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ANALYSING CORPORATE CULTURE BY THE APPLICATION OF PERSONAL CONSTRUCT PSYCHOLOGY

Written by

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KAPOSVÁR

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CONFIDENTIALITY CLAUSE

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AUTHOR'S DECLARATION

Whilst registered as a candidate for the above degree, I have not been registered for any other research award. The results and conclusions embodied in this dissertation are the work of the named candidate and have not been submitted for any other academic award.

Henning Bundtzen

ABSTRACT

The aim of this dissertation is to contribute to organisational science by employing an exploratory and inductive research approach in the aspiration of finding new paths in corporate culture research. With Kelly's personal construct psychology, a theory originating in psychology was utilised to explore the associations leaders and employees have with the organisations they work for. This methodology was chosen because the theory is proven to create unbiased results that are not influenced by the researcher or use of questionnaire. A holistic view of corporate culture was created by conducting 61 repertory grid interviews with 21 leaders and 40 employees, which generated a quantitative and qualitative dataset of 782 personal assessment criteria. A three-dimensional visualisation of the comprehensive dataset was analysed by engaging semantic cluster analysis aiming to find patters describing unthought cultural patterns worthy of analysis. This research approach led the author to examine five distinct topics within the context of organisational behaviour. Firstly, corporate sustainability was analysed in a contemporary work environment using the described methodology to assess the corporate sustainability status quo of the investigated organisation. This analysis was followed by an adaption of Herzberg's two-factor theory of motivation to today's economic environment and altered workforce values. As the dataset included results of a direct leader–member exchange, two sections are dedicated to leadership-related subjects; the arresting discrepancy between the managers' own ratings and the entire leadership culture of the organisation induced the question of the influencing factors of a distorted leader's self-perceptions. A review of current scientific literature revealed that error prevention and organisational silence impact the self-perception and efficacy of leaders. Moreover, both the strategy towards addressing mistakes and how leaders communicate their own errors proved relevant. The section on

vulnerability in leadership investigates the common effects on psychological safety and empowerment shared with error management as prerequisites for organisational learning. Combined with organisational commitment and employee resilience, this will support proactive employee behaviour. Finally, one section is dedicated to organisational agility, as the pandemic-influenced year 2020 made agile work practices relevant to a degree seldom seen in economic history. The grid data deployed by Generalised Procrustes analysis allowed the visualisation of the agile status of the organisation. As COVID-19 showed commandingly how volatile, uncertain, complex and ambiguous (commonly grouped under the acronym VUCA) economic development and governmental decisions can be, in the final section of this dissertation, an agile framework was developed that brings the characteristics of VUCA in direct context with how agile working methods and enablers respond to such external forces. In summary, the unusual but scientifically substantiated method applied in this dissertation has revealed some interesting new scientific evidence on corporate culture.

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LIST OF ABBREVIATIONS

CC	Corporate culture
CEO	Chief Executive Officer
CS	Corporate sustainability
CSR	Corporate social responsibility
EMC	Error management climate
GPA	Generalised Procrustes analysis
LMX	Leader–member exchange
OA	Organisational Agility
OS	Organisational silence
PCP	Personal construct psychology
RGI	Repertory grid interview
VUCA	Volatility, uncertainty, complexity and ambiguity

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1. INTRODUCTION

"A person's processes are psychologically channelized by the ways in which he anticipates events". George A. Kelly, 1955

With the above statement George A. Kelly initiated his theory of personal construct psychology (PCP). The theory describes a psychological approach to the subjective view of how people make sense of the world around them (Senior & Swailes, 2004). If Kelly is correct this theory is capable of supplying a completely new approach to investigate organisational behaviour, specifically corporate culture (CC), as the culture of an organisation reflects a group of people forming their subjective views by engaging with the same organisational experiences. This invokes the following questions: What will occur if we apply this psychological investigation methodology, originally developed for individuals, to multiple people within an organisation by conducting repertory grid interviews (RGIs)? Is a combination of the subjective "worlds" of employees and leaders to create a concrete and interpretable figure of the CC mathematically possible? Finally, will this investigative methodology reveal patterns that spur new insights into organisational research, or will it be impossible to create a common picture of the respondents?

To answer these questions the underlying study deploys RGIs to derive CC-related constructs from employees and leaders. The results are bipolar constructs, upon which all elements that represent the organisation are rated. Generalised Procrustes analysis (GPA), which enables a three-dimensional visualisation of the interview results, is applied as the statistical methodology. In addition to the graphical visualisations, statistical results are produced using elements to construct cluster relations. Based on the quantitative and qualitative results generated by the above procedure, scientific literature reviews were conducted to draw generally applicable findings. Figure 1 summarises the chosen procedure for this research project on organisational culture.

Figure 1: Structure of the research approach
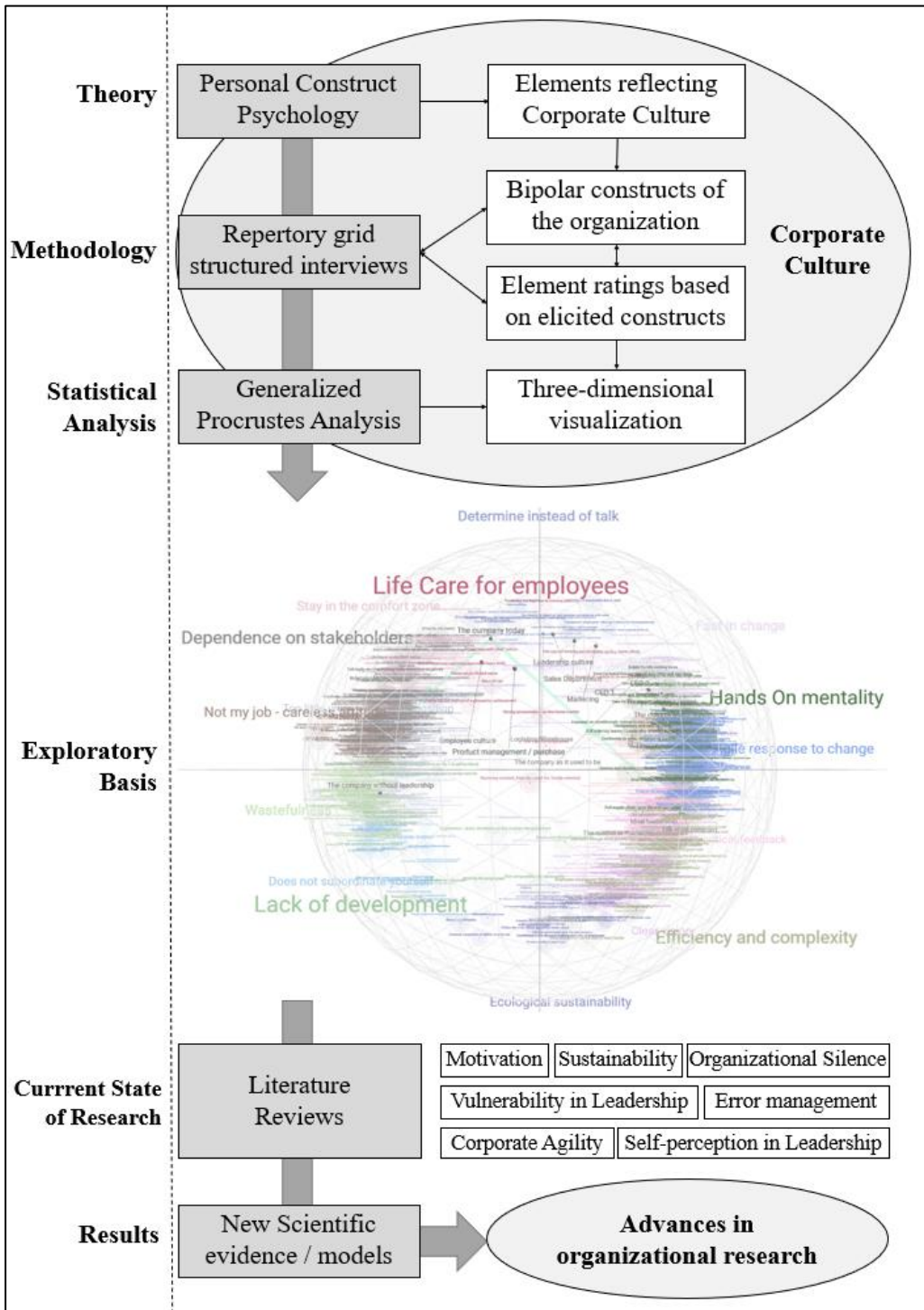
Source: Compiled by the author

The approach enabled the publishing of several conceptual papers in the context of organisational research. A strong focus on the topics of leadership, employee motivation and proactivity as well as organisational performance was laid for this study in the selection of research elements. Due to interesting findings with regard to error handling, this focus was expanded to include organisational silence and error management. Furthermore, the clustered results as well as the economic situation directed the research towards organisational agility as a response to strong economic and governmental changes. In summary the research follows a triangulation model by generating qualitative and quantitative results simultaneously.

Due to the inductive and explorative nature of the research approach, the next chapter does not include conclusions based on the literature. Subject-based literature reviews are outlined in the literature review in sections 3.2 to 3.6 to contextualise them for the reader with the results and discussion part of sections 5.2 to 5.5.

2. OBJECTIVES OF THE DISSERTATION

"I can see how the scope for using PCP in business organisations is enormous. As a professional community we have only scratched the surface in this vast domain. Business organisations are merely aggregates of individuals making sense of streams of events in particular contexts and in relation to particular others. Personal Construct Psychology is the science of human sense making. So how might PCP be used to intervene constructively within a particular organisation?" (Brophy, 2007)

This citation clearly summarises the objective and approach of this dissertation whilst also highlighting the potential of a PCP investigation targeted to CC. The primary goal of this research is to show investigative that applying PCP in a repertory grid is a possible way to research CC. In consequence the research question and main objective is formulated as follows:

Is personal construct psychology an applicable methodology to investigate parts of a corporate culture?

The aim is to translate a psychological theory of organisational behaviour into a research and diagnostic tool via RGIs for CC. RGIs were chosen as an interview technique as it is suggested by Kelly (1991) as a preferred and unbiased way to enquire the personal perceptions of individuals. Furthermore, computer technology today enables a recapitulation of numerous RGIs. Thus, the first sub goal to answer the research question is:

1. *Are RGIs a suitable way to enquire and visualise the complex framework of corporate culture in quantitative three-dimensional plots?*

This is done by conflating the results not of individuals but of entire groups within an organisation (Cassell et al., 2000). From a scientific and practical point of view this is relevant due to the economic, governmental and ecological changes of recent years. These changes should consequently impact both scientific research

and practical solutions. These forces are commonly characterised by terms and topics such as volatility, uncertainty, complexity and ambiguity (VUCA); the millennial workforce; sustainability; new work; connectivity; mobility and new leadership approaches. The second sub goal consequently states:

2. *Does the interpretation of the results allow one to draw conclusions on the above-stated contemporary CC-related forces and economic scenarios?*

The applied methodology is especially suitable to investigate this research question due to its unbiased enquiry approach. Subjects are not pointed to thoughts related to these new factors by questions. That way it can be investigated unaffected if they are part of the intrinsic assessment criteria of the enquired subjects.

Based on these forces and trends a literature review was conducted which resulted in the identification of five distinct topics (see chapter 3: Literature review). These five subjects were derived to gain possible insights from the data set by analysing the semantic corridors between constructs, clusters and research elements. The objective of this dissertation is thus to test current scientific standards in the following five research areas:

1. Corporate Sustainability
2. Two-factor theory of motivation
3. Self-reflection in leadership
4. Employee proactivity
5. Organisational agility

The objective is to determine if these diverse topics can be tested by applying the repertory grid technique to draw a holistic view of the CC. This is formulated into the following research questions as a third sub goal:

3. *RGIs based on PCP reflect contemporary research topics in organisational behaviour allowing to draw scientific conclusions?*

If it is possible to draw conclusions from the compiled data set this research demonstrates a different scientific approach to investigate CC. The aim is to show by transferring and measuring the CC in a three-dimensional space allows placing a special investigative focus on the five above-mentioned topics. This entails making the specific CC of a company visible and qualitatively interpretable, then focussing a subject-specific spotlight on the dataset.

Common approaches to analysing CC include qualitative research methods consisting of "how and why" questions without producing quantitative results (Gray et al., 2012). Making an entire CC three-dimensionally visible, interpretable and mathematically analysable would comprise a significant contribution of this research study with regard to science and practice in itself. The results, however, are unknown as the qualitative assessment criteria are not set by the researcher but rather are defined in the process of the interview by the participant. This bears the risk of eliciting non-interpretable group results if no distinct cultural pattern is created by the generated data. On the other hand, this uncertainty has the potential to create new corporate cultural perspectives that have not yet been researched. Thus, research sub goal four is as follows:

4. *Does the generated dataset promote further worthwhile research directions for extended investigation?*

The author is aware that it is not possible to draw generalised business conclusions from the limited dataset alone, even if it comprises qualitative and quantitative data. The aim is rather to apply an inductive approach to identify new research paths. Making such a complex system of values, norms and subjective views visual and interpretable is, from the author's point of view, a worthwhile approach both scientifically and practically. To produce generalised new results the scientific literature of each topic was reviewed to substantiate the first results; the research was thus used to identify new research contexts, which were validated by contemporary scientific literature to allow common conclusions.

Another aim of this study is to advance PCP in organisational research. If successful PCP-based RGIs hold the potential to allow unbiased and efficient access to analysing CC. A questionnaire or interview framework that must be adapted for each organisation and purpose could be exchanged for a single set of elements representing CC. Another aim of this research is thus to define a set of elements applicable to multiple scenarios. The selection of these elements should ensure that culturally relevant topics, for example team orientation, level of customer centricity, vision or leadership, are elicited. A more precise scope or aim with regard to the specific subject within the context of CC cannot be stated before the conducting of the interviews due to the exploratory approach of this research.

3. LITERATURE REVIEW

3.1 Introduction of personal construct psychology

Kelly (1955) initiated his theory with the central statement, "A person's processes are psychologically channelized by the ways in which he anticipates events". This fundamental postulate represents the basis of his psychological theory; a central word here is "events" because events must somehow be translated by the way they are anticipated by a person. According to Kelly (1955) this is done by construing their replications, which he calls "personal constructs". Hence two different persons experiencing the same event make different corollaries by construing different meanings on the basis of their inherent personal construct systems. In this framework construing stands for "placing an interpretation" upon the experienced event (Kelly, 1955). Such an interpretation process is based on comparisons of constructs referring to similarity and contrast. This interpretation formula of similarity and contrast enables people to count events by making them distinguishable from each other, a necessity to enable counting. To enable a counting process, a concrete difference must be construed or their abstract likeness of each other. This fact is crucial: anticipating events by construing their replications lays the ground for mathematical reasoning (Kelly, 1955).

To transfer the complex construing process into mathematical measurements of statistical probabilities, Kelly (1955) uses the example of counting cows and horses. A summation is only possible by referring to the similarities of the two, in this case, animals; the acceptance of an animal-like abstraction is consequently required. Things or events must be similar enough to be counted. This counting process depends on the individual abstractions of people, which Kelly refers to as constructs. By construing the replication of things and events, mathematical reasoning is possible (Kelly, 1955).

As people differ from each other in their construction or anticipation of events individual corollaries are created. This results in different approaches in how

different people anticipate the same event. Furthermore each person develops a construction system which embraces ordinal relationships between its personal constructs over time (Kelly, 1955). This construction system is not static but constantly evolves with every new event a person is anticipating. In psychotherapy this evolvement offers an approach to readjust a person's lifestyle. As work is a part of a person's life the method can be converted from a personal approach to an organisational entry point to investigate the CC of an organisation (Robertson, 2004).

Kelly originally created PCP as a foundation therapy for university students. In addition, the developed theory was meant to create more variety in potential therapeutic approaches. This reveals that although it was not be designed to investigate a large group of people, Kelly did not exclude this possibility (Easterby-Smith et al., 1996).

For this study this means that a theory originating in psychology about how people subjectively make sense of their own world is utilised to evaluate how employees judge the organisation where they work with regard to motivational and other work related factors (Fromm, 2004), hence becoming a method that investigates the subjective and personal worlds of workers within an organisation. This study thus adapts the original approach that investigates the means by which individuals are distinguishable by how they anticipate things or events into one that scrutinises the similarities of a group of people within an organisation to identify something as a "construct consensus", or in other words, the joint assessment criteria employees and leaders use to judge their organisation. Nonetheless this study approach is not a psychometric test but rather a structured interview technique based on PCP (Fromm, 2004). The results will consequently represent the subjective reality of the interviewed group in an idiographic manner (Bourne & Jankowicz, 2018). PCP proposed by George Kelly (1955) suggests that individuals act like scientists, continuously striving to make sense of their world and their place within it (Kelly, 1955). The notion within PCP of the "inquiring

person" implies that the unique principle that governs human behaviour is the need for meaning, as well as the need to make sense of the world (Bannister & Fransella, 1986). To do this, individuals develop constructions (or theories) of themselves and their worlds. These constructs change as they experience events that confirm or disconfirm previous predictions made based on their existing construct systems (Cassell et al., 2000). In summary, PCP is a powerful theory and tool to quantify a person's attitudes, feelings and perceptions of one's life (Easterby-Smith et al., 1996) or an entire group of people with regard to a specific organisation, which Balnaves (2000) refers to as a "superpattern".

Finally, personal constructs and value systems are not static in the same way as is the judgement of an organisation (Babin et al., 2019). Still, it highlights the inertance for transforming a CC as it takes numerous event perceptions. Organisational culture in itself can only be altered by changing various elements, including the behaviour of a large number of people. In addition, new events and things must find their way into the construct system of the workforce as corporate construing is a joint action (Balnaves, 2000). For example, changing the approach to address errors from "prevention" to "active handling" might be quickly adopted by leaders. But until this is reflected in the personal construct systems of the people for the entire culture, several "replications of events" must occur to alter their constructs.

3.1.1 Elements in personal construct psychology

In the world of PCP the way a person anticipates events determines the behaviour and the way people ask questions (Fransella et al., 2004). Kelly offers several definitions of "construct". For example, a construct is "a way in which two or more things are alike and thereby different from a third or more things". This definition directly manifests in one of the procedures for eliciting constructs for repertory grids (Fransella et al., 2004).

