I think the company has to be curious."*

6 Analysis and discussion

This chapter starts by explaining the process of analyzing the empirical data through coding and using the Gioia method. After the analysis, the revised framework is presented and explained. Lastly, the revised framework and its different dimensions are discussed in more detail in the discussion.

6.1 Data analysis process

To analyze the data gathered for this research, we started by color-coding the transcriptions of the interviews. By reading through the transcriptions, different topics were colored by highlighting them from the text as seen in Figure 6. This was done in a shared document where both researchers could make additional comments and add definitions on each color. In the Figure the blue color stands for the ways of working, orange stands for COVID-19/crises, and green refers to flexibility and adaptability. The purpose of color-coding was to identify repeated and popular topics that were mentioned by the interviewees. Since the transcriptions followed the interview guide, they were coded in the same order as the questions starting by coding first all the answers to the first question, then the second, and so on while still keeping the document structure as it was in the transcription phase. Coding one question at a time made the recognition of the repeated topics easier since similarities were more effortless to identify. However, different topics were often repeated or returned to in the later phases of the interview and were then coded with the same original color that was based on the discussed topic.

X: Yeah I think from a point of view today I think we will have less remote in the consultancy firm that we are representing, because I think during the pandemic a lot of people went just and stayed in distance, but now we are still human beings and we like to see each other. So I think we will go back to more normal, so I think that we will have less of distance work for some employees and more of others, or equal for the others.

M: Yep. And do you think that these changes require something more or less from the people?

X: Yeah I think it will require a more flexible mindset from the employees and all the human beings working. I think we as a firm must be more flexible in where we want our employees to work from as well. So i think it just comes to one sentence and one word: flexible and embrace change, be flexible. And that's for the firm as well as the employees.

Figure 6. An example of color-coding the transcriptions.

All color-coded parts were then removed to a separate document where they were written in the form of quotes and arranged by color. This helped in recapitulating the topics which were often overlapping in different parts of the interview. To further keep evident the context from which the quote was taken, the number of the interview and the question on which the quote was part of the answer were written down as well. An example of these

connected quotes can be seen in Figure 7. While the interpretative positioning and inductive approach highlight the importance of pointing out the differences among individuals, connecting the different interviews to each other with the color-coding also allowed us to identify cross-case patterns and similarities among the findings.

INT02 (regarding Pestel)

“On the long term the environmental aspect should have the most focus.”

“Imagine taking all the money that goes into this war and putting it into solving environmental issues.”

INT03 (regarding Pestel)

“I think the environment is this really important.”

INT05 (regarding future)

“I mean, in the bigger picture for the environment is issues that has to be solved.”

INT05 (regarding Pestel)

“I mean I think in the long term, I mean, it's environment, we have to take care of it now.”

“So, I think that long term, it's really important to stop the decline of all the nature so to speak.”

Figure 7. An example of connecting quotes on environmental concerns.

The same color-coding method was repeated with secondary data, by identifying suitable and relevant data from the organizational documents such as articles, strategic documents, and presentations. These sentences were then removed to their own separate document to make it easier to present them further in the findings, supporting the primary data. An example of color-coding secondary data, connecting sentences related to the importance of soft skills, is shown in Figure 8. The separate documents including the color-coded data, including both secondary and primary data, totaled 19 pages.

What we primarily look for to ensure a good match between company X and job seekers are personal qualities and values

The technical skills and experience are of course important, but with the right personal conditions as a basis, we are confident that the technical already exists or will develop rapidly.

The single most important qualities that we at Company X cherish are grit.

the ability to commit to your long-term goals and refuse to give up, even in the face of setbacks and difficulties ...

we are convinced that grit outweighs talent.

Figure 8. An example of secondary data sentences related to soft skills.

After the color-coding, the Gioia method was used to create a table (Figure 9) that would further show the findings as 1st order concepts, 2nd order themes, and aggregate dimensions (Gioia et al., 2013, p. 21). First, the 1st order concepts were built from the color-coded data by gathering the most common and frequently mentioned phrases that related to each other. All 1st order concepts were mentioned by two or more interviewees. The additional support of secondary data was further taken into consideration. 1st order concepts were categorized by the colors by which they were gathered into a separate document (Figure 7 & Figure 8). After this first phase, the connections and patterns of the 1st order concepts were given a closer look, and further connected with the researchers' interpretations that were based on the theoretical framework of the research. Thus, the 2nd order themes were built to represent a higher level of abstraction connecting the gathered data with reviewed literature. Finally, aggregate dimensions were created to reach an even higher level of abstraction and to provide answers to RQ1 by showing the dimensions of how the external environments' uncertainties relate to the individual KSAOs. The aggregate dimensions were then further connected to the revised framework (Figure 9) simultaneously connecting the research data more tightly to the theoretical framework to help in understanding the relations actual substances.

1st order concepts	2nd order themes	Aggregate dimensions
Climate change, change in environmental, environmental policies, global warming, environmental aspect, environmental issues, environmentally friendly	Environmental issues causing concern Changes offering opportunities Climate change as a megatrend	Consciousness Opportunities to pursue
interest, financial situation, financial crisis, economy, unstable markets, customer's economy, economy's slowing down, world financial change	Unstable economic situation Uncertainty related to current job	Employment
political issues, political, political play or arena, political side, war between Ukraine and Russia, government,	Political uncertainty Concern of war	Politics related to economy
social issues, concerned about other people that live in communities and countries that not has its benefits as we have, need to meet other people	Being social Concern of others	Human contact Relationships Empathy
AI, artificial intelligence, technological advancements, technology change, replacing work tasks, new technologies	Technological change Opportunities Threats	Need for updating knowledge and skills Opportunities to pursue
COVID-19, crisis, change, remote work, hybrid work, office, face-to-face, interconnection, network, Zoom, computer, work alone, work from home	COVID-19 revolutionizing the ways of working Flexibility in life	Ways of working Changes in work-life balance
Flexibility, open-mindedness, embrace changes, curiosity, soft skills, social skills, flexibility on working places and hours, fit to the change, adaptability, acceptance	Embracing soft skills Personal characteristics	Soft skills' role on competitive advantage
finding right people, measure grit, compete with soft skills, care for people, human capital	Strategy based on people	

Figure 9. Gioia method (Gioia et al., 2013, p. 21).