The elements in Kelly's PCP are "the things or events which are abstracted by a construct" (Kelly, 1955). Constructs in this sense are personal assessment criteria formulated in the interviewed person's own words. The selection and formulation of elements is a critical start of a study as it determines the quality of constructs elicited by the interviews, and the researcher does not know in advance which construct will be stated by the interviewee (Fransella, 2004). Hence, the formulation must follow some general guidelines, which can be drawn from the literature.

In general the research topic – in this case CC – provides the context for choosing the elements, as they should represent the domain of interest. It is thus critical to determine the scope and focus of the research study before determining the integrated elements (Easterby-Smith et al., 1996). To ensure that elements can be converted into constructs, they should be within the range of convenience of the subject (Bannister & Fransella, 1981). In general, elements can be anything, including objects, people, events or activities, and should ideally be as short as possible to facilitate quick anticipation by the subject (Stewart et al., 1981; Wright & Lam, 2002). Components should ideally not reflect subgroups of other elements (referring to the example given in the last section, this would refer to the inclusion of both "animal" and "horse", as this would impede critical differentiation and evaluation of the CC elements). As a consequence they must be relatively homogeneous and distinct from each other (Easterby-Smith et al., 1996). Several studies have used individuals in an organisation as components to elicit personal assessment criteria (Stewart et al., 1981), whilst others have doubted the accuracy of results built on individuals as elements, suggesting a broader context for organisational investigations (Wright & Lam, 2002).

For this research, a mixture of elements representing both individuals (e.g. direct manager or CEO) and objects (e.g. a specific department) were chosen. In addition abstract objects, such as leadership culture, were chosen to develop a diverse set of constructs. For personal construct research in the context of

leadership, elements like "myself", "my superior" or "the ideal self", have proven to create insightful results (Smith & Ashton, 1975). The most conducted research beyond therapeutic settings is based on elements representing conventional role titles, artefacts, incidents and scenarios to elicit individual constructs. This limits the diversity of applications of a repertory grid technique (Wright & Lam, 2002).

In particular, the types of elements necessary for more complex management and organisational experiences, such as eliciting cognitive representations of a systemic structure of something, have not been explored to date. Wright and Lam (2002) subsequently suggested that more heterogeneous elements be integrated, which implies a meaningful and representative spectrum of the research subject. The utilisation of systemic elements enables new applications of Kelly's (1991) theory and software-supported grid technique.

3.1.2 Bipolarity of personal constructs

An essential part of Kelly's theory is that "people act like scientists in the way they evaluate the world around them: formulating, testing, verifying and updating hypotheses about the world and its relationship to themselves" (Kelly, 1955). In the context of this study, this means that an employee's understanding of the organisation they are part of is created via an active procedure of contrasting the likeness of attributes, or so-called constructs (Moon et al., 2017). Kelly describes this as "a way in which things are construed as being alike and yet different from others" (Kelly, 1955). The opposite pole of a personal construct is required to provide the real sense of individual assessment criteria, which increases clarity and emphasises the sense of what the person formulating the construct means. The requirement for a contrast pole is given through Kelly's definition that humans make sense of their universe by simultaneously noting likeness and discrepancies. In comparison, it is the utility of the construct that facilitates this process. Bipolarity exists in the construct itself, not in the two sets of elements sorted by the construct. This is an important feature as construct bipolarity makes

it possible to build bipolar or even tetra-polar grids by combining the particularity of each opposite construct pole (Fransella et al., 2004).

A person's bipolar constructs are the assessment criteria which an individual has formulated into a mindset through which the sum of experiences creates a unique picture or evaluation of the world surrounding them. Construct bipolarity is the distinguishable part of a normal concept which results in an evaluative characteristic (Fransella, 2004). For example, if someone states that they see a car, inherent in that statement is what a car is not, such as a bus. The contrary to the concept "car" can be anything that is not considered by the person as a car (Fransella et al., 2004).

In summary this bipolarity of construing similarities and dissimilarities holds essential potential to analyse the means by which people judge and make sense of the organisation they are working for (Mak et al., 2013). In a practical sense this information can be used to transcend a CC onto a higher level and deliver insights on which cultural aspects should be changed.

3.1.3 Personal construct psychology in organisational research

The first applications of PCP in occupational roles began in 1979, although without broader IT-based support. Various research with PCP in the field of management and business followed, which Cornelius (2016) summarised. In total 50 studies were included, in fields such as knowledge management, human resource management, organisational learning, marketing and organisational psychology. In particular unobtrusive measurement methods such as PCP are required in organisational psychology as these are not dependent on the cooperation of the interviewee, which can be an issue with questionnaires and interviews (Hill et al., 2014). This explains why interest in organisational and management research grounded in PCP remains. Cornelius (2016) identified the fields with the most opportunities for the application of PCP to business and management practice. Among these fields were leadership in times of change

which provided a first direction for the research of this dissertation. As a consequence a strong focus was placed on the topics leadership and organisational agility as possible answers to the external changes described by VUCA. As early as in 1991 Kelly characterised a leader as "someone who is construed to be a leader by a followership" (Kelly, 1991). This seemingly short description holds concealed depth, as the avoidance of partial descriptions of what leadership comprises has provided the opportunity for PCP to build a complex understanding of leadership. The intuitive approach to question managers about leadership-related topics may also spur them to respond to questions with what they assume is the right answer, withholding their actual beliefs (Easterby-Smith et al., 1996). In addition a focus lies on the discovery and mutual creation of a leader–member exchange (LMX; Cornelius, 2016). In general, the possibilities to investigate PCP in business research are wide, ranging from the individual level of a single employee to the organisational level of the entire CC.

Figure 2: Applications range for PCP in the business context

INDIVIDUAL

- Coaching and Counselling
- Interpersonal Relationships
- Group and Team Development
- Role Clarification
- Management Processes
- Marketing
- Human Resources
- Organizational Culture / Values

ORGANIZATION
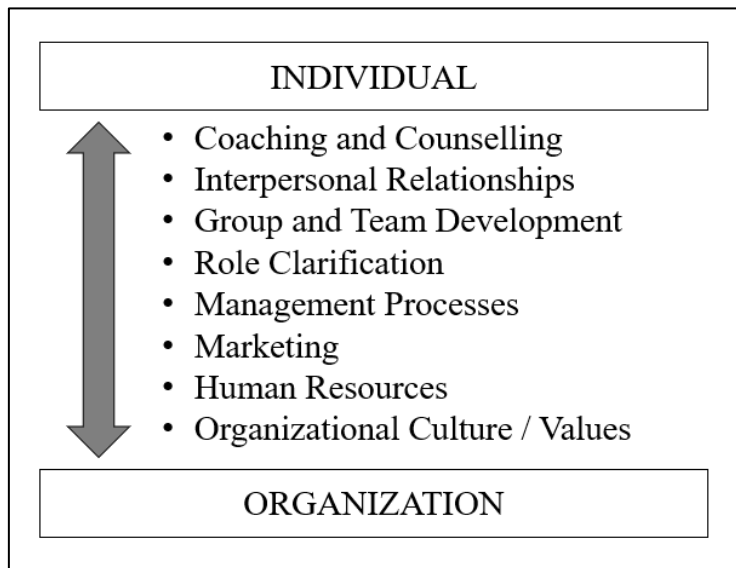
Source: According to Brophy (2007): Summary of PCP Applications

In particular for the utilisation of identifying the norms and values of an organisation, PCP offers an unbiased framework to investigate CC (Cassell et al., 2000). The methodology thus has practical applications when cultural differences

must be made visible in the case of a merger of two organisations (Brophy, 2007). In this context it is important to highlight that Kelly's theory originally centred around individual constructs. In a commonality corollary it can be derived that in a framework where several individuals share constructs which are similar in their meaning, this can be classified as culture (Cornelius & Clapp, 2004; Cassell et al., 2000). This is somehow unequivocal as the norms and values elicited by constructs are created by the same type of events, situations, subjects and persons with this organisational setting.

3.1.4 Corporate culture

According to Denison et al. (2004) corporate culture is closely linked to organisational effectiveness. To achieve this, involvement by empowering employees is an essential element so that people perceive themselves as a valuable part of the organisation (Robertson & Cooper, 2010). Furthermore, consistency and adaptability are two additional main factors that have an impact on the performance of the organisation. Strong and consistent cultures are well organized by a shared common goal, their values and behavioural norms (Cooke & Rousseau, 1988; Denison et al., 2004). This transmits into a clearly defined strategy which gives the organisation direction by broken down goals and objectives. If for example corporate sustainability is perceived as an important internal value of an organisation, the strategy and goals of the organisations must internalise this value to achieve full organisational consistency. These are stable factors that are give from the inside of the organisations. A strong agreement degree between the management team and the employees serves as a predictor for high organisational performance. Furthermore transformational leadership combined through humanistic orientation supports via achievement orientation the performance (Xenikou & Simosi, 2006). Thus, a focus is laid in this study on the LMX. A comparison of the leaders' self-perception, the leadership culture and employee culture can provide insights into the cultural consistency. The following figure describes Denisons et al. (2004) approach to dissect and describe CC.

Figure 3: Denison's model of corporate culture
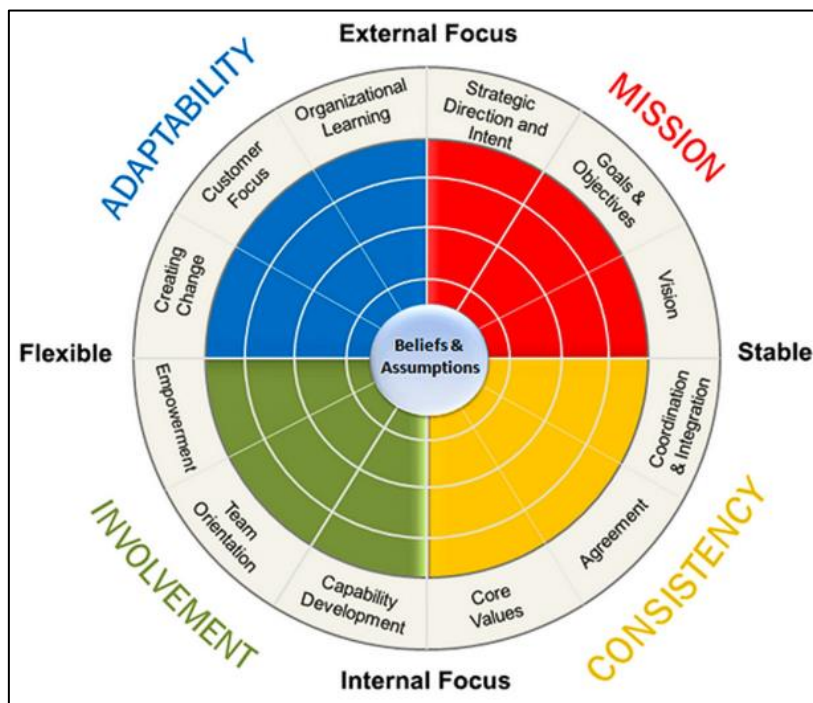
Source: According to Denison et al., (2004)

The external focus requires more flexible answer as these are driven by customers, competitors and market developments which constantly change. That way agile practices such as a strong customer focus, iterative work and experimentation are required to respond to these forces. The chapter on organisational agility examines these characteristics. Organisational learning on the other hand is closely linked to error management which is analysed within the section of self-perception of leadership. Involvement related characteristics are found to be closely related to employee proactivity as a desired outcome when employees are empowered, and leaders focus on capability development.

3.1.5 Identification of the focus topics

The triangulation research approach of this study combines an explorative proceeding with a literature-based investigation. This implies that not all topics within the framework of corporate culture can be covered. Due to the inductive approach it rather depends on the derived data, which parts of CC are analysed in

detail. In consequence important other CC characteristics such as risk taking, coordination and integration as well as agreement are not covered within the scope of this dissertation. The essential subject of performance orientation is integrated in the section of self-perception in leadership, as the studied data suggests that it has an impact on managers self-perception if combined with error prevention. The aim is to derive contemporary focus topics in contemporary scientific literature within the research framework of CC. This subsection gives only a brief outlook on the literature reviewed related to the five distinct subjects. A detailed review is provided in each section from 3.2 to 3.5 to ensure readability by singularising the content in specific section separate from each other.

The first identified research and practical focus area is corporate sustainability (CS). Ecological and social responsible behaviour are not a minor fallout in corporate strategy anymore. Instead it has evolved into a highly relevant issue today's business world which in return is reflected in scientific research (van Marrewijk, 2003). CS is rapidly becoming a critical element for preparing an organization for potential strategic challenges in a fast-changing environment. The definition of CS is an enhancement of corporate social responsibility (CSR). In addition to the social aspect it includes ethical, economical, ecological, and cultural aspects. Furthermore it integrates a long-term sustainability perspective for the above topics into the strategy formulation of an organisation (van Marrewijk, 2003; Vildåsen et al., 2017). In this framework internal leadership is an important driver of CS. This involves a constructive rather than reactive attitude by leaders and their followers, such as after critical press (Ashrafi et al., 2018; Han et al., 2019). From the outside perspective, a company's demand for sustainable corporate practices is affected by its image, evolving consumer demands for sustainable business practices, and regulatory responsibilities driven by legislation (Lozano, 2015).

Secondly, human motivation has been a key interest of research for many centuries. In their theories Maslow and McCelland focused on the individual to

explain differences in motivation (Steers et al., 2004; Amabile, 1993). Herzberg approached the topic from an organisational perspective (Herzberg, 1966). He focused on the work itself, as well as daily habits and organisational circumstances, and how they affect an employee's morale and efficiency (Steers et al., 2004; Herzberg et al., 1959). From this research his initial theory of motivation was founded which divides the corresponding elements into hygiene and motivation factors (Herzberg et al., 1959; Ozsoy, 2019). Since then, the motivation-hygiene theory has influenced both scientific and practical notions (Steers et al. 2004; Hanaysha & Hussain, 2018; Jain et al., 2019; Kuvaas, 2006). A reassessment of the theory in a contemporary work environment, using a new and unbiased research methodology can consequently add valuable insight in organisational research targeted on employee motivation.

Within management, the issue of self-perception has become a topic that draws increasing interest. As self-awareness is a never-ending journey, the need for self-awareness among leaders alongside high employee satisfaction must be reinforced. No self-awareness quota occurs; it is a reservoir that always has more to fill. The self-awareness of leaders is not only essential to developing their skills; it may also become detrimental to the success of an entity in the event of an erroneous self-perception (Lin et al., 2020; Tourish & Robson, 2004; Wang et al., 2018; Atwater & Yammarino, 1992). Surprisingly, only little has been examined in the latest literature on the impact of the self-perception of managers on leadership actions and leadership effectiveness (Flynn & Smither, James W. Walker, Alan G., 2016). Krishnan (2003) stresses the need for a manager's accurate self-evaluation if a leader aims at being motivative, persuasive and inspiring (Joo et al., 2010). As managers' overestimation about their self-evaluation can cause harm to a company, this section aims to identify causes for distorted self-perception. This task points to the topics of OS, missing feedback and the bringing forward of ideas from employees to higher hierarchical levels. A CC inheriting OS evidently impacts a manager's self-perception. In addition

literature research on self-perception points to the subject of error management being a link between OS and overestimation in leadership. In conclusion the third section of leaders' self-perception attempts to investigate the interlinkage of these three research areas in a new research and hypothesis model, which was tested on the repertory grid data created by the qualitative interviews.

During the COVID-19 pandemic changes in the economic environment have occurred particularly quickly, for example, through political decisions or changing consumer reactions (Baran & Woznyj, 2020). In such a context proactive employee behaviour is especially important to ensure that organisations react quickly to new requirements (Caniëls, 2019; Chen et al., 2018). In the literature the common answer to this demand for proactivity is empowerment (Manzoor, 2011; Gulla, 2020). An underrepresented question in scientific literature is, however, of what will happen if employees receive additional authority and decision power but react reluctantly to taking it (Chen et al., 2018; Parker et al., 2019; Vough et al., 2017). In consequence section 5.5 aims at analysing the factors leading to a lack of employee proactivity even the structural prerequisites are given. The literature research highlighted that vulnerability in leadership is a crucial element in this organisational scenario (Ito & Bligh, 2016; Couris, 2020) as it reinforces an open error culture supporting employee resilience and psychological safety (Kuntz et al., 2017; Farnese et al., 2020).

The four beforementioned subject have a strong focus on cultural prerequisites for organisational performance. The pandemic crisis in 2020 starkly revealed how quickly and to what magnitude economic conditions can change for an organisation. This scenario is commonly described by the term VUCA. Seldom has the economic environment been as turbulent and changes happened so fast as in 2020. One answer to VUCA are agile working practices and an organisational structure that is able to react flexibly and quickly to economic alterations evoked by changing consumer preferences, technological leaps or even social lockdowns (Ganguly et al., 2009). The aim of this qualitative literature review is to develop

a comprehensive and practically applicable model on how organisations respond to such economic scenarios.

There are numerous models and frameworks about organisational agility in the scientific literature. Practitioners who want to assess how prepared their own organisation is to cope with VUCA challenges subsequently have difficulties finding a structure that explains the linkages as well as elements they could rate (Ganguly et al., 2009) as well as at which part of the VUCA terminology each aims. One of the forces the acronym describes may be more pronounced in comparison to the others. As such the aim of this research is to not only create a holistic model on corporate agility that links to VUCA but also to condense it to ensure practical applicability.

In a broad context much research focuses on IT capabilities to achieve organisational agility (Ravichandran, 2018; Felipe et al., 2016; Cepeda & Arias-Pérez, 2019; Shams et al., 2020), whilst other research lists a comprehensive set of enablers and capabilities that lead to organisational agility (Eshlaghy et al., 2010; Sherehiy et al., 2007). Agile practices are mainly derived from IT project management methods such as Scrum or the utilisation of Kanban boards. In particular elements of Scrum are transferred to a structural level of entire organisations to make the advantages applicable not only in projects.

Apart from the increasing dynamic of economic changes which make organisational agility a necessity rather than a bonus, scientific research advocates a positive impact on a company's performance (Ravichandran, 2018). However, company size, age and industry have a mediating role when transforming an enterprise from bureaucratic hierarchy to agile teamwork (Ravichandran, 2018). A company that is born agile or operative in a highly volatile and technologically fast developing market will surely find it easier to make progress in becoming agile, as there is an external force for it. However, to be prepared for significant economic changes, all company leaders should engage in agile concepts, as COVID-19 has impressively emphasised. The changes included any industry

regardless if it was previously stable or growing, like aviation or hospitality, all industries experienced heavily the changes expressed by the acronym VUCA.

As there is not separate chapter for developing the hypothesis these are directly integrated in the following sections. The inductive and exploratory triangulation approach of this study conditions that hypothesis are developed, proven or refuted by combining the literature and the findings from the data set simultaneously. Nevertheless, the best context is given by including the hypothesis in the literature section, letting them reappear in the result and discussion chapter. That way it is aimed to keep the formal structure even with an appendage that does not follow the standardized conceptualisation of a literature review followed by a development of hypothesis and in a final step their proof and refutation. The five distinct research topics within the context of CC impede this structure so that a different approach is obligatory.

3.2 Corporate sustainability

Corporate sustainability (CS) is becoming a key feature for preparing an organisation for the future challenges regarding the competitive environment. This concept has expanded from corporate social responsibility (CSR) by adding the dimensions of ethical, environmental, economic and cultural responsibility whilst demanding a long-term perspective of sustainability for the aforementioned subjects (van Marrewijk, 2003; Vildåsen et al., 2017). In this section the concept of CS is summarised focussing on the most relevant topics in recent scientific literature. The findings are compared to the results of the 61 RGIs to evaluate the extent to which CS is already implemented in practice. Whether this type of interview technique, as well as the underlying theory of personal constructs, allows the visualisation of the CS status of an organisation is explored. In addition, this section provides a brief outlook on the interconnection of leadership, CC and CS.

Ecological and social responsibility are increasingly important topics in the business environment of today's corporations (van Marrewijk, 2003). CSR, which is already difficult to comply with, has been complemented by another key dimension (Engert et al., 2016). Firstly, it is important to find a common definition of CS. Dyllick and Hockers widely define the concept as "…meeting the needs of a firm's direct and indirect stakeholders (such as shareholders, employees, clients, pressure groups, communities etc.), without compromising its ability to meet the needs of future stakeholders as well" (Dyllick & Hockerts, 2002). The definition of Aras and Crowther, who included the dimension of societal influence, environmental impact, organisational culture and finance (Aras & Crowther, 2009), is followed, which primarily corresponds with the three principles of environmental integrity, social equity and economic prosperity defined by Hahn (Hahn & Figge, 2011; Vildåsen et al., 2017).

From a business perspective internal leadership is the most important driver of CS. This comprises a proactive rather than reactive approach, after bad press for example (Ashrafi et al., 2018; Han et al., 2019). From an external perspective a company's demand for sustainable business practices is driven by reputation, shifting customer preferences and legal requirements such as legislation (Lozano, 2015). Nevertheless, organisations still struggle to implement this necessity (Ameer & Othman, 2012). In the first step CS must become part of the business strategy to have a chance to be implemented in practice (Linnenluecke & Griffiths, 2010; Galpin & Lee Whittington, 2012). The second challenge is to incorporate it into operational practice of all the organisation's employees (Bonn & Fisher, 2011).

The underlying question is always how this affects a company's performance as the topic must move from the idea that it is only a cost factor to a perspective that CS can even improve an organisation's performance (Sen & Bhattacharya, 2001) and is a must to secure the long-term future of a company (Ameer & Othman, 2012).

One crucial point is that internal motivations by leadership are commonly more proactive than any externally forced motivations (Han et al., 2019). One internal motivation becoming increasingly important is attracting and retaining employees. Due to population changes the lack of workers has become a common problem (Epstein & Roy, 2001). Alongside CS can improve the employee's commitment and motivation to work for the company as a positive side effect. In this manner CSR and CS can even be a key drivers of the financial performance of a company (Lozano, 2015; Sen & Bhattacharya, 2001). Another advantage of incorporating CS is that it can boost innovation within an organisation, reflect a social trend on an organizational level and increase a product's quality whilst simultaneously even lowering the economical footprint. Waste reduction, originally an internal motivation, can reduce costs on the other side (Lozano, 2015; Hahn et al., 2018).

External motivations or drivers include, for example, improved trust outside the company with stakeholders such as customers or suppliers, which coincides with the stakeholder-centred definition of Dyllick and Hockerts (2002). An organisation may even need a "licence to operate" (Frankental, 2001). Other external factors can include access to certain markets. Improved customer satisfaction and enhanced corporate and brand reputations are examples of external motivations linked to CS as well (Dunphy et al., 2007).

Lozano conducted comprehensive research on the relevance of the internal drivers and motivations that lead to an effective implementation of a CS system linked to the business strategy of a company (Lozano, 2012; Galpin & Lee Whittington, 2012). Some of the most frequently mentioned drivers of the interviewed top-level managers highlighted proactive leadership, a business case, precautionary principles and the company's culture as internal drivers (Schaltegger & Lüdeke-Freund, 2012).

As external drivers, reputation, customer demands and legislation were highlighted by the executives (Lozano, 2015). Hahn attempted to create a standard

process to incorporate sustainability and CSR into the management of a company (Hahn, 2013; Kiesnere & Baumgartner, 2019). Only if a sustainable approach and sustainable thinking are part of a company's vision and strategy can they occur on an operational level and consequently be part of the created constructs of this study (Eweje, 2011; Linnenluecke & Griffiths, 2010).

When gathering empirical insights, however, the topic is brought up, leaving the interviewee thinking about sustainability, whilst before it might not have been of relevance for the organisation's work ethic (Klettner et al., 2014). By comparing elements, not only does the enquiry methodology of this study allow the prediction of any derived constructs, but the context also determines that topic-related constructs are created (Fransella, 2004).

The reviewed literature suggests that CS is a relevant and important topic within business strategy and leadership for ensuring employee commitment and retention (Engert & Baumgartner, 2016). In particular, confronting employees, CEOs and all corporate managers with the element's quality principle and their perception of their market and company in the future alongside their perception of the brand leads to the following three hypotheses:

H_1: *Repertory grid analysis allows drawing a picture of the corporate sustainability status quo of an organisation.*

H_2: *Personal constructs reaffirm the relevance of sustainability in business operations and strategy.*

H_3: *Leadership directly impacts the corporate sustainability status quo of an organisation.*

With these hypotheses the dataset generated by the interviews is contextualised with the focus subject of CS as one element of CC. Because CS was not well established in the research object, the conducted cluster analysis was not used as a basis for this research. The limited number of CS-related constructs made it possible to analyse these comprehensively without a need to conflate results.

3.3 Two-factor theory of motivation

Numerous approaches to investigate human motivation can be identified. Herzberg approached the topic of motivation from an organisational perspective, as he concentrated on the job itself and work activities and their influence on an employee's motivation and performance (Steers et al., 2004). Herzberg initially reviewed the existing research in that area to establish a survey of 200 accountants and engineers. From this research his initial framework about job design, including his theory, of motivation was founded (Herzberg et al., 1959). Since then, the motivation-hygiene theory has influenced both scientific and practical notions (Farr, 1977). The factors described in his theory can be influenced by an organisation to make jobs intrinsically challenging and provide opportunities for recognition (Steers et al. 2004). Herzberg explained motivation by dividing the topic into two types of factors (Herzberg et al. 1959). He concluded that job satisfaction and dissatisfaction were two distinguishable dimensions of work-related values of growth needs and lower-order needs (Knoop, 1994).

Firstly *hygiene factors* do not increase motivation but lead to dissatisfaction if they are not prearranged in an organisation. These include *company policy, supervision, salary, relationship with peers, status* and *security* (Herzberg et al. 1959). The satisfaction characteristic of hygiene factors refers more to the gratification of the needs and wants of an employee which have an extrinsic character (Knoop 1994). Several interconnected theories of job satisfaction have attempted to analyse the process and content of work values and satisfaction (Amabile, 1993; Ewen et al., 1966; Locke 1969; Chiat & Panatik, 2019). The motivation-hygiene theory was criticised repeatedly, which led to a distinction between job satisfaction and work motivation in later research (Knoop 1994; Ewen et al., 1966; Farr, 1977). Further research found that the above-mentioned factors are likewise a key driver for employee retention which is inconsistent with the original motivation-hygiene theory (Tamosaitis & Schwenker 2002; Chiat & Panatik, 2019).

Secondly *motivation factors* are of an intrinsic nature. They result in more motivation if put into practice by an organisation. As motivational factors, Herzberg listed *achievement, recognition, work itself* and *responsibility* (Herzberg, 1966; Herzberg et al., 1959). Further research by Lawler supported the theory, as he found that satisfaction indicates an employee's motivation to come to work but only indirectly influences the motivation for doing the job effectively (Lawler, 1969). In their study on the motivation-hygiene theory, Semerek and Peterson concluded that only work itself acts in accordance to Herzberg's theory as they evaluated the impact on job satisfaction (Smerek & Peterson, 2006). Thus, Herzberg determined that jobs should be designed to challenge workers with responsibility, whilst giving them opportunities for advancement. This will result in personal growth fostered by recognition (Hackman, J. R., & Oldham, G. R., 1976).

Arnold et al. (2000) extended the research as it relates to work design, motivation and job performance. The consequences of Herzberg's framework for leadership behaviour were studied by Arnold et al. (2000), who identified eight essential leadership traits necessary in empowerment: leading by example, coaching (education of team members), encouraging, participative decision-making, informing, showing concern for members' well-being, interacting with the team and group management. This approach to leadership is different from the dominant concept of supervision and management when Herzberg wrote his theory. In 1979 Orpen (1979) found evidence of Hackman and Oldham's theory on job design. Managers should not focus on giving employees tasks of similar challenge or responsibility (horizontal loading) but instead transfer tasks that load them vertically by handing over more responsibility, for example (Hanaysha & Hussain, 2018). This increases the role of a manager from motivating employees only by compensation, good working conditions and similar factors to a real motivation of their workers. The outcome is an increase in motivation but not necessarily greater productivity (Orpen, 1979).

Herzberg's, Mausner's and Snyderman's initial research is controversial because they left the interpretations open in their conclusions (King, 1970). As a consequence different versions of the theory were identified whilst no version was supported by two or more methods of testing or validating (King, 1970; Gardner, 1977, 1977). Another criticism arises from peoples' tendency to give socially desirable answers which results in an attribution of external factors towards impacting dissatisfaction (Wall & Stephenson, 1970). The intuitive approach used in RGIs based on Kelly's personal construct theory has proven to eliminate this effect (Hauser et al., 2011). Other studies that used a different methods than the original research contradicted Herzberg's findings (KARP & Nickson, 1973). A clear line between hygiene and motivating factors was not given, for example, in the research of Brenner et al. or Maidani (Brenner et al., 1971; Maidani, 1991). Nevertheless, Brenner also stated that the wording and method of presenting the questions impact the results of a study (Brenner et al., 1971). This makes a completely new approach to testing the theory in today's work environment so worthwhile.

To a similar degree to which critical study about Herzberg's theory are published, it is possible to find research that supports the evidence provided by the motivation-hygiene theory. Sachau for example suggests a resurrecting of the motivation-hygiene theory as it has strong correlations to research on intrinsic motivation and positive psychology (Sachau, 2007). In both literature and practice, the term "responsibility" has been broadened by the concept of empowerment (Cherian & Jacob, 2013).

Chen et al. conceptualise this term by including impact, competence, meaningfulness and choice while distinguishing between individuals and teams (Chen et al., 2007). The effect of team composition has not been addressed by Herzberg's theory, which would widen the approach, particularly since teamwork has increased in significance since his theory due to the changes in values and norms of the generations after the baby boomers (Hanaysha & Hussain, 2018).

Empirical research has highlighted three traits of millennials in relation to their interactions and relationships at work. Firstly, they prefer a team-based workplace culture, which comprises close contact and communication with supervisors (Stewart et al., 2017; Costanza et al., 2012). This should in return influence their motivation factors. In addition, frequent feedback and recognition are requested from a managerial perspective (Utley et al., 1997). Performance appraisal however is asked to be based on contributions to an organisational objective and strategic goals instead of the specific traits of an employee (Myers & Sadaghiani, 2010; Jain et al., 2019).

Costanza et al. (2012) found in their meta-analysis both a difference in job satisfaction and job turnover between distinct generations (Chiat & Panatik, 2019). In terms of motivation Wong et al. (2008) highlighted that power and authority have decreased in importance as motivational drivers from generation to generation. An investigation of the relationship between work values and job satisfaction compiled by Knoop (1994) clustered Herzberg's two-factor theory into five sets of values: intrinsic work related, intrinsic work outcome, extrinsic job related, extrinsic job outcome and extrinsic people related. His research aimed to identify the best predictors of job satisfaction for these five sets of values. Other studies have revealed that increased job satisfaction is important to most workers.

A contrary picture can be drawn when workers are requested to rank the importance of increasing job satisfaction against other types of employment goals relevant to them (Caston, R. J., & Braito, R., 1985). This has resulted in about 50% of employees rating job satisfaction in the bottom half of ranking. In summary Caston and Braito (1985) found empirical evidence relevant to Herzberg's two-factory theory. Their theory suggests that intrinsic factors contribute to job satisfaction, which is not the case for extrinsic factors. The authors added the variable "worker-to-job fit" to the motivator-hygiene theory to explain differences in job satisfaction. Based on the two-factor theory, Locke and Latham (1990) construed a performance cycle, as high motivation alone does not

necessarily result in continuous high performance. In addition, moderating factors, namely goal commitment, feedback, ability, task complexity and situational constraints, impact performance results (Locke & Latham, 1990). This performance cycle began to integrate the preferences of millennials into the motivation framework.

Finally it remains open how the increased VUCA of the economic environment which made agile and flexible management methods such as Scrum, Kanban and Lean indispensable (Baran & Woznyj, 2020) affects Herzberg's framework. A review of search results on ScienceDirect by the Elsevier publishing house makes evident that agile working methods have increased in importance every year. Whilst in the early 2000s the search term "agile organisation" produced only 200–300 results, this increased to 1,000–2,270 between 2014 and 2019. An adapted two-factor framework should certainly integrate this economic development; the question is whether it fits as a hygiene or motivation factor into the framework.

From the literature review four hypotheses were constructed. The first addresses the criticism that questionnaires point subjects towards the results of Herzberg's theory by their design. With the elements chosen in this investigation, this is eliminated as there is no direct link to motivation or hygiene factors. In case Herzberg's theory is valid today, one would expect these factors to still be part of the elicited constructs of this study:

H_1: *The repertory grid approach still creates construct clusters referable to the factors stated in Herzberg's theory.*

Leadership has experienced several changes in the past decades. Whilst an autocratic leadership style with clear instructions on what and how work must be conducted was still accepted and considered being a hygiene factor, this has changed considerably (Ozsoy, 2019). According to contemporary research on leadership and motivation, the role of leaders has changed into something like a coach with a cooperative leadership style (Kim & Beehr, 2019; Tak et al., 2019). Hence, one would expect to find evidence in the dataset that the "quality of

supervision" or leadership has changed into a motivational factor instead of a hygiene factor:

H_2: *Leadership and quality of supervision has become a motivational factor.*

Not only do generational changes in the workforce impact organisational culture, but economic environmental changes may as well. VUCA is an influential driver of organisational performance (Bennett & Lemoine, 2014). Deductively it influences employee's motivation likewise. This leads to the hypothesis that as a response to the VUCA world, agile working methods and an open-minded approach for new ideas by leaders are a necessity, resulting in a hygiene factor:

H_3: *Agile working methods can by identified as a hygiene factor.*

The values and norms of millennials in the work environment have caused an integration of team-based workplace culture and feedback as a motivational factor. One would expect this cluster to be identifiable in the dataset of this study:

H_4: *Teamwork and feedback can be identified as motivational factors.*

3.4 Self-perception in leadership

The self-awareness and self-perception of a human are becoming increasingly central subjects in today's society. However, self-awareness in the management literature is still underrepresented (Bruce et al., 2003; Silvia & Duval, 2001; Flynn et al., 2016). This dissertation thus dedicates one section to the meaning and impact of the self-perception and self-awareness of managers. The dataset led to this research direction, as there was a large spatial distance between the managers' self-perceptions and the rating of the entire leadership culture rated by all managers. Prior to the results the assumption was that these two elements would represent a small spatial distance when the results of all leaders were aggregated into a summarised grid for the entire organisation or leadership group. As a consequence the exploratory approach to investigate CC proved to generate reformative research directions.

Firstly, it must be noted that humans appear to see themselves favourably and overestimate their talents in general (John & Robins, 1994). Strong self-perception is a sign of mental well-being in most circumstances (Whitton et al., 2008). However, the overestimation of leaders can be a major challenge to an organisation and the employees they are leading (Guenther & Alicke, 2010).

When discussing self-awareness, three types of traits can be distinguished: over-estimators, in-agreement raters and under-estimators. Over-estimators judge themselves far better than their social environment does. As the difference between self and other evaluation notes, in this definition, over-estimators score the lowest in self-awareness (Atwater & Yammarino, 1992). Because people overestimating themselves are persuaded that their patterns and activities are right, persons within this group typically do not consider any requirement for personal transformation or enhancement (Ashford, Susan, J., 1989; Gray, 2007). It must be emphasised that managers overestimating themselves rank low in leader effectiveness. Furthermore overestimation in leadership holds a risk for the organisation (Tekleab et al., 2008). In comparison, an unrealistically optimistic self-view stresses the propensity of managers to have little interest in input or feedback from subordinates, which might harm the work satisfaction of workers (Sputtek, 2012). Furthermore, "in-agreement" refers to persons who consider themselves to be close to what other people perceive, thereby balancing themselves with each other in self and other evaluation. (Atwater & Yammarino, 1992). As a result, individuals in this group rank highest in the sense of oneself combined with the highest performance in leadership outcomes (Tekleab et al., 2008). Managers in this group prefer to embrace the input of subordinates because of the recognition of the judgement of others and a strong locus of influence (Sputtek, 2012). They are open to improvements in their behaviours and attitudes (Atwater & Yammarino, 1992).

The final type of group, under-estimators, contains individuals who evaluate themselves as lower than other people perceive them. This group of managers

who misjudge themselves pessimistically score higher than over-estimators in their leadership performance, but by a more positive self-efficacy they would be able to become managers in the in-agreement grouping with regard to management performance. This result is thought to be triggered by the low trust of the individual in self-efficiency combined with a low level of confidence, which result in missing incentives to change one's own behaviour or actions (Atwater et al., 1998; Tekleab et al., 2008). In summary, overestimation can be a challenge to the CC and success of an organisation (Gray, 2007). In addition, disparities in the self-evaluation of managers and other assessments are correlated with an antagonistic and protective organisational atmosphere, particularly in a context where managers overestimate themselves (Aarons et al., 2015).