6.2 Revised framework

As can be seen from Figure 8, aggregate dimensions were made based on the findings. These dimensions were further integrated into the revised framework in different ways. While the main focus of the framework is on the relations between external uncertainties and individuals' KSAOs, ways of working and work-life balance were found to be additional aspects that influence these relations and were therefore included in the revised framework. Another additional extension of the framework was the division of skills into hard skills and soft skills. The revised framework, taking a closer look at its different aspects is discussed more specifically in the discussion chapter below.

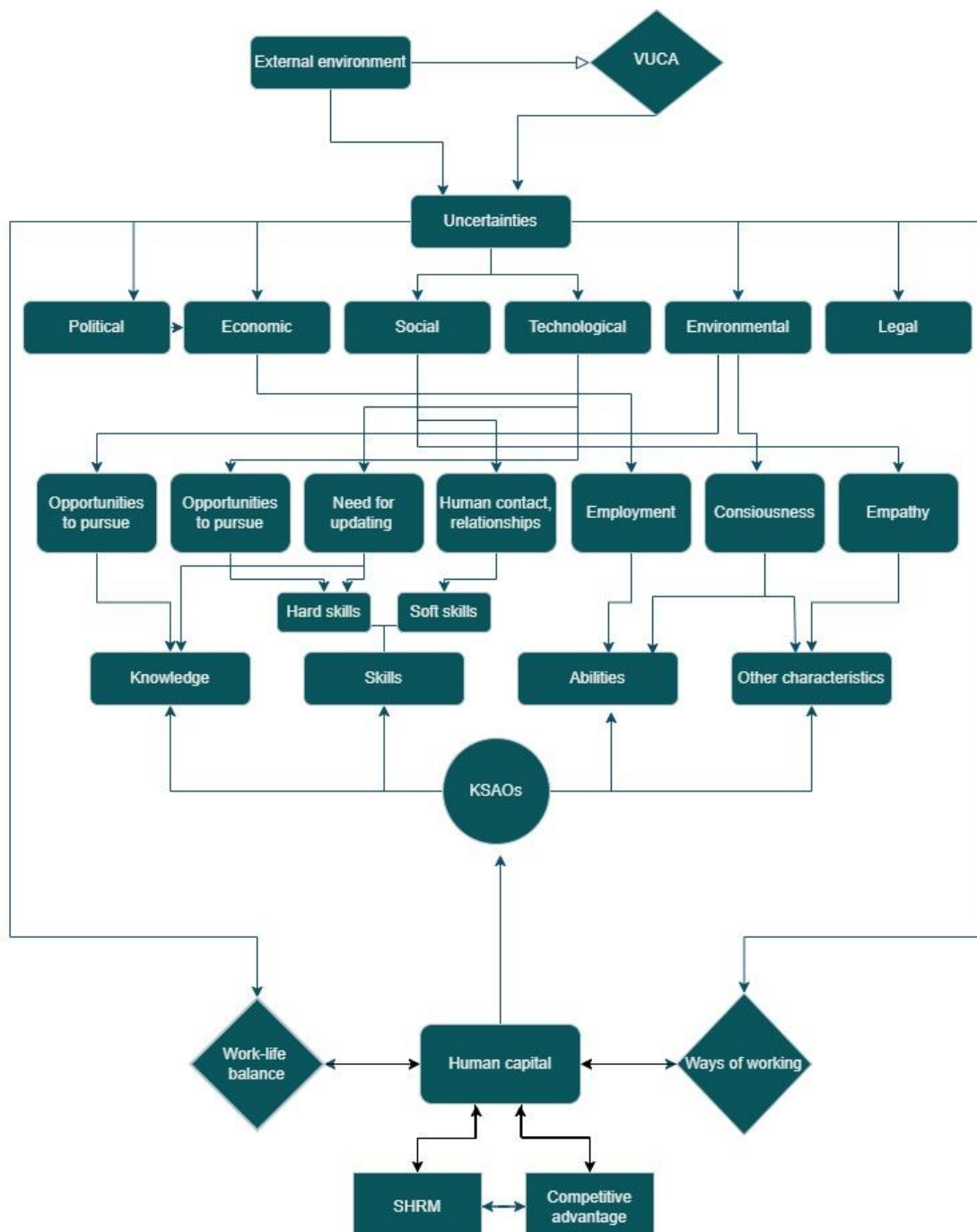


Figure 10. Revised framework.

6.3 Discussion

The main idea of the revised framework was to answer the research question by relating the external environment and its uncertainties to the individual KSAOs that were chosen as the focal point as part of the human capital. To explain the framework more precisely we will start the discussion from the top and bottom starting points of the framework.

Starting from the top of the framework with the view on the external environment, including macro-environment, industries, and markets that all exist outside of the company boundaries, the VUCA environment and more specifically uncertainties were selected as appropriate concepts considering the purpose of the research and its research questions. Similar topics were found in previous literature and the collected data. For example, from the ongoing trends discussed by Whittington et al. (2020, p. 51), environmental issues such as climate change were mentioned by all interviewees as a substantial concern. Whittington et al. (2020, p. 51) have mentioned climate change as a long-term trend that can last for decades and similarly the findings showed it as a concern that the interviewees saw as part of the bigger picture having a long-term impact.

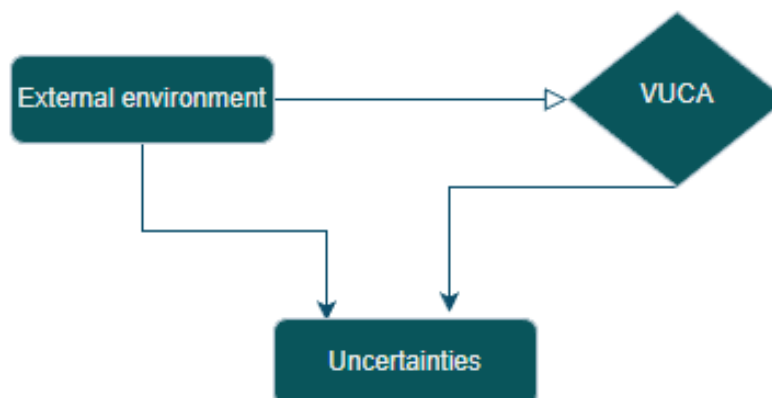


Figure 11. Starting point at the top of the revised framework.

Moving forward in the framework, PESTEL forces were separated as individual forces causing uncertainties. The data showed that even though the different forces may overlap, they were generally considered as separate entities which might have impacted the fact that legal forces were not mentioned in the data. The tightest bond was seen between the political and economic forces, where politics was considered to highly influence economics. However, the influence was mentioned only as a one-way influence, thus politics are related to economics with a one-way arrow.



Figure 12. PESTEL forces in the revised framework.

Before moving into the aggregate dimensions showing the aspects that form the relations between the uncertainties and the KSAOs, we will focus on the other end of the framework where human capital stands as the starting point. However, since this research contributes to the field of SHRM, this together with competitive advantage, was added to demonstrate the overall picture of how human capital impacts the competitive advantage and company strategies through strategic human resource management. These aspects further demonstrate the perspective of the study that has taken the employees' perspective by setting the individuals at the core. According to the research by Barney (1991), placing the people in the core instead of the business benefits not only the individual KSAOs and their development but also the company where the people work in. Therefore, it could be argued that even though previous research in the field of SHRM has mostly focused on the HR – performance relation, there is a reason to do research more closely focused on the employees behind the performance.

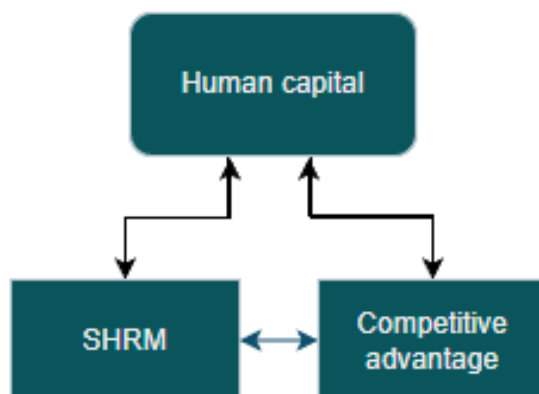


Figure 13. Starting point at the bottom of the revised framework.

The concept of human capital was viewed differently by the employees compared to the theoretical framework. Key aspect showing the contradiction between the empirical data and previous research related to skills as part of the KSAOs. The concept of human capital, brought to the business context by Becker (1964) was originally focused mostly on hard skills, like training and education, which were highly neglected by the interviewees. The primary data showed that the sample considered soft skills as far more important than hard skills. In theory, the term soft skills have been defined as a skill that is neither technical nor abstract but involves both interpersonal and intrapersonal abilities that facilitate the opportunity to master specific tasks in particular social settings (Hurrell, Scholarios & Thompson, 2013, p. 162). This contradictory finding served as a reason to divide the skills into hard skills and soft skills. Compared to soft skills, hard skills were seen as more secondary skills that are available for anyone to learn whereas soft skills were seen as more personal and something people are born with, but still can be developed further. However, the more personal view on the skills, that was evident in the interviews, related partly to Dawson's (2012, p. 4) research where for example investing in physiological

care and emphasizing organizational culture were mentioned as crucial when it comes to developing the human capital.

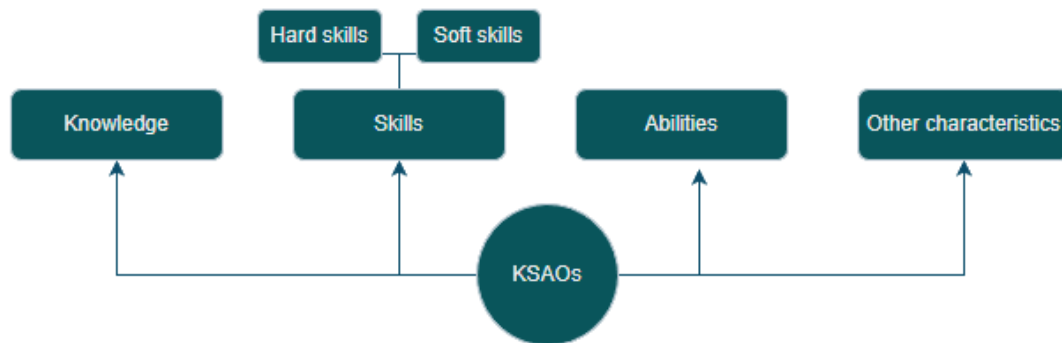


Figure 14. KSAOs in the revised framework.

Additional aspects caused by the external environment and its uncertainties that were found to impact the human capital were work-life balance and ways of working. These were seen as substantially influenced by COVID-19. COVID-19 served as a precedent of uncertainty that has influenced the human capital and individual KSAOs recently. While previous research on the impacts of COVID-19 has mostly focused on explaining the changes made by companies, we wanted to focus more on the personal views on how these changes have impacted the employees and how the impacts have been received. Exploring the work-life balance and ways of working on a more practical and personal level, the experiences of remote work, although mostly positive, varied between the interviewees. However, the need for flexibility had an important role in both aspects. HR policies and procedures in companies should support the employees and their everyday work. According to Dawson (2012, p. 6), this can be done through flexible job design. Defining employee's own working schedule and being able to decide the place for working has been seen beneficial for employees' performance also in the research of Aliev and Sigov (2017, p. 64). According to the empirical data, flexibility in job design also improved the work-life balance by reducing stress. However, the effect of stress differed when it came to working remotely or at the office. Commuting to work and being away from the family were seen as stressful to some, while staying present and available on a computer remotely all day was seen as stressful to others. One interviewee also mentioned the feeling of higher responsibility and lack of organizational support when transferring to remote work and not having the IT department available when needed. The differences in the points of view of the employees, even if currently working in the same company and under the same organizational culture and HR policies, show the need for considering individuals. Most likely there is no singular set of policies that would apply similarly to all employees and equally benefit their work and motivation. Therefore, the findings highlight that individuality is crucial to be considered in the ways of working. It would also further improve the work-life balance of the employees. In the revised framework, the arrows demonstrate that the changes in the ways of working and work-life balance are results of the uncertainties of the external environment and that these aspects have a straight influence on human capital.