The significance of upward feedback is stressed to increase self-awareness (Atwater et al., 1995). Upward feedback given to managers is aimed to alter their self-ratings to minimise the gap between the sense of oneself and others' assessments, which in return enhances their self-awareness and self-esteem (Atwater et al., 2000). Additional research in this direction indicates that leaders who shared their input with their followers advanced their success in leadership further. As such one important method to raise the self-awareness of leaders is upward feedback (Walker & Smither, 1999). The emphasis is on the distinction between superiority, and success orientation beyond that. An individual with a professional orientation is considered to be involved in studying and being an expert (Dweck, 1986; Ramani et al., 2018). Negative upward feedback or criticism is seen as the opportunity to learn new matters and change one's own behaviour and thinking, regardless of the above-mentioned orientation (Ramani et al., 2018). An individual with a success orientation must achieve the best possible accomplishments and seeks to equate their role with others (London & Smither, 2002). Negative feedback is primarily a threat to the person in this sense and may thus contribute to the propensity to prevent feedback (Gong et al., 2017).

The phenomenon of organisational silence

The previous section highlighted the importance of feedback in the context of self-perception in leadership. As a consequence the research was broadened to the find scientific evidence about organisational behaviour lacking the appreciation and giving of upward feedback. This led to the topic of OS, which is referred to as institutionalised and collective employee silence (Frederick, 2019). The phenomenon depicts a scenario in which employees withhold their criticism and ideas in a work context (Frederick, 2019; Morrison & Milliken, 2000; Pinder & Harlos, 2001). Sutcliffe (2011) illustrates company-wide communication across departments as a factor to obtain competitive advantage. One essential source of knowledge is the human capital of a corporation, which indicates the inherent threat of OS (Morrison et al., 2015). OS can be differentiated into three distinct types, which were tested by Acaray and Akturan (2015) with regard to their impact on organisational citizenship behaviour:

1. Acquiescent silence
2. Defensive silence
3. Prosocial silence

Figure 4: Effect of OS on organisational citizenship behaviour
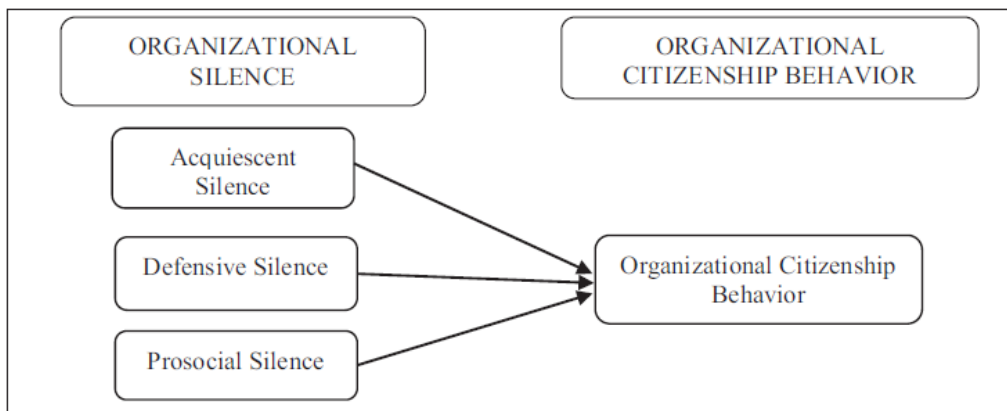
Source: Acaray & Akturan, 2015

Acquiescent silence is primarily ascribed to the apparent disparaging behaviour of managers as a method of retaliation or dismissal (Frederick, 2019). Defensive silence on the other hand explains incidents when employees evade communicating a negative message to protect themselves (Van Dyne et al., 2003). Defensive silence is characterised by Van Dyne et al. (2003) as a constructive and self-orientated type of self-defence, driven by fear as a corollary. The third type of OS that influences organisational citizenship behaviour is prosocial silence, which has a different origin (Acaray & Akturan, 2015). In contrast to acquiescent and defensive silence, it has the objective to protect colleagues by withholding unsuitable and destructive information (Frederick, 2019). This behaviour is meant to protect the organisation but can be a harm in case corrective action cannot be taken.

In addition to the definition of corporate silence, there is a need to incorporate aspects of the employee voice related to the concepts of Van Dyne et al. (2003). Employee voice is generally known as engagement in activism, the proactive decision to constructively put in proposals and knowledge that can be useful and advantageous to the company (Gao et al., 2011; Tangirala & Ramanujam, 2012; Van Dyne et al., 2003; Zhou & Georg, 2001). This form of activity is described as prosocial voice. Van Dyne et al. (2003) add the defensive and silent voice that explains the practice of workers speaking up whilst withholding their real convictions. The protective voice involves the actions of staff who accuse others to redirect focus to defend themselves (Morrison & Milliken, 2000). Related to defensive silence, anxiety frequently motivates defensive speech and tries to prevent negative effects (Arkin & Shepperd, 1989). Whilst employee voice can be seen as the opposite of OS, in this study the interpretation of corporate silence requires a defensive and passive voice. Below two key reasons are introduced why corporate silence appears within an organisation (Morrison & Milliken, 2000). Ghoshal and Moran (1996) argue that firstly many managers have

pessimistic or even negative views about their followers. Secondly, leaders might fear to receive criticism or negative feedback. In addition, such views have a self-fulfilling effect and create an atmosphere that impedes free contact and interaction (Morrison & Milliken, 2000). Likewise, the conviction that harmony and homogeneity within organisations are worthwhile is frequently followed by these two explanations for OS (Burell & Morgan, 1979). Kane-Urrabazo (2006) stresses the vital role managers play in defining an organisation's CC which as a consequence includes the psychological environment for employees within such an organisation. This phenomenon is researched further in depth in section 5.5 about vulnerability in leadership and the consequences for employee proactivity and psychological safety of followers. As such, it is important to look for explanations for the presence of corporate silence within management, which can be the reason to a large degree (Schein & Schein, 2010).

Error management and prevention

The internal organisational handling of mistakes is another significant subject when analysing the self-perception of leaders in an organisation. As a consequence the scientific literature addressing this research field was reviewed. In addressing mistakes or errors in a broader sense, it must be differentiated what the cause is in relation to active infringement. Active infringement is firstly a malicious offence to harm someone or something deliberately (Hofmann & Frese, 2011). Conversely an error occurs without purpose or because of a lack of knowledge (Frese & Keith, 2015). In comparison, individual errors cannot be ruled out entirely as humans commit an average of two to four errors every hour (Prümper & Zapf, Dieter, Brodeck, Fleix C., Frese, Michael, 2007). This circumstance underlines the need for methods to cope with mistakes instead of reducing human errors to zero or trying to prevent them by any means. Errors are, however, often known in the company sense as something bad that must be punished and not happen again (Keith & Frese, 2008). In an organisational context

there are two methods for addressing mistakes: error prevention and error management.

Errors are used as a negative barrier and a sign of a lack of intelligence in an error prevention approach (Frese & Keith, 2015). In such a mindset it is possible to judge persons who make mistakes. As a result, workers prefer to conceal their failures or willingly ignore them due to fear of the consequences (Frese & Keith, 2015). Often, people prefer to suspect someone in an atmosphere with such a misunderstanding shaped by paranoia and mistrust and use finger-pointing as a tactic to defend themselves (Gao et al., 2011). Since people prefer to conceal their mistakes and do not communicate their mistakes within this technique, error cascades are often observed (Frese & Keith, 2015). Damage management may become very expensive for a company at this stage or may not even be possible anymore (Fischer et al., 2018). This approach consequently provides the potential to cause even more mistakes and hinders the growth of creativity (Frese & Keith, 2015).

In comparison, mistakes in an error management approach are viewed as feedback or something to benefit from (Frese & Keith, 2015). This attitude makes people feel safe to confess their faults and report them to their colleagues and supervisors (Frese & Keith, 2015). As a consequence, damage management processes can be triggered even faster than error reduction or prevention tactics (Keith & Frese, 2005). A significant aspect of the error management technique is transparent collaboration and team-based learning (Frese & Keith, 2015). As creativity processes focus on how errors are managed, it is important if a company encourages experiments or blames someone for making mistakes as only error management offers room for innovation (Fischer et al., 2018). Open communication about errors not only speeds up the monitoring of problems, it also disseminates information and knowledge about an error. Colleagues will then benefit from mistakes committed by other workers to reduce or prevent duplication (Frese & Keith, 2015).

Hypothesis development

From the literature review four hypotheses are derived. It is firstly assumed that in case of an error prevention strategy, employees already aim at making or at least pretending to make few or no mistakes. In case this strategy is combined with a culture of performance orientation, employees will tend to stay silent to protect themselves from critical feedback.

H_1: *Error prevention in combination with performance orientation supports organisational silence.*

OS in return is reflected in the absence of upward feedback from employees to the leaders of the organisation. Second, when employees stay silent and do not give critical upward feedback towards their supervisors, managers have no incentive to reflect their leadership behaviour critically and, thus, assume it is correct. In addition since an error prevention culture creates fear and stress for a person committing a mistake, and every human makes on average up to four mistakes an hour, people within this culture will not appreciate it but rather devaluate it. In case this CC is combined with OS, managers or supervisors do not receive critical feedback and, obviously, have no incentive to change or adapt their behaviour. Furthermore, in a corporate error prevention culture, people in top positions make fewer mistakes than others or are especially good at hiding them or blaming others for them. Accordingly, managers or leaders in such a corporate environment tend to overestimate themselves.

H_2: *The absence of feedback in combination with error prevention leads to inaccurate self-perceptions or overestimation in leadership.*

An error prevention culture has another effect when it is incorporated together with a CC which misses appraisal and recognition. These two factors influence the willingness of employees to take responsibility and bring the organisation forward. If they do not receive recognition for their work and no open error culture is given, they are likely to avoid taking responsibility. A leadership culture which

does not involve or include employees in the decision-making process will positively support this unwanted result of irresponsibleness.

H_3: *Missing recognition paired with error prevention and supported by a lack of involvement results in a culture where responsibility is not taken.*

In conclusion OS transmitted via an overestimation and missing reflection of leadership in combination with an absence of accountability and responsibility will result in a devaluated CC.

H_4: *Overestimation in leadership supported by a culture where responsibility is not taken results in a devaluation of the corporate culture.*

The postulated relationships between performance orientation, error prevention culture and self-perception in leadership posited in the four hypotheses are graphically displayed in a research and hypothesis model in Figure 5.

Figure 5: Factors influencing overestimation in leadership
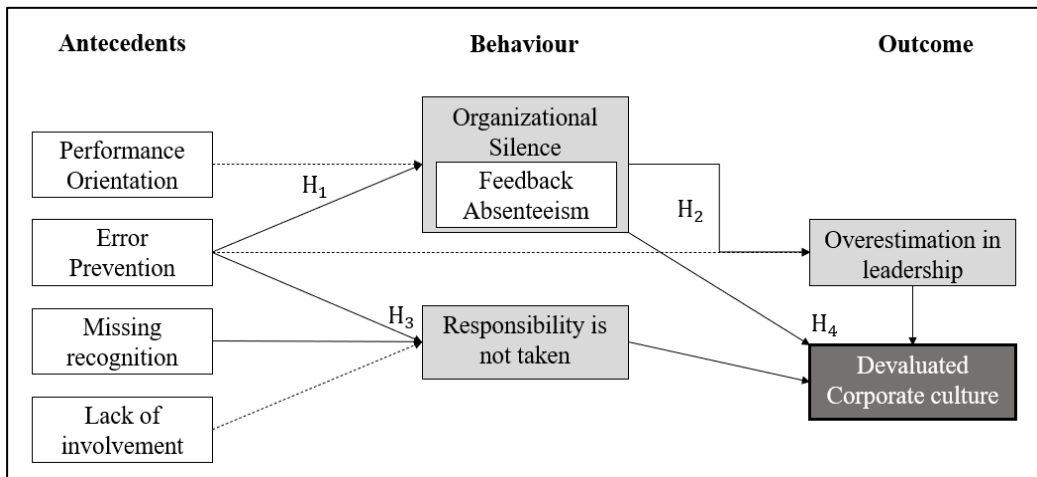
Source: Compiled by the author

3.5 Employee proactivity

The notion of vulnerability in leadership involves mutual trust between managers and their followers (Meyer et al., 2017). Being truthful and transparent evidently results in a leadership style characterised by the acceptance of responsibility and the exposure of one's own mistakes and weaknesses (Chen et al., 2018). This

principle means that vulnerable or humble leaders create an environment for workers where they can speak up and take responsibility (Meyer et al., 2017). Central elements of proactive behaviour can be defined as the recognition of potential problems and opportunities resulting in an initiation to improve the situation (Vough et al., 2017; Dedahanov et al., 2019). This concept is closely linked to commitment, which also requires empowering leadership styles and an organisational culture incorporating error tolerance (Thomas et al., 2018).

Extensive leadership research on how ethical leadership impacts the voice or proactivity of employees has occurred (Cheng et al., 2019; Maurer et al., 2017). "Voice" in this case means the expression of ideas; hence it is part of the desired outcome of proactive employee behaviour. In general employee voice is associated with positive organisational performance. Cheng et al. (Cheng et al., 2019) showed that an error management climate (EMC) has an impact on employee voice. EMC is considered to be a culture with open communication about errors which ensures that errors are tolerated, whilst learning from errors is encouraged (Cheng et al., 2019; Ye et al., 2018). This partially contradicts the findings of Cranmer et al. (2019), who found proactivity to influence organisational commitment amongst newcomers only. As their conceptual framework is limited to new employees, only the findings of Cheng are incorporated in the model of this paper. Jokisaari and Vuori (2018) showed that the influence of proactivity is rather connected to job satisfaction as an outcome instead of a higher commitment. Nevertheless, a mutual mediating factor between proactivity and organisational commitment can be inferred (Cranmer et al., 2019; Cheng et al., 2019).

It is commonly argued that the solution to mistakes, either error management or error avoidance, has a normative guideline for the leadership motives of workers (Maurer et al., 2017). Organisational learning in conclusively linked to the psychological safety and emotional attachment of employees (Tak et al., 2019). In their conceptual model Cheng et al. (2019) integrate organisational

commitment as a mediator from error management to employee voice. However, Cheng's research spoke about the voice of workers instead of proactive behaviour. It is an overlapping feature, but it must be translated into this study's theoretical conception. According to Parker and Collins (2010) proactivity is characterised by a "self-initiated, anticipatory action that aims to change and improve the situation of oneself". As a consequence proactive behaviour must be persistent whilst being focused on change and improvement (Parker & Collins, 2010).

Caniëls and Baaten (2019) added employee resilience in their concept of the linkage between error management (in their framework stated as learning-orientated organisational climate) and proactive behaviour. They observed that employee resilience supports proactive work behaviour in an environment with an organisational learning culture and error management (Tak et al., 2019; Caniëls & Baaten, 2019). The findings are explained by the capabilities of employees to recover after failure (Caniëls & Baaten, 2019; Kuntz et al., 2017). The combination of the two results in proactive work behaviour, such as taking charge, preventing problems and expressing voice, are only possible in a culture in which there is no reason to fear consequences (Caniëls & Baaten, 2019; Kanfer et al., 2017; Parker et al., 2019). In return this is in line with the conceptual framework by Javed et al. (2020), who integrated "perceived psychological safety" as a mediator between error management culture and organisational learning, which in return supports innovative behaviour and organisational performance (Wang et al., 2020; Zhang & Bartol, 2010).

Further studies have proven psychological empowerment as a mediating factor, which was conflated in the meta-framework as it was reassured as a positive factor for individual and organisational outcomes (Mansoor & Ali, 2020; Schermuly & Meyer, 2020; Young et al., 2020; Guerrero et al., 2018; Jing Zhang et al., 2018; Chen et al., 2018; Ma'ruf et al., 2019). As proactive behaviour is a basic requirement for innovation and performance at work, it closes the circle to organisational learning (Javed et al., 2020; Guerrero et al., 2018). Especially

important is the identification with leaders, which can be reinforced through vulnerable or humble leadership. Humble in this sense requires approachability, the recognition of other talents and achievements and proper self-awareness (Chen et al., 2018). The latter is achieved through openness to feedback.

Guchait et al. (2018) expanded the study on error management by showing that gender additionally has a mediating impact on job participation. Gender implications are omitted in this study model because of the rationale for consistency and readability. The general effect of organisational learning and error prevention on constructive job behaviour was verified in further research (Eldor & Harpaz, 2019). In addition, Eldor and Harpaz performed a cross-sectional analysis, which is omitted as a mediator, as it will restrict the context in the same way as gender influences would.

The contemporary scientific literature in the field of error management has a general approach without clear statements with regard to errors made by managers. In uncertain times such as the COVID-19 pandemic, leaders are incapable of planning and foreseeing the future. As a consequence vulnerability, openness and self-reflection have become core qualities in leadership (Chappell et al., 2020; Kim & Beehr, 2019).

These core qualities in leadership imply a self-disclosure of managers who embrace that they are also vulnerable. Couris (2020) highlighted in his recent research that vulnerability in combination with authentic leadership has become a key factor for leadership through the pandemic crisis. Leadership traits of being transparent and honest whilst letting go of one's own ego are part of the process (Schermuly & Meyer, 2020), just as admitting mistakes and willingness to learn link to error management and organisational learning (Couris, 2020; Jing Zhang et al., 2018). The pandemic confronted many leaders with a situation for which no proven plan or formula was available. Short-notice lockdowns demanded an agile and adaptive approach to rapid change (Yeo, 2020; Parker et al., 2019). Creative solutions in return require proactivity from employees, which can be

fostered by supervisor support as a mediator (Caniëls, 2019; Jing Zhang et al., 2018).A recent study conducted by Yeo (2020) revealed enablers for leadership resilience which all lead to cultivate the core of oneself. This encompasses traits of vulnerability whilst an open-minded approach towards committing errors. It implies that for uncertain und volatile situations, there are no immediate and logical solutions (Yeo, 2020). Instead, leaders must focus on their core strengths but also weaknesses and approach new situations with not only flexibility but also positivity (Clare, 2018; Chappell et al., 2020); they must inevitably implement realistic self-evaluation which includes self-esteem, generalised self-efficacy, emotional stability and a locus of control (Jing Zhang et al., 2018; Wang et al., 2020). Self-efficacy and psychological safety are positively related to learning behaviour, for which error tolerance is indispensable (Wang et al., 2020; Zhang & Bartol, 2010).