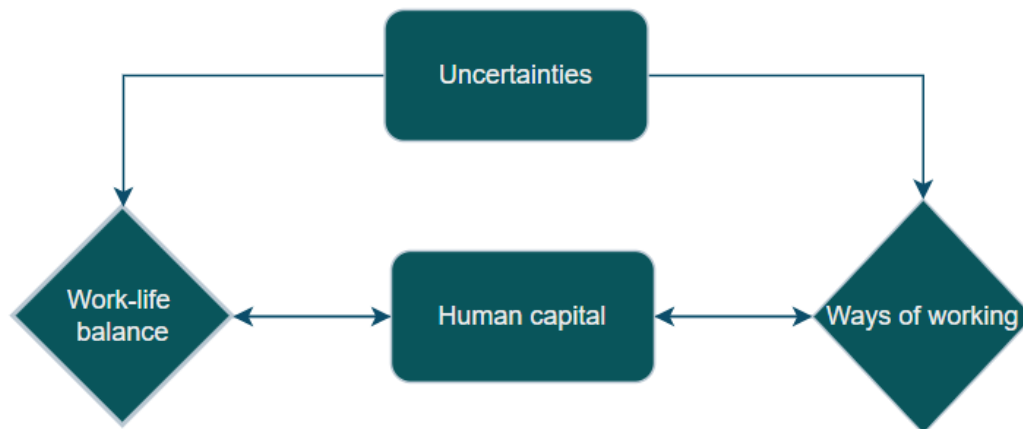


Figure 15. Additional aspects to the revised framework.

Moving to the aggregate dimensions through which the uncertainties were seen to impact the individual KSAOs, we will start by discussing the environmental and technological aspects that were considered to provide opportunities. Sustainability and environmental concerns as a long-term trend were seen to cause opportunities that are available to pursue with a suitable knowledge of the area and its developments. Technological uncertainties were also considered to create opportunities but rather relate to the skills. Technological skills as hard skills were seen as crucial to be possessed or developed since AI, as the most often mentioned technological advancement in the empirical data, was seen to be beneficial solely for the individuals possessing a high level of technological skills. Thus, the ability to pursue the technological opportunities would require updating the hard skills thus relating to the dimension of ‘need for updating’.

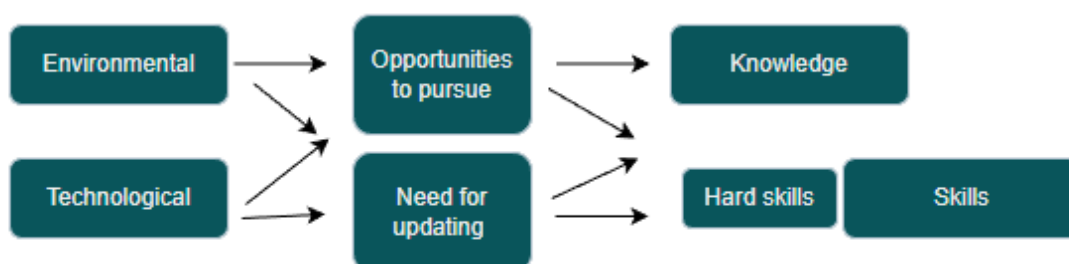


Figure 16. Relationship between environmental and technological uncertainties, and knowledge and skills.

The fourth dimension relates to the ways of working that created social uncertainty in the times of COVID-19. Human contact and relationships related to social uncertainty were viewed differently by the interviewees in the empirical data. Extending the previous research made on the impacts of COVID-19 (Pandya & Boukareva, 2022, p. 47), our research also showed the importance of human contact and relationships. From the employees’ point of view, the negative sides of remote work were revealed as a result of lacking human contact and building relationships. However, the view on the matter varied among

the interviewees. Considering the time of COVID-19, the findings show how the interviewees appreciated the flexibility but differed when it came to embracing either social contacts or working alone. Some of the employees had discovered that they work most efficiently remotely and alone, while some interviewees felt that they missed social encounters and working at the office. None of the interviewees mentioned any social connection that would have taken place remotely. Pandya and Boukareva (2022, p. 47) have argued for the importance of continuing social interaction also during remote work. They (Pandya & Boukareva, 2022, p. 53) have further elaborated that building stronger communities through digital platforms would be beneficial for the company as a whole. Aligned with the previous research, a need for human contact and relationships was seen as important for the development of soft skills in the empirical data. Both primary and secondary data highlighted the overall importance of soft skills and human contacts and relationships were seen as the dimension through which social uncertainties influence them.



Figure 17. Relationship between social uncertainties and soft skills.

The data showed that most of the interviewees considered their external environment as the macro-environment and focused on the bigger picture, while only one of the interviewees mentioned unstable markets as an addition. Not considering industries and markets as part of the environment could have influenced the fact that for example obsolescence, seen as a threat in the research of McGahan (2004, p. 88), was not mentioned by the interviewees. On the other hand, this might be a result of the trust the interviewees have in their current job markets and the industry they work in. However, pointing to the fifth dimension, some concerns related to the job as a consultant from the interviewees' personal points of view were still mentioned. While only one of the interviewees mentioned markets as a term, two of the interviewees mentioned their job as consultants to be under a lot of pressure in times of crisis. This creates a link between economic uncertainties and the ability of the individuals to work. Currently, the economic crisis was seen as a threat to employment in consultancy, not because of the financial situation of the consultancy company itself but because of the financial situations of the customer companies who hire them. Differences between the interviewees' points of view on the matter might be based on the differences in their areas of expertise. As stated earlier, the case company has customer companies from multiple fields, indicating that these companies have been differently impacted by the recent pandemics and financial uncertainties. The stress about financial concerns, even if present only in the customer companies, extends the findings of the research done by Pandya and Boukareva (2022, p. 49) by showing that the impact comes from the uncertainty of employment.

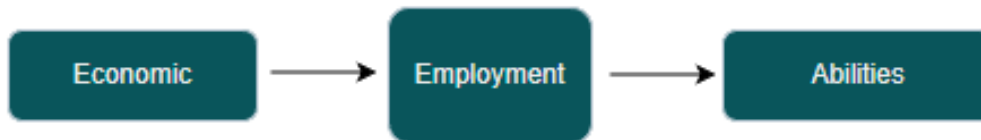


Figure 18. Relationship between economic uncertainties and abilities.

The last two dimensions, consciousness, and empathy, related mainly to the other characteristics of the KSAOs. Consciousness was seen as an aggregate dimension relating the environmental uncertainties to both abilities and other characteristics. Rapidly increasing concern about environmental issues like climate change is making it constantly more important for individuals to be conscious. Being conscious does not only relate to working life but influences life on a broader scale. Thus, decisions regarding transportation, and consumption overall are to be made in both work and free time. Influencing abilities to work at the office, printing needed documents, and using the newest phone to maintain work relationships are all matters related to consciousness. It also influences other characteristics like mental well-being when these types of decisions related to transportation for example, are made in free time. One of the interviewees mentioned patience as a characteristic to develop in order to improve consciousness. An example was used in relation to choosing possibly slower transportation as a more conscious choice. Improving patience could also demonstrate the overall habit of consumption and the need to change impulse buying to more conscious buying in order to contribute to environmental needs from a larger perspective.

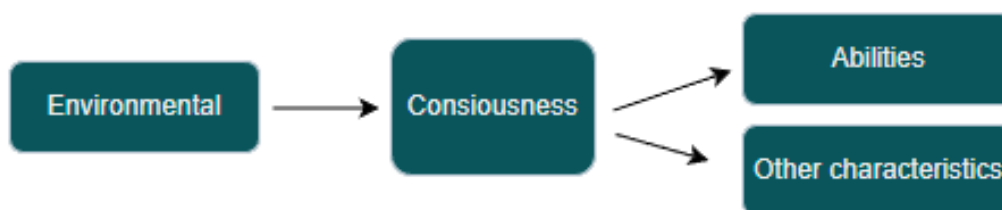


Figure 19. Relationship between environmental uncertainties and abilities and other characteristics.

Empathy as the last dimension also demonstrates the larger perspective that was considered by the employees in the interviews. Even if the interviewees were guided to take a personal, individual perspective on all the interview questions, a general concern of other people was present. Relating to loneliness as a social uncertainty and the threat of financial situation as an economic uncertainty, two of the interviewees mentioned their concern for other people. Regarding the economic uncertainty, they separately mentioned that the concern does not relate to their personal finances but to people that might have higher mortgages or live in countries where the economic situation is overall worse. These types of concerns and causes of stress that relate to society from a broader perspective were seen to relate the social uncertainties to the other characteristics through empathy.

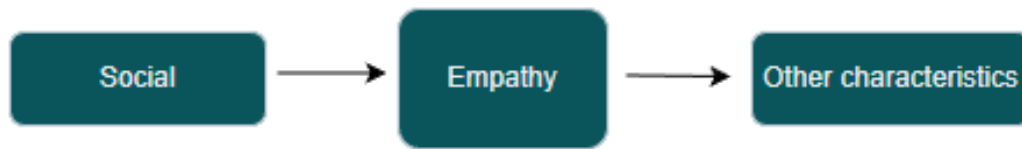


Figure 20. Relationship between social uncertainties and other characteristics.

7 Conclusions

As part of this chapter, we provide our contributions to theory as well as present two future-oriented scenarios that will take the form of managerial implications, as well as societal implications for society. As such, the managerial implications also answer RQ2 as the follow-up to RQ1. After providing a brief overview of our study's potential limitations, we conclude our paper with a handful of research areas that could be explored in the future.

7.1 Theoretical contributions

As mentioned in the introduction, this study aimed to contribute mainly to the field of strategic human resource management (SHRM). As previously mentioned, the majority of research in the field of SHRM has focused on linking HR practices to the firm's performance, largely ignoring employees' perspectives (Wright & McMahan, 2011, p. 93). Furthermore, no connection has yet been established between employees' KSAOs and environmental uncertainties. Consequently, rather than treating "state uncertainty" as an objective state of the world, we have taken the employees' perspective and closely examined how employees perceive the perceptual experience of uncertainties in their external environment related to their KSAOs. The conceptual framework then demonstrated the identification of "effect uncertainties" by identifying the relationships between different uncertainties in the external environment and employees' KSAOs. Hence, by answering the research question (RQ1) and investigating how environmental uncertainties relate to individuals' KSAOs from an employee perspective, this research developed a revised framework that filled the identified gap in previous research. Since the gap has not been adequately addressed before, it offered us the possibility to create a fresh perspective for understanding the relations of the two key concepts.

Additionally, this integration of human capital and external environment theories has led to novel insights and explanations that were not apparent prior to the integration. One key contribution we made as a result of the analysis was the addition of soft skills to the revised framework. Both hard and soft skills can be acquired and developed, and it was clear from the empirical data that most of the interviewees acknowledged soft skills to have greater value than hard or technical skills. The value of soft skills was seen as high when considering threats such as crises since they can be more easily adapted to a variety of circumstances. Thus, our findings question the prevailing view in SHRM and human capital theories (Wright et al., 2018; Schultz, 1961; Becker, 1964) that have focused primarily on hard skills, such as education and training leading to better performances, ignoring the significant importance of soft skills in dealing with environmental uncertainty.

In previous studies related to human capital and SHRM, team building, and team formulation have been widely studied topics. New theories and perspectives on how to maximize the efficiency of a team and how to combine different KSAOs to do so have been studied (Bell et al., 2018; Wright & Snell, 1998). However, our study challenges prior research by highlighting individuality. While building teams is important, teams should not be treated as complete entities, since they remain consisting of individuals. As seen in our research, the same ways of working and the same ways of maintaining social relations do not necessarily fit all individuals the same way. Hence, rather than focusing solely on how individuals can contribute to a team with their KSAOs, the different needs

of the individuals within the team should also be focused on. In addition, demonstrating the importance of individuality extends previous research on organizational learning where it has been acknowledged that organizational learning requires individual learning to take place first (Simon, 1991, p. 125).