Showing vulnerability supports the emotional attachment of employees to their leaders, which is especially crucial in volatile economic circumstances (Ito & Bligh, 2016). This allows vulnerable and authentic leaders to alter the thinking and behaviour of their followers to effectively navigate through organisational challenges (Avolio et al., 2004). In addition there is a strong connection between the proactivity and engagement of employees, which both have an impact on motivation (Kanfer et al., 2017).

Avolio et al. (2004) laid a fundamental linkage between authentic leadership, leaders' self-awareness and the work attitudes of followers, although without a special focus on vulnerability or proactivity attitudes (Avolio & Gardner, 2005). Certainly, avoidance of uncertainties and risk taking is strongly interconnected with an error culture, which Farnese et al. (2020) contemplated in their recent work. Their research focused additionally on the stress factor of errors, which reinforces resilience in leadership and on the employee level as a mediator (Farnese et al., 2020; Caniëls & Baaten, 2019).

Another highlighted leadership trait is empowering leadership, which is found to have positive effects on the psychological capital of employees, resulting in positive work behaviour characterised by proactivity (Kim & Beehr, 2019). As psychological factors, resilience and efficacy are incorporated into the model as mediators, as several studies indicate them as prerequisites for proactivity at work (Kim & Beehr, 2019; Caniëls & Baaten, 2019; Kuntz et al., 2017). The leadership style advocated for a positive organisational citizenship is transformational leadership, which incorporates the attributes of individualised consideration, intellectual stimulation and idealised inspiration (Mansoor & Ali, 2020).

Positive influence by transformational leadership has been supported by additional studies (Xenikou & Simosi, 2006; do Nascimento et al., 2018), whilst elements can be described as vulnerability traits as well. This underlines the positive effect of vulnerability in leadership towards proactivity. Closely associated is inclusive leadership, which includes openness, accessibility and availability, especially when interacting with employees (Ye et al., 2018). Ye et al. and Oc define this as leaders being admirable, trustworthy and respectful (Oc, 2018; Rhee et al., 2018). The latter is in close association with vulnerability in leadership. Several studies highlight that trust is a key factor in the LMX (Schermuly & Meyer, 2020; Young et al., 2020; Jokisaari & Vuori, 2018; Rhee et al., 2018) and even has an impact on overall organisational capabilities in terms of customer needs and the functioning of internal processes (Rhee et al., 2018). Further studies have tested psychological empowerment as a mediator between paternalistic leadership and innovative behaviour (Dedahanov et al., 2019). As paternalistic leadership includes benevolence and morality, in the sense of showing concern for familial well-being and employee needs (Dedahanov et al., 2019), it is not very far from the vulnerability approach to leadership (Ito & Bligh, 2016). Additional research showed that mission and role features are combined as a mediation for constructive work behaviour (Oc, 2018). This is normally achieved by delegation in the LMX process, seen as empowerment (Gulla, 2020).

3.6 Organisational agility

In a plannable world an organisational structure with a hierarchy of executives and managers with a vertical top-down approach makes sense. In the world described by VUCA, a different model to organisational design is needed. Horizontal integration that fosters involvement and empowerment has proven to be a reaction to this new environment (Denning, 2015). Agile management methods are thus becoming a key feature for preparing an organisation for the future challenges of its competitive environment. But how can an organisation assess its own agile status quo? This section uses PCP to visualise the agility status of an organisation. A range of recent empirical and practical research articles were studied to filter the most relevant practices and critical factors of organisational agility. The findings are compared to the results of the 61 RGIs conducted in a medium sized enterprise to evaluate whether personal construct theory is a suitable approach to assess the agility status of an organisation. The findings are visualised again with a repertory grid software using GPA. The research question answered in this section is if agile-related constructs can be elicited from the personal constructs of employees and leaders by conducting a repertory grid study in an organisation. The methodology of PCP was chosen to gain an unbiased view of the CC of the organisation.

Organisational agility can be defined as "an organisation's capacity to respond, adapt quickly and thrive in the changing environment" (Holbeche, 2019). Alternative definitions lay the focus on the agile practices as "an umbrella term for a set of management practices – including Scrum, Kanban, and Lean" (Denning, 2016). These two definitions emphasise the different approaches towards an agility concept, either focussing on enablers and capabilities or on agile management practices (Zitkiene & Deksnys, 2018). Firstly however the factors that induce agile organisational structures and methods must be described.

Environmental drivers

The key to why an organisation should become agile lies in the environmental forces described by VUCA. This concept became more relevant than ever in pandemic-affected 2020. According to Baran and Woznyj (2020) organisations get best through turbulence by guiding through a set of three interrelated actions: identify one's VUCA, define obstacles to agility and implement agility-enhancing practices (Baran & Woznyj, 2020). One of the main obstacles to agility is the inertia of the status quo. Leaving the comfort zone and routine is not liked by humans as it increases the amount of cognitive effort (Nijssen & Paauwe, 2012). Another barrier lies in the available time and organisational design. These structural or policy obstacles can be referred to as "silos" amongst departments. They prevent cross-functional teamwork and knowledge sharing (Baran & Woznyj, 2020; Sherehiy et al., 2007). A volatile economic environment with uncertainties and ambiguity does not fit to hieratic organisational structures and long-term plans. Organisational agility is the approach to close the disparity between the speed of corporate learning and that of economic change (Appelbaum et al., 2017a). Hence, what is the exact problem with a VUCA world? It can be a threat to the performance of an organisation if the opportunity in volatility and uncertainty is not seen as a possibility for achieving a competitive advantage but rather a threat. Creativeness in problem solving, as well as addressing uncertain und unpredictable situations, is important in the context of agility (Ganguly et al., 2009; Giachetti et al., 2003). In addition learning work tasks, new technologies or procedures is identified as a necessity in a VUCA world (Pulakos et al., 2000; Xing et al., 2020). No plans or set of tools are available that an organisation can implement to address ambiguity or uncertainty in its operating market. Agile practices, a shift into a growth mindset and a focus on agile requirements will allow organisations to proceed along the agile path and enable a constant closure of the disparity between organisational structure and economic environment (Dweck, 2016; Harraf et al., 2015).

Agile practices

Organisations implementing agile practices recount faster innovation processes and better responsiveness to customer needs whilst experiencing a higher engagement of their employees (Ganguly et al., 2009). These practices originated in software engineering and have integrated into management theory in general (Denning, 2016) and explain why agile and Scrum have become increasingly popular (Denning, 2015).

According to Bennet et al. (2014) addressing complexity, on the contrary, requires simplification and an organisational structure that mirrors the environment. This means that the structure, such as branches and processes, must constantly be aligned to the environmental complexity (Kotter, 2012). Ambiguity on the other hand requires a mindset of experimentation more than any other, as cause-and-effect relationships are not certain. This involves a willingness to take risks and invest resources for innovation (Bennett & Lemoine, 2014; Crocitto & Youssef, 2003). Corporate ambidexterity is found as a response to the ambiguous environment; it aims to simultaneously incorporate exploitation and exploration (Harraf et al., 2015). More precisely exploration is meant to support the organisation's innovation, whilst exploitation ensures the survival of the company (Du & Chen, 2018; Zitkiene & Deksnys, 2018) without disrupting daily operations and cash flow (Kotter, 2012). The dynamic capability to act flexibly, adapt to new situations quickly and approach new situations proactively is realised as a competitive advantage and tackles economic volatility (Appelbaum et al., 2017a; Baškarada & Koronios, 2018; Felipe et al., 2016; Zitkiene & Deksnys, 2018). Scrum embraces timeboxing in combination with an iterative approach to ensure short reaction times in a volatile environment (Nurdiani et al., 2019). Recurring retrospective meetings in Scrum ensure that processes, technical conditions and teamwork function well, so they do not impede effectiveness.

In the agile or Scrum world transparency is a key factor. A method to achieve this is the Kanban board which allows all team members to see who is working on

which task and for how long (Nurdiani et al., 2019). Short, daily meetings reinforce this transparent culture and ensure a constant knowledge sharing of team members. Volatility is a main driver for this procedure, and it corresponds to fast changing circumstance as well as customer preferences (Harraf et al., 2015). Later agile practices integrate direct contact and interaction with customers combined with continuous environment scanning to ensure that customer needs are in the focus of the conducted work (Appelbaum et al., 2017b; Crocitto & Youssef, 2003). This focus is kept through some type of "lens", which in the Scrum ideology is called "product owner" (Denning, 2015; Rigby, Darrell K., Jeff Sutherland, and Hirotaka Takeuchi, 2016). Getting customers periodically on site reinforces the attention to customer value (Nurdiani et al., 2019).

Finally, the iterative way, including periodical assessment reviews called product review meetings, again highlight customer needs. The emphasis is on the added value for the customer to ensure that customer preferences have not changed. This iterative approach with shorter time frames in project management is in accordance with motivational theories, as target achievements are constantly made visible. Instead of having a large, timewise far goal, the targets are closer, and likewise rewards are continuous (Eshlaghy et al., 2010). Agile practice further includes translating customer requirements into user stories to minimise requirement ambiguity (Nurdiani et al., 2019). The user or customer stories are discussed and evaluated in a planning meeting which reinforces transparency and knowledge sharing. Team members prioritise the task themselves and decide how a task is accomplished. In this manner self-organising teams facilitate the usage of the entire talent capacity of the team (Nurdiani et al., 2019; Eshlaghy et al., 2010). This usually stands in contradiction to typical organisational structures and hierarchy, where management decides how tasks are accomplished and how teams are organised. Eshlaghy et al. (2010) further formulated that agility features progressive manufacturing technology and progressive design technology, which are crucial for rapidly changing environments and preferences.

Agile enablers and capabilities

The implementation of agile practices alone does not make a lasting effect on organisational agility and innovation. To achieve this goal over the long term, a cultural change must occur that includes leadership behaviour and change management on different levels (Holbeche, 2019; Kotter, 2012). However, many firms struggle to expand agility from a project level or a single department to the entire organisation. One critical change is the main driver of the firm's activities where the perspective changes from a shareholder value to a customer value approach (Zitkiene & Deksnys, 2018). The ideology suggests that long-term sustainable profits and a competitive advantage result from fast and continuous customer value-based innovation (Holbeche, 2019). One toehold of Scrum methodology is it ensures constant interaction and focus on customers. As a consequence the cultural mindset of the cooperation must change to evolve towards agility. Customer needs are put into focus, resulting in more thinking and acting towards adding value to the product than about the organisation itself (Denning, 2016). In this way of thinking, profit seeking is a result but not the aim itself (Denning, 2016).

As a first point the organization needs a strategic commitment to organisational agility that is supported by all leaders in unity (Xing et al., 2020; Sherehiy et al., 2007). This makes a shift in power compulsory, away from hierarchy and management and towards the marketplace and customer needs (Iivari & Iivari, 2011). Leaders must implement the above-described agile practices and be ready to transfer control to lower hierarchical levels (Appelbaum et al., 2017a; Crocitto & Youssef, 2003). Making an organisation agile requires replacing hierarchical and bureaucratic practices with cross-functional teams. Often however teams are established on an ad-hoc basis and afterwards, a project is abandoned again (Denning, 2015). Denning (2015) describes this scenario as flattened corporate hierarchies without removing them entirely. Conflicting goals arise in particular

when the hierarchical structure is kept and the horizontal approach of Scum or agile teams are implemented alongside without full management support.

The contradiction is based in the differing mindsets, values and attitudes of the involved people with missing interpersonal and cultural adaptability (Sherehiy et al., 2007; Pulakos et al., 2000). In other words, empowerment is emphasised, but the substantial authority remains in executive positions instead of being transferred to the team. A holistic conversion requires managers and employees to acknowledge and implement a participative decision-making process (Crocitto & Youssef, 2003).

This presupposes a cooperative leadership style away from a predominant autocratic form of leading. Mindfulness in leadership is one promoted way to cope with the challenges and complexity of the current economic environment, which is more disruptive, distractive and stressful to leaders than ever before. Mindfulness at work means a solution to the leadership challenge to manage oneself, a team or an entire organisation in a VUCA world (King & Badham, 2019).

The aim is to respond through self-organisation and cross-functional teams quickly and flexibly to customer demands and trends (Ganguly et al., 2009; Shams et al., 2020). The role of leadership changes in that agile surrounding. A crucial part for managers becomes removing impediments to ensure the team can perform without distraction. Workers on the other side are required to be tolerant, versatile and adaptable towards uncertain and new situations in today's environment. However, the measurability of flexibility or versatility is problematic (Pulakos et al., 2000; Giachetti et al., 2003). Preparing for volatility comprises increasing agility and piling unbound resources to enable a fast reaction to the expected change, as volatility describes a change in magnitude or speed (Zitkiene & Deksnys, 2018; Xing et al., 2020; Shams et al., 2020). Uncertainty in contrast needs a different approach, as it is unclear if a change will happen. A response to uncertainty can be information collection, knowledge absorption or data

processing to get a better understanding on how innovation might change the future market (Bennett & Lemoine, 2014; Felipe et al., 2016).

Leaders in addition must ensure profitability whilst rigidly driving innovation, which leads to a recommendation of ambidexterity in leadership (Holbeche, 2019; Rigby, Darrell K., Jeff Sutherland, and Hirotaka Takeuchi, 2016). Leadership plays an important role in ambidexterity, as it ensures the structural conditions needed, such as maintaining the balance of control and empowerment (Shams et al., 2020). On the other side leaders arrange contextual ambidexterity by creating the required atmosphere and CC (Du & Chen, 2018; Iivari & Iivari, 2011) that responds to the challenges customers put upon organisations. These include constantly changing preferences (Rigby, Darrell K., Jeff Sutherland, and Hirotaka Takeuchi, 2016) under which organisations must continue being efficient and controlling costs (Felipe et al., 2016). This requires an inherited competency of constant market sensing (Nijssen & Paauwe, 2012; Zitkiene & Deksnys, 2018).

Furthermore, the mindset must shift from a top-down structural one towards a cultural focus that centres around networks and behaviour. This culture requires a collaboration of the self-organising and cross-functional teams in direct contact with their customers to put customer value in focus. Other key cultural features are empowerment, continuous improvement, transparency, knowledge sharing and horizontal communication encouragement (Holbeche, 2019; Eshlaghy et al., 2010).To enable rapid and flexible reactions to ever-changing consumer needs and economic circumstances, organisational resilience is required. To support that resilience of an organisation, the common attitudes of involvement and engagement by leadership are required (Sherehiy et al., 2007). This highlights again the role of leaders in shifting an organisation from a hierarchical institution to an agile working platform.

Constant renewal is required to be combined with the well-being of employees (Baškarada & Koronios, 2018). Ideally leaders achieve a shared purpose and

common goal in their workforce which, especially among millennials, leads to a higher commitment and hence performance (Costanza et al., 2012).

Gary Hamel (2014), author of *Humanocracy*, argued that leaders must shift their entire mindset away from common management practices which have much to do with control and authority. This alongside with bureaucracy must make way to agile attitudes, which is the only way to enact real empowerment and a utilisation of the full human potential of workers (Hamel, 2014; Crocitto & Youssef, 2003). Another obstacle in agile transitions is employee resistance caused by greater interpersonal demands and higher degrees of uncertainty and insecurity at the beginning. Stress can be a cause resulting in the opposite effect of the desired resilience. As leaders are put in the same conflict and challenge, they must "walk the talk" as role models of an agile work attitude.

Even within the four terms of VUCA, each requires a different response depending on how distinctive they are in the respective industry (Xing et al., 2020). To be prepared to react to a volatile and heterogeneous market, the best response is leveraging the organisation's agility (Bennett & Lemoine, 2014; Nijssen & Paauwe, 2012; Shams et al., 2020). In summary, the literature review advocates that the constructs outlined in Table 1 are considered as they relate to the mentality and culture reflecting an agile organisation.

Table 1: Agile organisational traits

Volatility	Uncertainty	Complexity	Ambiguity
Leaving comfort zone	Knowledge sharing	Simple organisation	Experimentation
Focus on customer needs	Market sensing	Mirror to environment	Take risks
Flexibility	Iterative work	Growth mindset	Ambidexterity
Self-organising teams	Transparency	Cooperative leadership	Customer focus
Control/authority	Cross-functional teamwork	Shared purpose/common goal	Engagement
Unbounded resources	Horizontal communication	Involvement	
Continuous improvement		Empowerment	

Source: Compiled by the author

4. METHODOLOGY

4.1 Description of the case study

As a basis for this research 61 repertory grid structured interviews were carried out from November 2018 to April 2019 within an organization. The research object is a wholesale company in the consumer industry with approximately 500 employees of which 21 staff members are in leadership roles. The company is led by two general managers who besides the founder are also shareholders of the organization. The company has experienced 45 years of growth and accomplished 200 Mio. € turnover in 2018. The forecast and current business development is positive whist a turnover increase is forecasted for 2019 and 2020. The pandemic crisis in 2020 has affected the organisation considerably, leading to an unexpected grow of sales, difficulties to obtain sufficient goods from oversees and fast changing customer requirements which were triggered by different lockdown scenarios is various countries. Overall the organization is financially healthy, paying above standard pay scale. Employees have the possibility to invest into a shareholding company so that they directly participate from the success of the corporation. Fluctuation among employees is at a comparably low level. Recruitment of additional staff is still unproblematic and applicants state that they have been told about the great working atmosphere. Hence a high employer attractiveness is presumed. Table 2 indicates the structure of the participants who carried out the repertory grid structured interviews for this case study are:

Table 2: Participant structure

Gender		No. of former employers		Position	
male	37	0 - 1 employer	17	Leader	21
female	24	2+ employers	44	Employee	40
Age		**Education**		**Job tenure**	
21-30 years	10	no training	0	less 1 year	8
31-40 years	20	vocational	37	>1 - 5 years	10
41-50 years	24	Bachelor	9	>5 - 10 years	11
51-60 years	6	Master	16	>10 - 20 years	22
> 60 years	1	PhD / doctor	0	>20 years	10

Department					
CEO	2	Transport logistics	3	Procurement	4
Sales national	9	Internal services	3	IT	3
Export sales	8	Warehouse	15	Accounts	1
Product management	6	Marketing	3	Personnel	2
Internal logistics	2				

Source: Compiled by the author

The participant structure is in accordance with the distributional factors of the entire organisation. The employees were chosen in proportion to the size of the department, taking age difference into consideration. The figures for job tenure, age and education are close to the structure of the company. To investigate the entire CC of this organisation the above-mentioned aspects as well as the focus topics identified by the literature review were taken into consideration upon the definition of the set of elements for this CC study. As a consequence, for this research, the 27 elements listed in the table below were chosen to conduct the RGIs. They represent a wide range of objects, individuals, systems, concepts and even time horizons to support the creative elicitation of constructs related to the CC of the investigated entity.