Moreover, this study further contributes to the field of SHRM by updating knowledge on adapting to rapidly changing environments, which has largely remained ignored in previous studies as stated by Wright et al. (2018, p. 146). Focusing on the uncertainties of the external environment, and the relation these uncertainties have on the individual KSAOs, contributes to the field by expanding the knowledge on coping with uncertainties. By knowing how the uncertainties impact the employees, strategies are easier to be built adaptable which further appears as the resilience of the company's strategy and its human capital in it. While human capital's importance to companies' strategies and competitiveness has been widely acknowledged in previous studies (Aliev & Sigov, 2017; Barney, 1991; Bell et al., 2018; Wright et al., 2018), our research took the point of view of the individual employees that form the human capital. This type of approach offers not only a new perspective to the field but also a closer bond between academia and practicality.

Taking the employees' perspective in this study further extended the research related to flexibility. While flexibility has been seen beneficial in adapting to a rapidly changing environment, our research showed that this is also acknowledged in practice by the employees and relates not only to the flexibility of the company but also to the individuals and their overall mindset. While previous research has emphasized the importance of flexibility in organizations (Teece et al., 1997; Wright & Snell, 1998; Adner & Helfat, 2003; Bell et al., 2018), being flexible and open-minded was seen as beneficial also from the individual point of view when coping with uncertainties.

7.2 Scenario planning as managerial implications

To reach managerial implications, the research focused on the second part of the two-folded research question, RQ2. While the first question considering the relations between employees' external environment, its uncertainties, and individual KSAOs was studied to generate theory and thereby contribute on a theoretical level, the follow-up question considering the factors to focus on building resilient human capital has a more practical focus and contributes to the managerial implications. Hence, in an effort to help managers take advantage of the findings, this study has contributed to scenario planning by providing two futuristic scenarios focused on identifying the uncertainties that managers should focus on in order to promote human capital's resilience. Keeping this in mind, we have sought to decrease the ambiguity associated with uncertainties and provide the two scenarios together with specific recommendations for managers in an attempt to address the "response uncertainty". Even though the research was conducted as a case study, we believe that the study is applicable not only to the case company but also to other companies having similar settings that could benefit from such research as well.

Following the guideline presented in Chapter 4.4. we chose to create two scenarios to avoid the possibility to choose the middle one. In the process of creating the scenarios, we followed the different steps provided by Whittington et al. (2020, p. 54). As a first step, we started creating the scenarios by defining the scope. The idea was to build the scenarios with close attention to the gathered data by identifying the uncertainties that were seen to have the biggest impact in the future. To keep the aspects of the scenarios

coherent with the content of the data, PESTEL was used to categorize these uncertainties. Since legal uncertainties were not brought up by any of the interviewees, legal forces as its own entity were excluded from the scenarios. Since the content of the scenarios was gathered through the data collection, the structure of the forces prioritizes the forces that were seen to include the most impactful uncertainties. For example, the biggest uncertainties that were mentioned and elaborated on most often were technological. In addition, the aspects that differ the most between the two scenarios were also used as part of prioritization. Based on both theory and data, the technological advancements and their development were seen from several different points of view. Hence, technological aspects are mentioned first in Figure 20 which presents the built scenarios in a form of a table.

As a second step, we identified the key drivers of each aspect. As an example, for the technological aspect the key driver, based on the data, was the influence and development of artificial intelligence. The development curve and the point where we stand on it currently was widely considered an uncertainty that would influence life in multiple aspects, especially relating to work. Whether the speed of the development is only going to increase, become steadier, or even decline, was seen differently by each interviewee and concluded as an uncertainty that we cannot currently predict. The opposite opinions and points of view were placed in different scenarios. This type of process was repeated in all PESTEL aspects considered in the scenarios. In the division of the uncertainties and placing them in the scenarios, coherency was also considered in order to avoid building scenarios where the completions of different uncertainties would be contradictory. Both scenarios including the identified key drivers of each aspect are seen in Figure 20.

Considered aspect	Scenario 1	Scenario 2
Technological	<ul style="list-style-type: none"> Extreme rapid pace of technological changes Need to grasp every opportunity to among the first Open-mindedness related to VUCA environment Constant stress about being up-to-date AI has more power over humans than the other way around VUCA environment at its extreme volatility and uncertainty 	<ul style="list-style-type: none"> Booming of technological advancements and AI as a wave has passed Some useful AI developments are still in use to do routine tasks Technology mainly used to support manual work Development of new technology tremendously slowed down Trust in human rather than technology, AI seen scary Priority to make relationships and build connections
Environmental	<ul style="list-style-type: none"> High restrictions Restricted use of e-vehicles No use of paper Recommended to stay home Transportation mainly by bike or by foot 	<ul style="list-style-type: none"> Social well-being put before environment Concern and focus on environmental issues secondary Embracement of localness in communities
Social	<ul style="list-style-type: none"> Free time filled with stress Blurry line between work and free time Social life minimized due to transport difficulties No office spaces Work remotely and alone 	<ul style="list-style-type: none"> More free time Office work Social meetings possible and embraced Blooming social life Constant peer support
Political/Legal	<ul style="list-style-type: none"> High level of control Consumption limitations Loss of freedom 	<ul style="list-style-type: none"> Employment as priority Focus on wellbeing
Economic	<ul style="list-style-type: none"> Current economic system collapsed No cash, no trust in traditional banks Alternative currencies Technological wizards run the world Massive income differences High unemployment rates 	<ul style="list-style-type: none"> Economic situation restored its balance Steady inflation and interest rates Fear of new crisis as a motivation to build stability
Other	<ul style="list-style-type: none"> Urbanization vs full isolation 	<ul style="list-style-type: none"> Local communities to be found anywhere

Figure 21. Scenarios.

As the third step, distinct scenario “stories” were created based on the different aspects seen in Figure 21. The objective of the stories was to create an understanding of how the world would look in practice if the scenarios would become reality.

Scenario 1: AI-controlled world

This scenario shows how technology is completely dominating the job market and moving at a rapid pace. Technology is a new frontier that all companies are racing to discover and take advantage of. The constant pressure to always keep up with the latest technological advances is something that is always present in the air. This world is one in which Artificial Intelligence (AI) has more control over people than the control that people have over AI. It is very common for people to use technology even for doing the smallest tasks. The VUCA environment is characterized by high levels of volatility and uncertainty. It is hard to predict the future, and people don't know what lies ahead creating constant fear and anxiousness among them.

The government has ordered that environmental issues are placed first on the priority list and to ensure a sustainable environment, strict guidelines must be followed. There are fewer cars on the streets, and people mostly walk or bike. Despite the presence of electric vehicles on the roads, many people choose not all people have access to them because of the need to reduce pollution produced by their batteries. The taxes to pay for using an electric vehicle are enormous and increase every year when the batteries get older. Paper is rarely used anymore, and most correspondence is conducted electronically. People stay at home most of the time, and if they plan to venture out, it's usually within walking or biking distance.

Considering the above, it's normal to expect people to have more free time, but that's not the case since everyone is overstressed about keeping up with technology. We have a lot more of an I-centric sense in this scenario than an us-centric one. Visiting friends is much harder now, especially in colder countries due to the strict limitations on transportation. The vast majority of the work is performed by artificial intelligence, which has resulted in a loss of social relationships that used to take place at the office. The new world is dominated by remote work and is largely dependent on working independently from home or in a working cubicle if one is placed close to a person's apartment.

It seems as if the present economic system is on the verge of collapse. As alternative currencies have become more prevalent, traditional banks and trusted currencies are disappearing almost completely. It is primarily due to overconsumption, that has led to very strict restrictions on paper consumption. Many manual jobs have been replaced by AI; however, those who have technological skills and are both talented and skilled in working with technology still have jobs. The broad influence of AI over jobs has resulted in a high unemployment rate, which in turn has led to an increase in income disparity. It's becoming more common for people to move to cities, as they fear they will be completely isolated if they don't.

Scenario 2: Return

In this scenario, people began to realize that the booming of technological advancements and artificial intelligence was a temporary phenomenon. Some of the useful AI developments were still left in use. However, they are mostly used to perform more manual and routine tasks, which leaves more time and space for creativity. In this scenario, technology plays only a supportive role, and advancing artificial intelligence further is not seen as convenient, instead, people and their employment are treated as a priority. As a result, people tend to be more trusting and more enthusiastic about establishing relationships

with actual people. Because AI is viewed as a threat, its booming has only become a wave and a passing trend.

Priority is given to society's well-being, while lesser concern and attention is paid to the environment. The local resources, however, are regarded as important when it comes to food and goods supply, and it is the power of the local communities that allows moderate prevention of environmental degradation. An overall sense of society is dominant, as well as a strong sense of "we" rather than "I". In almost every city, regardless of the size, there is a strong and growing community, and people are able to live and work freely, due to the abundance of local services. The lack of significant restrictions allows people to enjoy more free time and meet friends and family freely. Besides the usual office work, employees appreciate coffee breaks, lunches, and after-work social events, since social contacts are blooming and informal events are seen as crucial in nurturing human relationships.

With regards to the economy, formal interest rates, inflation, etc., are returning to balance. Currently, people are a bit more conscious of avoiding further upheavals and recessions, which leaves only a temporary scar on people's wallets for the time being. While people and employment are placed as the core of a working society, consuming is encouraged but consciousness is still highly recommended.

As the fourth step of the scenario planning process, the impacts of these two different scenarios were identified. To consider the technological aspect, its speed of development, and its threat to current occupations, differed between the two scenarios. It would be appropriate to prioritize hard skills over soft skills in scenario 1. The technological skills of individuals may be competitive, and companies should strive to maintain a workforce that is technologically knowledgeable, intelligent, and capable of working well under pressure as well as alone. With scenario 2, the case company would be well positioned with its current strategy that highlights the importance of soft skills and nurturing human contact and relationships. If scenario 2 would turn out more likely, the emphasis should strictly remain on soft skills. As a result, companies should be people-oriented since people sit at the very heart of every business. They should empower their employees with negotiation skills and other soft skills to build relationships with all stakeholders, including customers and colleagues, both of which are mutually beneficial and authentic.

In scenario 1, the situation would most likely cause more stress on the employees both at work and outside of work. Environmental restrictions leading to less social contact would increase the importance of remote socializing. Finding a new way to avoid loneliness and overflowing stress would become crucial. This might require adopting a new platform that would focus solely on informal communication to help the employees better detach themselves from the intense work atmosphere. Additionally, more resources should be dedicated to mental healthcare to reduce stress and cope with it. However, if scenario 2 is more likely to take place, the social contacts could be taken care of the same way as before. Embracing the organizational culture with informal dinners and occasions would be highly appreciated and support the employees' social relations. With changes in the working hours more informal events could take place and employees' well-being could be nurtured by adopting different benefits related to sports or culture for example. If the working hours would decrease, this would be beneficial, especially for employees living in one-person households to avoid loneliness and keep all employees more active overall.

The scenarios differ also on the economic aspect. In the first scenario, it would be beneficial to focus on updating financial knowledge on different risks and threats. The financial crisis would also create the need to teach the employees different coping mechanisms to handle the crisis in their personal lives. Supporting the employees other than financially could create more security and thus increase their capacity to focus on work.

Constant support and consideration of the individuality of the employees were seen as key in both scenarios. While work still occupies the most time of the day, this might change in the future. Nurturing a good work-life balance is important for employees and a hybrid model of working is one of the procedures that has helped employees to reach it. This would imply that it is not optimal from an employee perspective to choose either or when it comes to working fully remotely or fully at the office. The constant development of the individual KSAOs is also an important aspect to consider overall. However, the focus point, whether it is hard or soft skills for example should be decided based on the indicators that future changes bring. To cope with either scenario, it would be beneficial to balance the focus of development between the KSAOs to ensure the capability to adapt accordingly when needed.

These recommendations are based on the empirical data and scenarios built from it. However, the fifth and final step included in the scenario planning process, which includes the final decision-making and monitoring of the process, is left to the case company.

7.3 Societal contributions

There are three ways in which this study can contribute to society. As a first observation, we have seen a large gap between academics and practitioners. The gap has been identified to come from the prior research that has largely focused on hard skills when it comes to the KSAOs. However, our findings in this study challenge this viewpoint. Based on this study, it appears that hard skills are not what employees see as the key to adaptability and flexibility in times of crisis. Rather, it is people's soft skills that make a difference. These skills can be as simple as being social or listening and simply being human with emotions. It is seen as ideal that society will place more emphasis on treating people as humans with social needs, where the value of cooperating, interfacing with, and taking care of one another always remains.