Table 3: Elements utilised to investigate corporate culture

All elements		
The organisation & market	**Leadership & motivation**	**Quality & internal processes**
The company as it used to be	Myself today	HR
The company today	My direct manager	Logistics/warehouse
The company in 2.5 years	The company without leadership	Sales department
The ideal company	Ideal leadership	Product management/purchase
A negative company	Leadership culture	IT
The company's brand	Myself as a manager	Marketing
The market in the future	CEO 1	Employee culture
An unpleasant competitor	CEO 2	Quality principle
A meaningful company	A highly motivated person	An efficient process

Source: Compiled by the author

In particular these elements were selected adjacent to the CC model created by Denison et al. (2004), as it creates a holistic cultural view of an entity. While

formulating the elements it is important to not directly choose Denisons dimensions as elements, as these are constructs (if elicited by the subjects). Instead, the above stated elements set lists elements that are likely to evoke constructs related to Denisons model. The deployment of both the elements "leadership culture" and "my direct manager" is controversial as the latter is a part of the first element. This was criticised by Easterby-Smith et al. (1996) but has retrospectively been proven to generate valuable insights into the self-perceptions of managers and the influencing factors for such self-evaluation. Another critical aspect is the inclusion of specific persons represented by the two CEOs of the organisation. They could possibly function as a test of the degree of socially desirable answers if evaluations are unusual compared to the remaining assessments.

4.2 Introduction to the repertory grid technique

Collecting data within the framework of PCP offers several possibilities. For this study software-supported RGIs were chosen. Originating from a clinical context in psychology, RGIs have developed into an application technique in various research areas, including organisational behaviour and CC (Heckmann & Burk, 2017). Distinct from solely quantitative questionnaires or qualitative interviews, RGIs simultaneously produce qualitative statements which are quantitatively evaluated by the interviewee (Leach, 1980). In this manner a certain feature of an employee's world is translated into a cognitive map through a grid (Easterby-Smith et al., 1996; Rosenberger & Freitag, 2009). The participant's wording to distinguish these elements is recorded in a data matrix (Scheer & Catina 1993). As a precondition a list of objects (called elements) are determined based on the domain of interest. These elements are presented to the interviewee to conduct an elicitation process (Leach, 1980). The RGI technique records the bipolar constructs in a data matrix which allows statistical and mathematical calculations to be conducted on the characteristic of values and norms (Heckmann & Burk, 2017 (Rosenberger & Freitag, 2009)).

In general, two types of repertory grids can be distinguished; firstly, in a common grid, not only the elements but also the constructs are predefined. As a result, this defaults the qualitative aspect of PCP, possibly to constrain the research scope. In a common grid distances between objects and attributes can be statistically defined by cluster analysis (Fransella et al., 2004). In a unique grid the opposite approach is chosen, neither elements nor constructs are predefined or kept constant throughout the interview process. Whilst in a common grid the interviewer strongly influences the context and qualitative aspects to be rated, in a unique grid the subject and qualitative attributes are determined by the interviewee. For this research study a mixture between common and unique grids is applied:

1. Elements are predefined, to ensure that attributes association with CC are derived.

2. Constructs are created and rated by the participant to prevent limitation or exertion of influence by the researcher.

This approach was selected as the study attempts to understand the experiences of an employee of the organisation and excerpt their thoughts and images of the world around them. However, to limit this imagination to the organisational context, excluding attributes about one's private life, the research elements must be predefined. Still, as the elements are rated on the basis of the constructs, the mathematical relationship between the interviewee's attributes form the cultural picture of an organisation. In this manner RGIs based on PCP are a powerful methodology to generate qualitative data of an employee's attitudes, emotions and experiences of the organisation they work for (Easterby-Smith et al., 1996; Stephens & Gammack, 1994). As with PCP the repertory grid technique has been applied to numerous business contexts including work surroundings, employment and learning assessments, which highlights the technique's flexibility (Bourne & Jankowicz, 2018; Stephens & Gammack, 1994)). To classify important issues from the final list of elicited constructs, a widely used analytical approach is

content analysis via cluster creation (Hauser et al., 2011). Content analysis attempts to group features into a distinct category with a common meaning. The groups themselves can be predefined (which was not the case in this repertory grid study) or obtained inductively from the list of elicited constructs (Heckmann & Burk, 2017).

4.3 Determination of sample size

The determination of the sample size for repertory grid studies can be an issue because the triangulation research approach includes both qualitative and quantitative elements. As a consequence the two main aims of the interviews and content analysis must be considered. The researcher firstly wishes to cover the majority of the research domain's inherent topics (Heckmann & Burk, 2017). These are the clusters created by the combination of mathematical and content analysis. Second a minimum number of constructs is contained in each cluster to enable the statistical analysis of the repertory grid dataset (Heckmann & Burk, 2017). One possible option is to conduct additional interviews until a saturation of subcategories of organisational culture is reached, or in other words until no further clusters are created by the additional constructs elicited through the added interviews (Napier et al., 2009). However, this requires that a cluster analysis be conducted between each interview. Other studies are based on a rule of thumb which proposes 15–25 RGIs to cover any domain of interest (Tan & Hunter, 2002). These assumptions are made because the quantity of elicited constructs per subtopic, the probability and even the overall number of clusters are undetermined before the interviews are conducted. Nevertheless, a possible approach can be to make expectations about the required number of categories based on a literature review (Heckmann & Burk, 2017).

An approach for an ex-ante determination of the required sample size suggested by Heckmann and Burk (2017) is based on the probability assumption of receiving at least a set percentage of the total subject, in which each contains at least a minimum number of constructs. This approach combines the two main research

aims of this study and facilitates a predefined sample size. To create a holistic picture of the CC of the research object, criteria have been determined as outlined in Table 4.

Table 4: Input settings for sample size determination

Type of input setting	Target/projection
Expected constructs per interview	8–16
Type of probability for no. of attributes (Figure 6)	Normal distribution
Expected mean	12
Standard deviation	1
Expected average of constructs	12
Type of probability for no. of categories (Figure 7)	Exponential
Targeted probability	95%
Clusters/categories	20
Min. number of constructs per category	10

Source: Compiled by the author

The number of expected constructs per interview is based on the targeted interview length of approximately 120 minutes. All interviews were scheduled for this timeframe, and few were shorter than the scheduled two hours. Based on the above setting the following probabilities were calculated as preconditions for the calculation of the final sample size (see Figures 4 and 5).

Figure 6: Probability for number of attributes per interview
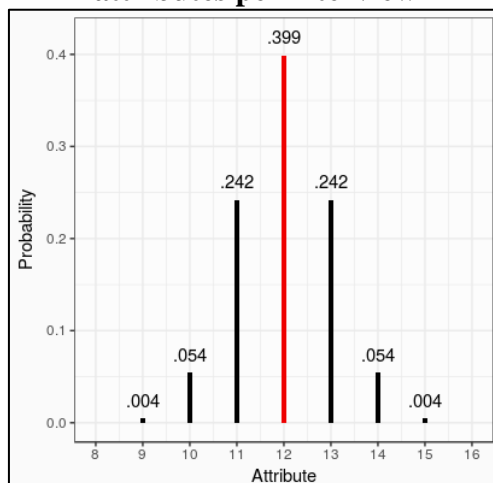
Figure 7: Probability for number of categories per interview
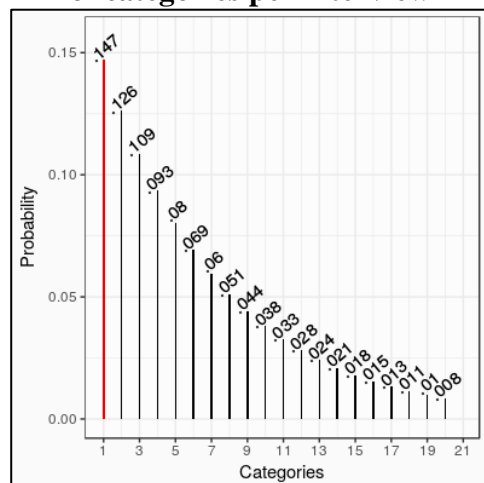
Source: Created by the author

Source: Created by the author

For the determination of the sample size, a probability of 95% covering all inherent topics was targeted. A test was run for probabilities of 90, 95 and 99% in combination with a minimum number of 8, 9 or 10 attributes or constructs per category. Figure 8 demonstrates that on the basis of these criteria, a minimum sample size of N = 60 is required to achieve at least 20 clusters, with a minimum count of 10 constructs per cluster, to be evaluated as self-contained topics within the CC context of the investigate object. As 21 people were in leadership positions, the final sample size of N = 61 was determined, including the 21 managers, as well as 40 employees across all departments of the organisation. As the CEOs decided that a participation is not compulsory for employees, the employees solicited voluntary, and lots were drawn in dependence of the department size. In this manner, data with a direct LMX context was generated.

Figure 8: Determination of sample size
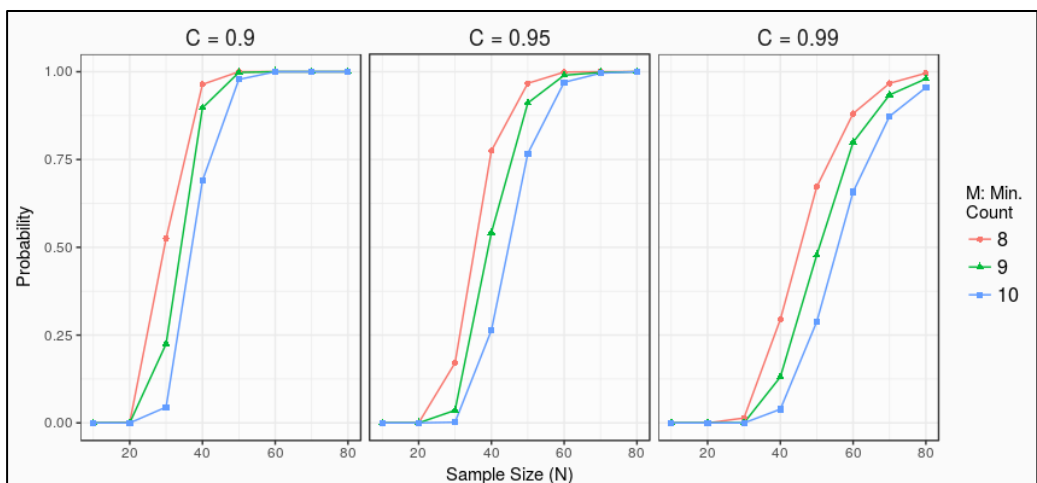
Source: Compiled by the author

In ex-post consideration this approach was quite conservative as the final number of clusters derived was 36, of which each holds at least 13 individual assessment criteria. The average number of constructs created by each interview was 12.8, meaning that the estimation of 12 clusters was quite exact.

4.4 Execution of the interviews

The following describes the four distinct reiterating phases of the interviews. In the first phase a triad of three elements from the set of 27 are presented to the interviewee, who is asked to select which two elements are similar to each other but different from the third (see Figure 9).

Figure 9: Interview Phase 1 – Triad comparison
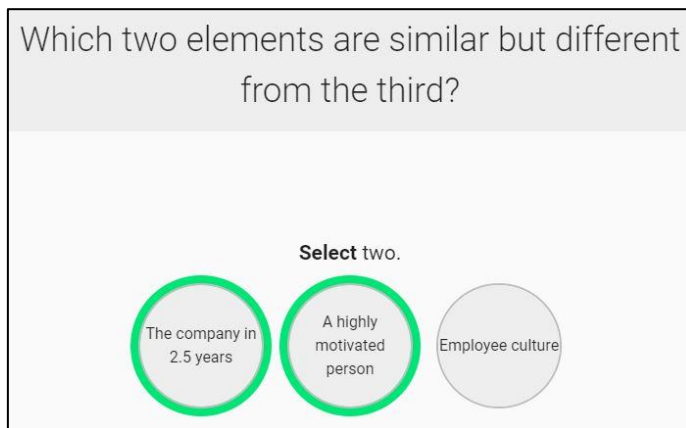
Source: Compiled by the author

Once the subject has selected two intuitively, Phase 2 is designated to elicit the first personal construct related to the selected two elements, which reflect the organisational culture of the entity under investigation. The interviewee is asked what makes the two elements similar and at the same time different from the third.
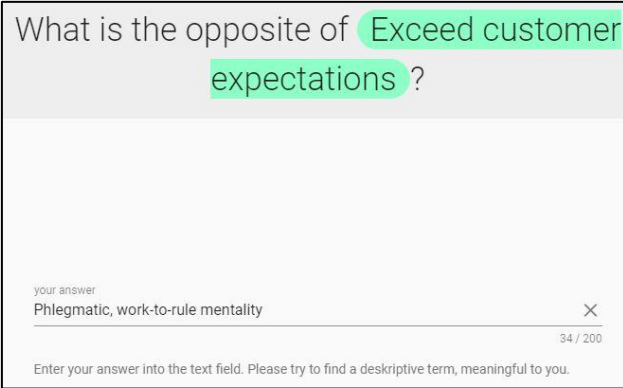
Figure 10: Interview Phase 2 – First construct elicitation
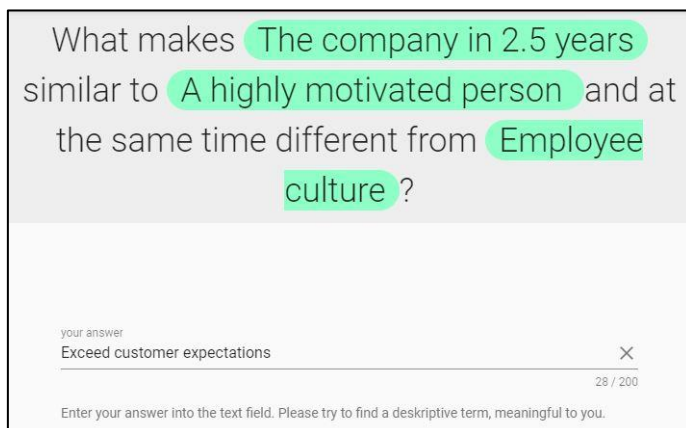
Source: Compiled by the author

After elicitation of the first, qualitative construct formulated by the interviewee, the system asks for the opposite assessment criterion of this construct. This bipolarity of constructs enables the visualisation of quantitative results in repertory grids in a later step, as highlighted in Sub-section 3.1.3 about PCP in organisational research.

Figure 11: Interview Phase 3 – Opposite construct creation

Source: Compiled by the author

In a final step the participant is presented with a tetra-polar field in which all 27 elements must be rated; the possibility exists to leave elements unrated in case of a lack of possibility for intuitive evaluation. In this manner not only the qualitative assessment criteria are elicited in the form of personal constructs to develop a holistic picture of the underlying CC. In addition, quantitative data in relation to personal assessment criteria is produced on a scale from 0–100. The interviewee has the possibility to assign only one characteristic by choosing between the specifications "exceed customer needs = 0" and "phlegmatic, work-to-rule mentality = 100" for the elements. In addition, any combination with the other two extremes, "neither" or "both", can be selected for each element. Figure 12 exemplifies the software view of the interviewee with rating examples of the utilised corporate elements. These components are put into the tetra-polar field by drag and drop, highlighting the exact rating scale at the edges of the rating frame. During the interviews, rated elements were hidden to ensure an intuitive rating without rethinking the evaluation after placing additional elements.

Figure 12: Interview Phase 4 – Element rating
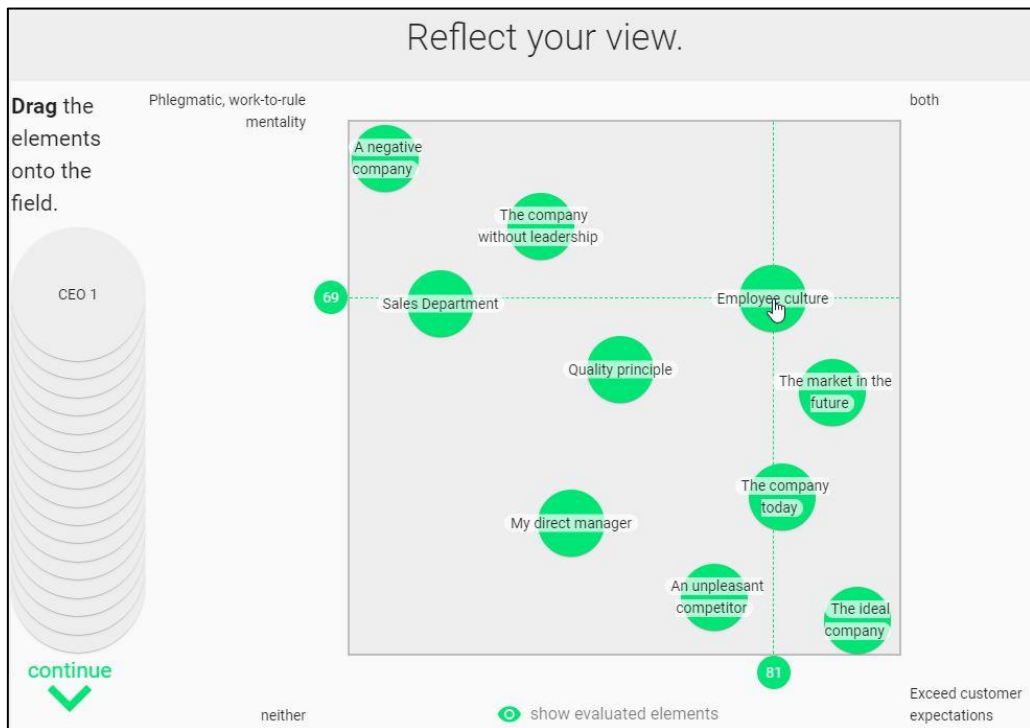
Source: Compiled by the author

After rating the participant returns to Phase 1 with a different triad of elements. A new set of bipolar constructs is elicited on which the rating depends. Consequently, there is no appendix with a questionnaire as such. The role of the researcher is to support creative thinking in case the person has difficulties with a triad or finding the opposite construct due to the difficulty evoked by triadic comparisons (Easterby-Smith et al., 1996). However, the researcher should not influence the constructs through questions aimed at provoking a certain construct. Instead inductive or deductive thinking is supported by asking for specific events or common concepts with laddering questions such as "What do you mean by…?" (Easterby-Smith et al., 1996). This depends on the subject's general comprehending (inductively or deductively). In summary the iterations throughout the 61 qualitative interviews produced 782 personal constructs. These multiplied by 27 element ratings resulted in 21,114 unique graded construct element ratings, building a comprehensive CC database of the entity.