Second, we believe that if employees of a company are in a good mental state and are in a good state of well-being, it contributes to a better working environment and consequently a better society. Taking the employees' point of view as the basis for this study, we have attempted to address what employees worry about. Identifying the various uncertainties that affect the individuals' KSAOs enables companies to better communicate with their employees and develop strategies that will ensure a healthier work environment. COVID-19 as a precedent used in this research showed the differences in individual needs and preferences offering the companies an insight into the importance of considering the individuality of its employees to preserve their well-being.

7.4 Limitations

Since this research was limited to a single case study, the generalizability is subject to limitations, and it is possible that the findings may mainly be applicable to the case company. Compared to a single case study approach, a multi-case study approach could have

been better for credibility. However, due to the available scope of the research as well as its timeline, this would have required more time to collect and analyze the data. Another weakness to point out is that the focus was put primarily on the macro-environment, without placing much emphasis on the characteristics specific to a particular industry or market. There is a possibility that some skills or knowledge that are crucial in one industry are less significant in another. Consequently, neglecting to consider the industry context can lead to inaccuracies in assessing the impact of uncertainties on employee KSAOs.

Further, due to the study's focus on a Swedish company in Sweden, the results are generally more relevant to Swedish companies, or countries with similar environments and cultures. There is no doubt that employees may perceive uncertainties differently depending on the type or size of the industry or even the country in which they are employed. However, we believe the transferability of our research could be enhanced by repeating the study in a similar setting using the same steps taken in this research, thus yielding comparable results.

In addition, even though the interviews were conducted in English as a primary language in this study, the official language in the case company is Swedish, which was also the native language of all employees, posing another limitation to our study. It is our belief that if the interviews were carried out in Swedish, some of the employees would have been able to express themselves better, as we observed that they sometimes had difficulties finding the right words and apologizing for their English skills. We conclude that if the interviews had been conducted in Swedish, some of the employees might have been able to elaborate on their answers more broadly without having the language as a restriction. This would have been beneficial for the research and possibly result in broader findings in the empirical data. It was only on certain days that we were able to offer the option of conducting the interview in Swedish, and none of the interviewees ended up choosing those dates despite this possibility, which eventually led to us holding the interviews in English throughout the entire process.

7.5 Future research

Because our study was qualitative in nature, we were not attempting to test whether the results were true or applicable to larger populations; rather, we were trying to construct novel theory from the empirical data. As such, for future studies, we would recommend conducting a quantitative study by putting our developed conceptual framework to the test. Consequently, we believe this may lead to a more specific relationship between employees' KSAOs and uncertainties of the external environment.

Furthermore, we believe in the transferability of this study and would recommend conducting comparative studies across different industries, or markets to assess how KSAOs and uncertainties differ across contexts. It could be further investigated whether particular skills are more important in specific industries or if the nature of uncertainty has an impact on the necessity of certain skill sets in different industries. The comparative analysis could overall help in providing insights from the contextual factors that shape the relationship between KSAOs and uncertainty.

In addition to the context changes between industries and markets, cultural aspects could be researched as well. With a possible multi-case study in an international context, it could be researched how different cultural aspects influence employees' perception of

their external environment and its uncertainties considering their individual KSAOs. This type of study would further contribute to the field of cross-cultural psychology in a business context by adding culture as an additional dimension to our revised framework. Similarly, relating to our findings, a dimension for different demographics could be used to test a hypothesis on whether younger employees see uncertainties and develop their individual KSAOs differently compared to employees approaching retirement.

While this research widely used COVID-19 as a recent and highly impacting uncertainty that has risen from the external environment, the topic could be researched with another example as well. For example, at the time of writing, a geopolitical crisis is taking place in Ukraine. Especially in the countries located near the war zone, this could serve as a new context that could show a crucial impact on the different aspects considered in this study. As an uncertainty, a geopolitical crisis has the possibility to influence all PESTEL forces and through them impact individual KSAOs. Since the impact of the war is most likely similar to COVID-19 with its long-term impacts, the study could also be executed as a longitudinal study, discovering how the different stages of war create different uncertainties and how the views on their impact may change over time.

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Appendix

Appendix 1. Interview guide

<p>Introduction</p> <ol style="list-style-type: none"> 1. Introduction of research 2. Introduction of the interview process 3. Ethical considerations, anonymity 	
<p>Questions</p>	<p>Aim of the questions</p>
<p>Considering PESTEL forces and future in general, what things do you personally find the most concerning? (examples)</p> <ul style="list-style-type: none"> • How do you see them possibly impacting your work? 	<p>The answer of this question may provide insights into the employee's priorities, concerns, and areas of interest in their professional and personal lives.</p>
<p>Which factors in the external environment do you think that threatens your current knowledge and skills?</p> <ul style="list-style-type: none"> • How could the company support you to update your current knowledge and skills? 	<p>The aim of this question is to promote self reflection and encourage individuals to proactively address potential threats to their KSAOs in order to maintain their employability and career advancement opportunities.</p> <p>- Address if there is an open communication between the employee and the employer, and if there is a positive culture of learning and professional growth.</p>
<p>Do you see some opportunities in the changing world related to your existent KSAOs that you would like to pursue?</p>	<p>This question aims at aligning an employee's existing KSAOs with emerging trends in the field that can potentially enhance their professional lives.</p>
<p>How would you like the company to act if some of your work tasks would be possible to replace with AI for example?</p>	<p>With this question we want to further find out the attitudes towards the future and whether the employees view technological innovations as a threat or an opportunity.</p>
<p>Considering past events like COVID-19 or financial crises impacted your work (or work-life balance)?</p> <ul style="list-style-type: none"> • Has there been some good HR practices or policies in the companies you have worked at a time that you have found useful or beneficial? • What would you have hoped more from the company? 	<p>Since the company they currently work in is relatively young, it is more than likely that most have worked in different companies during earlier crises. Since all employees are individuals it is interesting and relevant how different people are impacted by different things.</p> <p>Looking back at the times of crises it is beneficial to hear what are the things that have stuck to the minds of the employees as positive experiences. Going towards the future it is also useful to hear that based on the individual experiences, what are the things that the company</p>

	could do better in the future. This helps especially with the managerial implications giving more practical advise.
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