5. RESULTS AND DISCUSSION

5.1 Compiled repertory grid data set of this study

Generalised Procrustes analysis is utilised in this chapter for result visualisation.
Structured RGIs are an inherently qualitative research methodology as subjects
enter their own wordings based on their interpretations of the organisation. The
utilised computer software creates in the reflection phase in-depth data based on
the entries of the participant (Mak et al., 2013). This dataset can be statistically
transformed from the sum of individual grids using GPA to create an aggregated
grid, which allows visualisation of the CC, as shown by the following figure 13,
which shows the entire dataset including the most relevant elements, as well as
all clusters and construct locations, indicated as dots.

Figure 13: Visualised dataset with Generalised Procrustes analysis
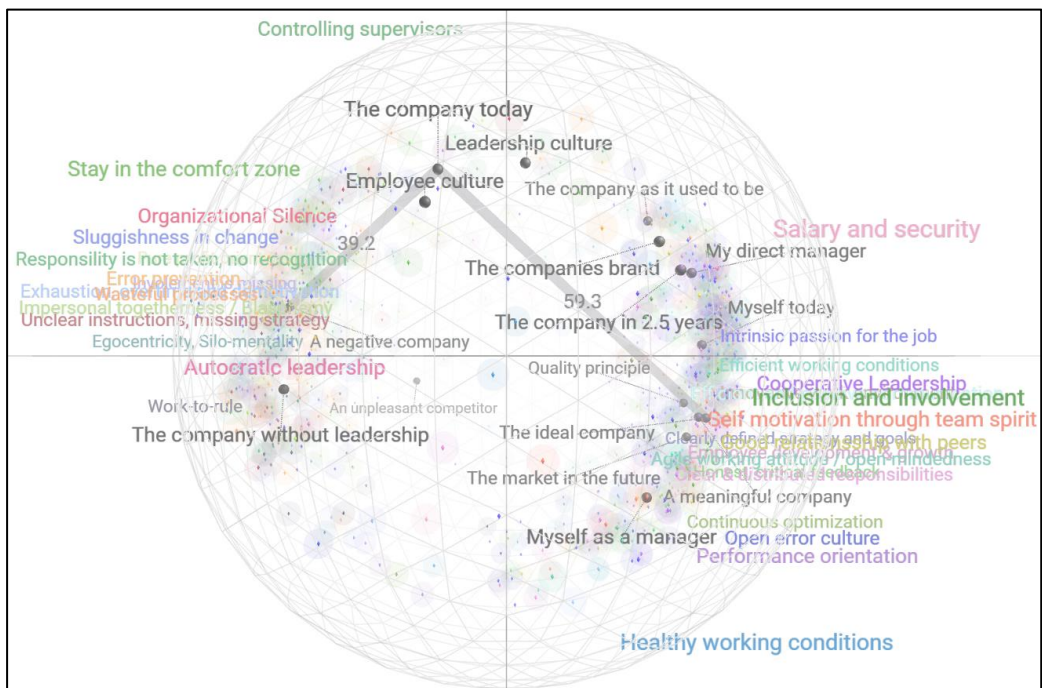
Source: Compiled by the author

In a first step the interviewees different usage of scales are adjusted to a collective
central mapping sheet (Grice & Assad, 2009), this process is identified as

translation. Afterwards variations grounded in the distinct utilisation of attributes by the interviewees are eradicated by reflection and rotation until a maximum agreement is achieved by applying Procrustes rotation technique (Grice & Assad, 2009; Gower, 1975). This process is followed by scaling to unit variance through shrinking and stretching the configuration size aiming at an equalisation of different ranges of the scale displayed in figure 12. This is done without altering the relative distances between the elements (Tomic et al., 2015). Provided that the mean, rotation and scale reflect individual variations of subordinate significance for the explanation of element discrepancies, GPA is an appropriate statistical tool for investigating repertory grid data. Relative distances between elements are kept, which is essential to the visualisation and statistically based interpretation of the research results of this study (Tomic et al., 2015). After the application of GPA each element and construct have a unique set of coordinates enabling the researcher to create clusters and interpret the relative distances of elements and construct clusters. The spatial distances reflect the group's cultural associations within the organisation.

Cluster creation through content analysis:

Visualising and analysing 782 constructs in one graph or even statistically would result in an unclear outcome. As several attributes have similar or identical meanings, an aggregation into clusters with descriptive headings is an appropriate approach to explore this dataset on CC. In a first step the system created an initial set of clusters based on the spatial location of all constructs. This set was reviewed and extended by the researcher semantically to ensure that related constructs were combined in one cluster. Feixas et al. (2002) explored the degree of consensual accordance between researchers, in case an identical dataset of attributes and elements was qualitatively dissected independently. The agreement resulted in an 87.3% consensus (Feixas et al., 2002). As a consequence the conducting of content analysis aiming at the creation of clusters was added to the methodological approach of this study.

The following figure 14, created in R, visualises the centric position of each aggregated cluster, this time shown in a two-dimensional plot. The spatial distances between the clusters centric positions and elements represent the organisations evaluation which allows an analysis of the CC. Minor distances in this setup represent a high degree of association of an element with a cluster. The subsequent sections build on these circumstances to explore the dataset under different focuses with regard to content. The centric cluster positions located in the area of $x \approx 25$ and $y \approx 0$ are the clusters with positive associations as they are located closely to the element "An ideal company" ($x = 32.1$; $y = 0.8$). The element "A negative company" in contrast is located rather opposite in this diagram ($x = -37.01$; $y = -3.86$) indicating that the centric cluster points located in the spatial area of $x \approx -30$ and $y \approx 0$ are perceived as negative cultural patterns by the interviewed subjects. The two-dimensional visualisation in figure 14 was chosen to provide an overview of the entire set of clusters created in this study. Each section of the results and discussion chapter, namely

1) Corporate sustainability
2) Two-factor theory of motivation
3) Self-perception in leadership
4) Employee proactivity
5) Organisational agility

analyses a part of the entire framework, making a three-dimensional visualisation as indicated in figure 13 possible again, without impeding readability of the results.

Figure 14: Centric positions of aggregated clusters
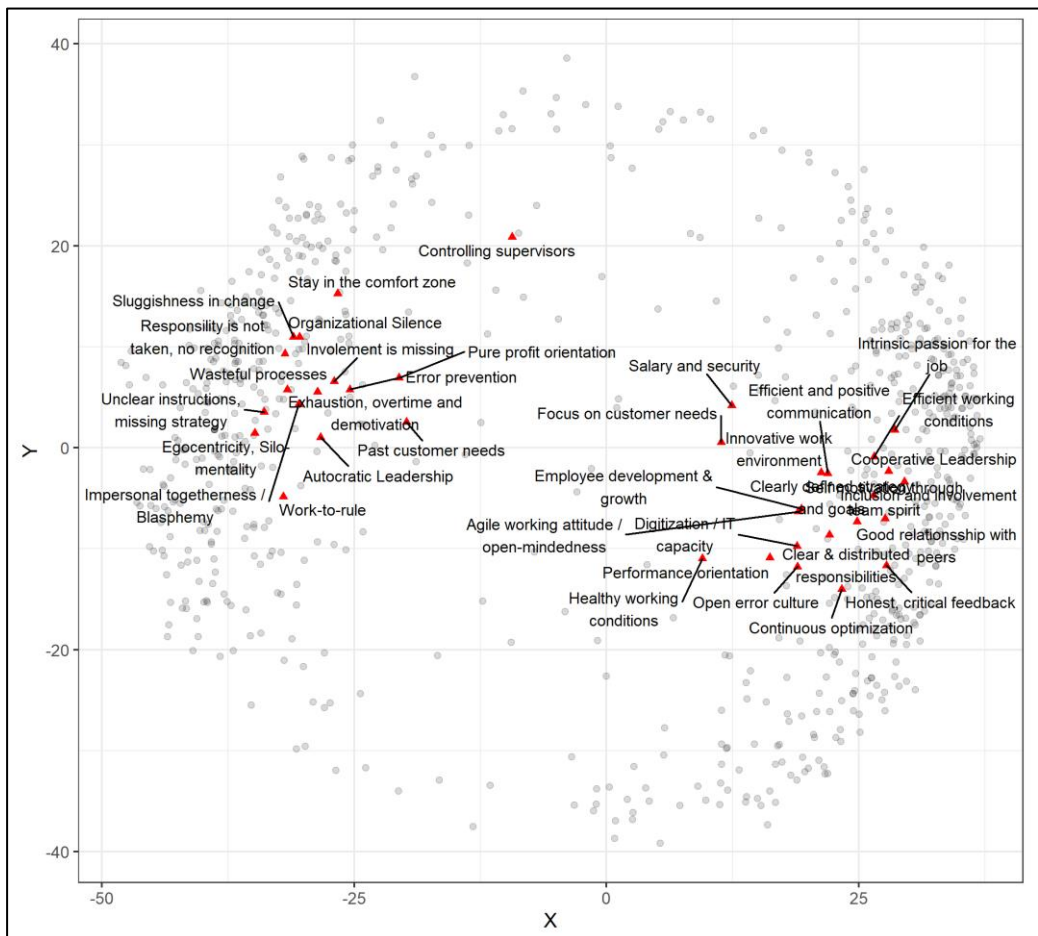
Source: Compiled by Dr Mark Heckmann based on the study's dataset

The following overview indicated by Figure 15: Construct locations of each cluster shows the location and spreading of elements around the centric position of each cluster. A spatial concentration of all constructs of one cluster denotes a high degree of consensus between the interviewed people for this issue, e.g. *Unclear instructions, missing strategy* being condensed entirely close to the element "a negative company". In contrast *Pure profit orientation* is evaluated more diverse as the constructs representing this cluster are spread throughout the graphical sphere. Another example for a cluster that is semantically coherent but the evaluation by the subjects differ is the cluster *Focus on customer needs.* These differentiated assessments indicated clearly the advantage of RGIs. While

semantically the personal constructs all relate to the focus on customer needs, for some subject this is a positive cultural pattern while others evaluate this as negative. They might evaluate it more positive if the corporate culture would put the wellbeing of its employees before the customer requirements.

Figure 15: Construct locations of each cluster
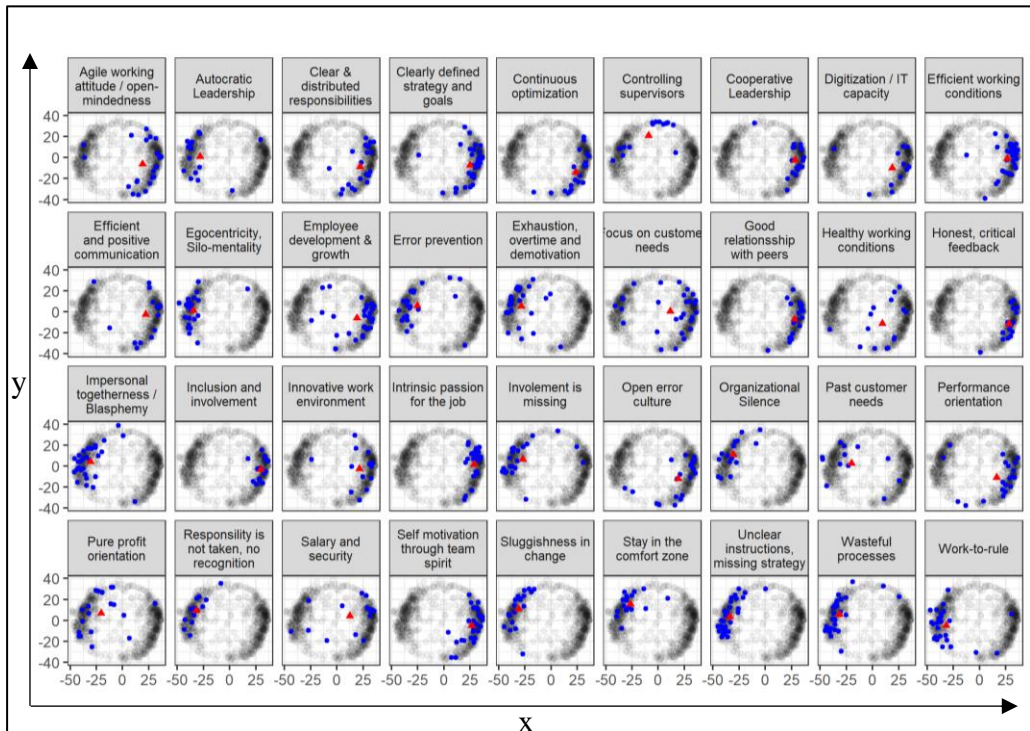
Source: Compiled by Dr Mark Heckmann based on the data set of this study

In consequence the ratings of the elements described in phase 4 (see figure 12) ensure that the researcher interprets the assessment criteria elicited during the interviews in accordance to the subjects perceptions. A factor that a standard qualitative interview does not provide. Table 5: Construct correlations of all clusters lists the statistical values for all clusters and their degree of correlation with the main elements of this study. In general the table lists the number of personal constructs *N* of each cluster, including the percentage of total constructs. A higher percentage indicates a higher level of importance of the distinct cultural factor. For example the cluster *wasteful processes* consists of 31 related constructs (4,0%) meaning that a many subjects (about 50% of the inquired personnel)

associated this organisational scenario with the investigated company. *Controlling supervisors* (14 constructs; 1,8%) on the other hand is still reflected in the corporate culture but only about 23% of subjects created constructs describing this organisational pattern. The minimum value to create an own cluster was set to 10 related constructs. Divided by a maximum of 61 interviews this reflects a quota of 15% of the entire 61 interviewed employees and leaders. In each subsection of the results and discussions distinct element cluster combinations are contextualized to investigate the specific topic. To avoid duplication of interpretation the following table is not analysed in this section.

Table 5: Construct correlations of all clusters

		Constructs		Degree of correlation				
	Topic-related clusters	**N**	**in %**	The company today	A negative company	The ideal company	Leader-ship culture	Employee culture
Interpersonal	Self-motivation through team spirit	27	3.5%	0.510	0.329	0.888	0.588	0.524
	Good relationship with peers	19	2.4%	0.482	0.317	0.920	0.557	0.495
	Egocentricity, silo mentality	26	3.3%	0.590	0.921	0.303	0.498	0.596
	Impersonal togetherness/blasphemy	30	3.8%	0.657	0.901	0.342	0.564	0.666
	Efficient and positive communication	16	2.0%	0.543	0.386	0.858	0.612	0.548
Recognition and feedback	Responsibility is not taken	15	1.9%	0.683	0.916	0.316	0.581	0.685
	Performance orientation	16	2.0%	0.525	0.417	0.823	0.573	0.546
	Honest, critical feedback	15	1.9%	0.424	0.310	0.920	0.489	0.430
	Error prevention	23	2.9%	0.701	0.857	0.387	0.614	0.708
	Organisational silence	15	1.9%	0.704	0.900	0.325	0.601	0.703
	Open error culture	21	2.7%	0.498	0.390	0.852	0.551	0.516
Job attitude	Employee development & growth	29	3.7%	0.531	0.405	0.850	0.589	0.539
	Intrinsic passion for the job	27	3.5%	0.510	0.330	0.866	0.594	0.504
	Work-to-rule	28	3.6%	0.579	0.841	0.359	0.499	0.595
	Past customer needs	12	3.6%	0.724	0.773	0.446	0.651	0.752
	Focus on customer needs	29	3.6%	0.647	0.487	0.746	0.697	0.660
	Stay in the comfort zone	18	2.3%	0.783	0.817	0.340	0.672	0.785
Leadership	Autocratic leadership	15	1.9%	0.603	0.870	0.364	0.525	0.602
	Cooperative leadership	19	2.4%	0.508	0.324	0.895	0.590	0.515
	Clearly defined strategy and goals	34	4.3%	0.470	0.349	0.891	0.535	0.472

	Controlling supervisors	14	1.8%	0.862	0.677	0.467	0.811	0.814
	Unclear instructions, missing strategy	30	3.8%	0.630	0.920	0.310	0.533	0.640
	Clear & distributed responsibilities	20	2.6%	0.495	0.371	0.883	0.556	0.506
	Involvement is missing	21	2.7%	0.664	0.886	0.368	0.580	0.658
	Inclusion and involvement	15	1.9%	0.503	0.290	0.849	0.589	0.522
Working conditions	Exhaustion, overtime and demotivation	26	3.3%	0.675	0.890	0.357	0.584	0.681
	Wasteful processes	31	4.0%	0.661	0.913	0.327	0.564	0.668
	Digitisation/IT capacity	11	4.0%	0.495	0.400	0.847	0.547	0.503
	Agile working attitude/open-mindedness	23	2.9%	0.532	0.407	0.848	0.589	0.540
	Efficient working conditions	32	4.1%	0.511	0.345	0.879	0.588	0.509
	Sluggishness in change	19	2.4%	0.709	0.890	0.318	0.603	0.712
	Continuous optimisation	21	2.7%	0.447	0.343	0.889	0.504	0.461
	Healthy working conditions	15	1.9%	0.562	0.475	0.754	0.593	0.588
	Innovative work environment	13	1.7%	0.544	0.393	0.853	0.611	0.547
	Salary and security	19	2.4%	0.669	0.480	0.735	0.729	0.677
	Pure profit orientation	19	2.4%	0.702	0.822	0.429	0.631	0.695
	Unassigned	12	2.4%	0.565	0.506	0.742	0.591	0.578
	Total	**782**	100%					

Source: Compiled by the author

5.2 Corporate sustainability

5.2.1 Results and discussion on corporate sustainability

Each RGI compiled on average 13 personal constructs related to the company's culture, strategy and sustainability status. All 782 constructs were dissected by GPA which produced a three-dimensional cognitive space of all constructs and elements (Tomic et al., 2015). This enabled conclusions to be drawn about the semantic corridors, the distances between the elements and the association of the participants with their company culture and the status of the CS. Table 6 lists all CS-related constructs including the GPA-produced unique coordinates. The associated elements stated in the table enable an interpretation of the data which follows below table 6.

Table 6: Coordinates of corporate sustainability-related constructs

No	Element	x	y	z	Associated elements		
Profit before quality							
1	Profit before Quality	-9.34	31.6	11.22	Employee culture	A negative company	The company today
2	Focus on profit and sales	-10.95	15.62	32.45			
3	Sales-driven	-8.22	14.91	29.42			
4	Follow-up costs of new low-cost providers	-25.25	28.62	-5.84			
5	Damaged reputation due to poor quality	-38.48	10.13	-9.46			
6	Price is more important than quality	-22.65	27.8	-14.3			
7	React only to complaints (not proactively)	-30.1	20.81	-4.45			
8	Set price before quality, no quality control	-32.46	13.35	21.67			
9	Driven by the market	-19.32	26.59	21.52			
10	Pure profit-seeking (antisocial conduct)	-10.68	31.38	-6.37			
11	Set to old values	-28.52	12.75	14.68			
12	Pollution of the environment	-30.56	22.71	-2.69			
Ecology							
13	Sustainability (not only profit optimization)	14.95	-34.72	4.23	A meaningful company	The market in the future	Ideal company
14	Increase quality, detect product defects early	31.51	-8.28	-8.68			
15	Ecological sustainability	6.91	-34.94	-10.43			
16	Clear quality standards (or management)	31.38	-15.84	-13.49			
Company and brand reputation							
17	Try to establish the company as a brand	35.92	10.76	6.4	The companies brand	The company in 2.5 years	Myself today
18	Ideals and values are pursued	35.06	7.13	1.1			
19	Stand out from the crowd in terms of quality	30.27	9.79	12.35			
20	Good working environment	31.56	11.79	12.36			
21	Improve market reputation and perception	24.22	-2.26	26.01			
22	High willingness to perform through social activities	36.39	8.01	-1.97			

Source: Compiled by the author

An example construct was "pollution of the environment", upon which for example the elements "the company today", "the brand" and "our company culture" were rated on a scale from 0–100. The personal constructs of the interviewees were qualitatively reviewed to assess their linkages to sustainability. One analysis that was done was to check which constructs produce a relevance of "the market in the future" (grading >80%) and "the brand of the company" (grading >80%). Ninety-seven of the 782 constructs fulfil these criteria, whilst 22

relate to CS. Hence 2.8% percent of the personal constructs are sustainability related. They were clustered by their location in the three-dimension grid, as shown in Table 6: Coordinates of corporate sustainability-related constructs and visualised in Figure 16: Visualisation of corporate sustainability components.

The utilised repertory grid tool allows a three-dimensional space of the coordinates of these elements and constructs to be drawn. In this manner the sematic corridors become visible. In addition, the status quo of the organisation with regard to the above-mentioned CS can be visualised. With regard to H_1 (*The repertory grid analysis allows to draw a picture of the status quo of corporate sustainability of an organisation*), a repertory grid analysis on the basis of PCP by Kelly is an adequate possibility to visualise and analyse the CS of a company. A different element design may have generated a different set of results; here, a fine line between giving room for CS-related thoughts and triggering them via clearly related elements must be drawn. Figure 16 visualises the CS status of the organisation in 2019.

Figure 16: Visualisation of corporate sustainability components
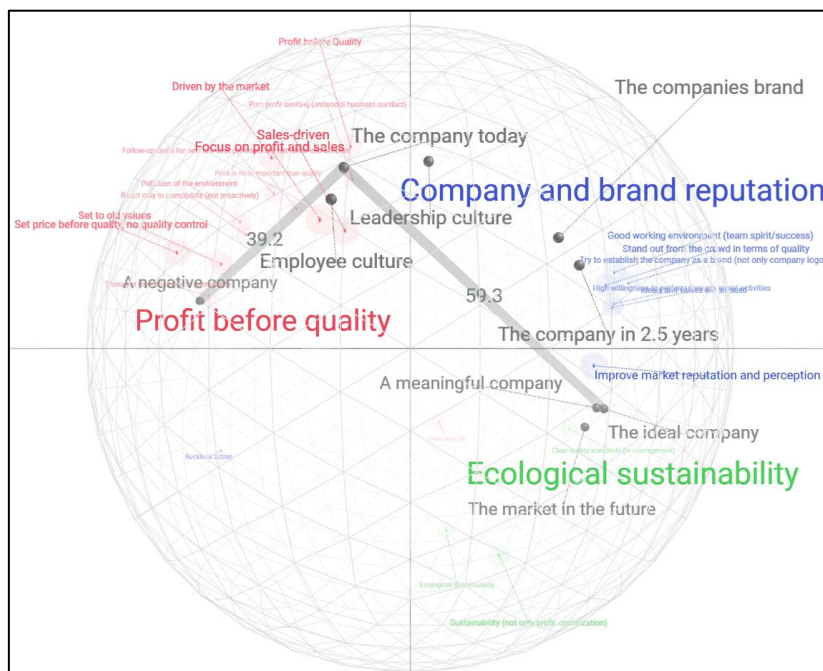
Source: Compiled by the author

The elements are centrally aligned and coordinated in a three-dimensional space. The genuine constructs are grouped into coloured clusters. The headings were chosen by the researcher to allow the prompt comprehension of the three main semantic corridors. The CS status of the organisation is described by the location of the element "the company today", which is allocated in the sematic corridor summarised by "profit before quality", as most constructs relate to this topic. In contrast the elements "a meaningful company" and "the market in the future" are in the corridor headed by "ecological sustainability". Although the interviewees did not rate their own organisation highly for these constructs, they associated the constructs as relevant in their future market.

The low percentage of directly CS-relevant constructs suggests that at present, it is not a relevant topic in judging the organisation. As a consequence, H_2 (*The personal constructs reassure the relevance of sustainability in business operations and strategy*) can be rejected for the underlying research case, as only 2.8% of constructs are CS relevant according to Lozano's criteria (Lozano, 2015). For this, constructs were reviewed that were highly relevant for the company's brand and future market. To assess whether leadership has a direct impact on the CS status of an organisation, the dataset allows the possibility of measurement. The congruence of the semantic corridor of "leadership culture", "employee culture" and "the company today" may indicate their degree of association. Figure 17 highlights all constructs and elements that lie in a corridor of 45° centred around the element "the company today".

Figure 17: Semantic corridor of 45° for "the company today"

Source: Compiled by the author

As all three elements lie relatively close together in the three-dimensional cognitive space, H_3 (*Leadership has a direct impact on the CS status of an organisation*) can be confirmed. The two closest constructs, "driven by the market" and "profit before quality", confirm H_1 as they represent the other constructs of this corridor. However, the deficiency of the CS implementation of this organisation generates only a small basis for proving H_3. In this context a time-dependent analysis would produce more significant results.

5.2.2 Conclusion for the research field of corporate sustainability

Only 2.8% of the personal constructs of the interviewees were linked to CS-related topics such as societal influence, environmental impact and organisational culture (Rego et al., 2017). This finding leads to a rejection of H_2, that the personal constructs of the investigated research subject confirm the relevance of sustainability in business operations and strategy. In neither the minds of the leaders nor the employees do the above-mentioned topics play an important role.

However, this research was linked to one corporation; hence, it is not possible to draw economy-wide conclusions. Further research should be done if the number of sustainability constructs of the general managers and leaders of the company coincide with the relevance and number of sustainability constructs of employees. In other words, if leaders consider CS an important subject, whether this transmits to the staff members in their department must be investigated. In this manner, how effective leadership incorporates sustainability into the business can be measured.

Conversely, applying Kelly's PCP with the help of RGIs is an adequate possibility to draw a picture of the CS status of an organisation. For further research, it would be interesting to determine which types of results are elicited when applying the methodology to another organisation, or the same organisation after several years.

Finally, CS can be directly associated with leadership and company culture. As CS is still not strongly implemented in the investigated organisation, the basis for this conclusion is not strong. As a result of this research, the organisation implemented a strategy definition progress and integrated CS into its mission statement for the first time. To evaluate the effectiveness of the implementation of different approaches to implement CS into operations, it would be interesting to conduct the same research 2.5–3 years after the first instance. This may produce a valuable dataset on how effective different CS implementation processes are and how strongly they depend on leadership involvement.

5.3 Two-factor theory of motivation

5.3.1 Results and discussion

From the set of 36 clusters, Table 7 indicates the most relevant in the context of analysing motivation. Still, they stem from all five superior headings, thus representing all parts of the investigated CC. From the elements listed in Table 7, "a highly motivated person" is the most important for the exploration of Herzberg's theory.

Table 7: Construct clusters and their degree of correlation with elements

	Topic-related clusters	Constructs		Degree of association			
		N	in %	The company today	A negative company	Employee culture	A highly motivated person
Inter-personal	Self-motivation through team spirit	27	3.5%	0.510	0.329	0.524	0.881
	Good relationship with peers	19	2.4%	0.482	0.317	0.495	0.905
	Efficient and positive communication	16	2.0%	0.543	0.386	0.548	0.875
Recognition and feedback	Performance orientation	16	2.0%	0.525	0.417	0.546	0.805
	Honest, critical feedback	15	1.9%	0.424	0.310	0.430	0.906
	Organisational silence	15	1.9%	0.704	0.900	0.703	0.339
	Open error culture	21	2.7%	0.498	0.390	0.516	0.830
Job attitude	Employee development & growth	29	3.7%	0.531	0.405	0.539	0.854
	Intrinsic passion for the job	27	3.5%	0.510	0.330	0.504	0.917
	Stay in the comfort zone	18	2.3%	0.783	0.817	0.785	0.356
Leadership	Cooperative leadership	19	2.4%	0.508	0.324	0.515	0.910
	Clearly defined strategy and goals	34	4.3%	0.470	0.349	0.472	0.903
	Controlling supervisors	14	1.8%	0.862	0.677	0.814	0.496
	Clear & distributed responsibilities	20	2.6%	0.495	0.371	0.506	0.876
	Inclusion and involvement	15	1.9%	0.503	0.290	0.522	0.837
Working conditions	Agile working attitude/open-mindedness	23	2.9%	0.532	0.407	0.540	0.851
	Efficient working conditions	32	4.1%	0.511	0.345	0.509	0.918
	Continuous optimisation	21	2.7%	0.447	0.343	0.461	0.860
	Healthy working conditions	15	1.9%	0.562	0.475	0.588	0.739
	Innovative work environment	13	1.7%	0.544	0.393	0.547	0.871
	Salary and security	19	2.4%	0.669	0.480	0.677	0.752

Source: Compiled by the author

For testing the hypotheses, an overview was compiled which identified clusters coinciding with Herzberg's theory; the degree of association was separated into three categories. By the combination of element and cluster, it can be determined whether a factor functions as a motivator or is required to keep satisfaction. Table 8 displays the various types determined, even including a criterion that establishes factors that drive demotivation or dissatisfaction.

Table 8: Motivation categories by degree of association

RESULTS AND DISCUSSION

Type of factor	Degree of association
Motivator	75–100%
Hygiene	50–75%
Dissatisfaction/demotivation	25–50%

Source: Compiled by the author

To test H_1, the prevalence of Herzberg's two-factor theory, construct clusters were equated to motivation or hygiene factors; the first analysis determined which clusters have the highest association with "a highly motivated person". The dataset revealed that *intrinsic passion for the job* and *efficient working conditions* (both 92%), or according to Herzberg's theory "the work itself", were the strongest motivators, as also proven by other recent quantitative studies (Joo et al., 2010). This means that a challenging, stimulating and well-organised working environment is a primary driver to motivate employees in a VUCA environment. The clusters with the second highest degrees of correlation were *cooperative leadership* and *honest, critical feedback.* This does not fully match with Herzberg's two-factor theory, as it associates most with "quality of supervision". The factor moved from hygiene to motivation, which confirms H_2. A different approach to leadership is required, which strongly impacts motivation (Ozsoy, 2019). Thirdly the dataset highlights *good relationship with peers* (91%) as a main cluster for a highly motivated person. This may conclude that interpersonal relationships are still prevalent but have evolved into a motivational factor. *Salary and security* correlates 75% with "a highly motivated person" and "ideal company" (75%), which highlights that it remains a hygiene factor. Herzberg's hygiene factor "company policy" can be aligned to *healthy working conditions* (74%).

Figure 18: Visualisation of clusters and correlations with elements
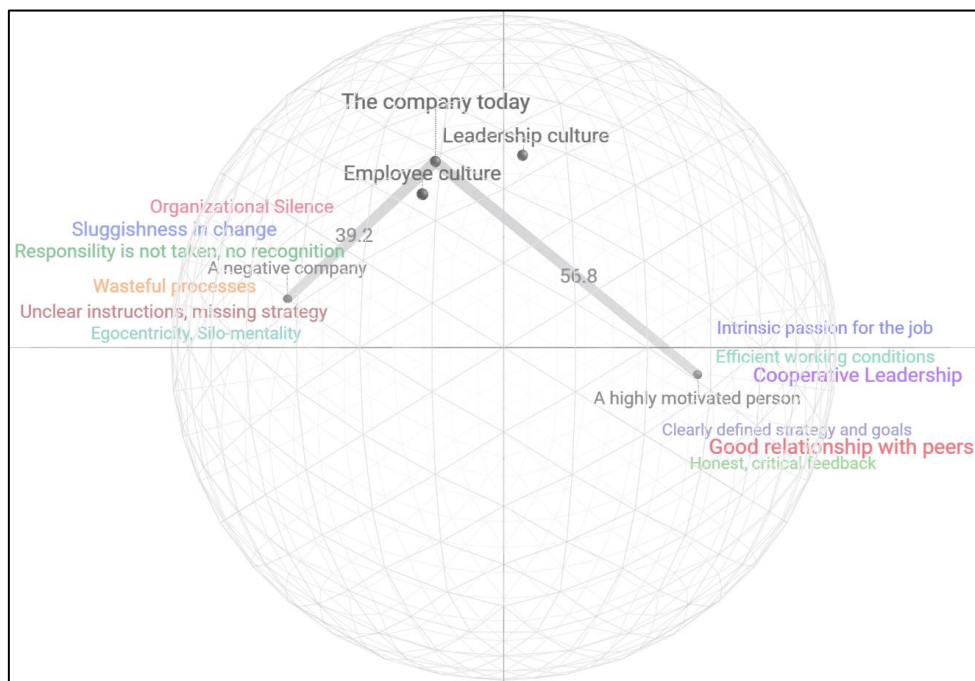
Source: Compiled by the author

In turn it must be determined what has the least correlation with "a highly motivated person" and thus might instead be demotivating or dissatisfying (25–50%). Two clusters centre around the efficiency of working conditions. *Egocentricity, silo mentality* (31%) and *wasteful processes* (34%) are clusters that describe how employees and leaders can conduct their work. If efficiency is not given, this may lead to demotivation. These two constructs are exactly contrary to the motivating cluster *efficient working conditions.* Furthermore, if *responsibility is not taken, no recognition* (33%) is given; this leads to demotivation or dissatisfaction according to the dataset. Herzberg described responsibility and recognition as a motivating factor in his theory, so this is confirmed by this study. The cluster can be identified as contrary to *cooperative leadership. Organisational silence* (OS; 34%) represents employees not giving critical feedback or withholding their ideas. Hence it can be paired with *honest and critical feedback* which was conversely identified as being a motivator. If ideas and suggestions are withheld, this indicates an interrelation with the cluster

sluggishness in change (33%), which is identified by this research as another cluster that functions contrarian to a persons motivation. Table 9 summarises the clusters identified in accordance with the classification defined above.

Table 9: Classification of clusters in motivation and hygiene factors

| Topic-related clusters | Constructs | | Degree of correlation | Factors | |
	N	in %	A highly motivated person	Findings	Herzberg's theory
Self-motivation through team spirit	**27**	**3.5%**	**0.881**	**motivator**	**hygiene**
Good relationship with peers	**19**	**2.4%**	**0.905**	**motivator**	**hygiene**
Efficient and positive communication	**16**	**2.0%**	**0.875**	**motivator**	**hygiene**
Performance orientation	16	2.0%	0.805	motivator	motivator
Honest, critical feedback	**15**	**1.9%**	**0.906**	**motivator**	**-**
Open error culture	**21**	**2.7%**	**0.830**	**motivator**	**-**
Employee development & growth	29	3.7%	0.854	motivator	motivator
Intrinsic passion for the job	27	3.5%	0.917	motivator	motivator
Cooperative leadership	**19**	**2.4%**	**0.910**	**motivator**	**hygiene**
Clearly defined strategy and goals	34	4.3%	0.903	motivator	motivator
Controlling supervisors	14	1.8%	0.496	hygiene	hygiene
Clear & distributed responsibilities	20	2.6%	0.876	motivator	motivator
Inclusion and involvement	15	1.9%	0.837	motivator	motivator
Agile working attitude/open-mindedness	**23**	**2.9%**	**0.851**	**motivator**	**-**
Efficient working conditions	32	4.1%	0.918	motivator	motivator
Continuous optimisation	21	2.7%	0.860	motivator	motivator
Healthy working conditions	15	1.9%	0.739	hygiene	hygiene
Innovative work environment	13	1.7%	0.871	motivator	motivator
Salary and security	19	2.4%	0.752	hygiene	hygiene

Source: Compiled by the author

Advancement and personal growth are the motivating factors Herzberg defined in his theory which are closest to the cluster names. Critical self-reflection and feedback are main drivers for personal growth. Finally, *unclear instructions* and *missing strategy* (32%) are other demotivating factors that confirm *clearly defined strategy and goals* as a motivating motive. In conclusion, in today's working

environment employees are motivated by strategy that is defined and communicated.

The classification table in combination with the defined categories facilitates a test of H_3 (*Agile working methods can by identified as a hygiene factor*). The cluster *agile working attitude/open-mindedness* correlated 85% with the element "a highly motivated person". Agile working methods thus conclusively function as a motivator rather than only being a hygiene factor in today's working environment. This can be explained by the changes that have occurred with respect to the economic environment since Herzberg compiled his research. The effects on motivation through more agile working methods are scientifically proven as empowerment, flat hierarchies and interdisciplinary teams diversifying jobs whilst promoting an efficient and proactive internal communication (Schermuly & Meyer, 2020; Thomas et al., 2018). Interestingly, being capable to manage a volatile, uncertain and complex world also serves as a motivator for employees and leaders. Further research on this point could verify or disprove this finding. In summary, however, H_3 was not confirmed. Figure 19 visualises the clusters aligned to the factors identified by Herzberg. The closer they are to the element "a highly motived person", the more likely they are to be motivational factors.

Figure 19: Construct clusters correlated with "a highly motivated person"
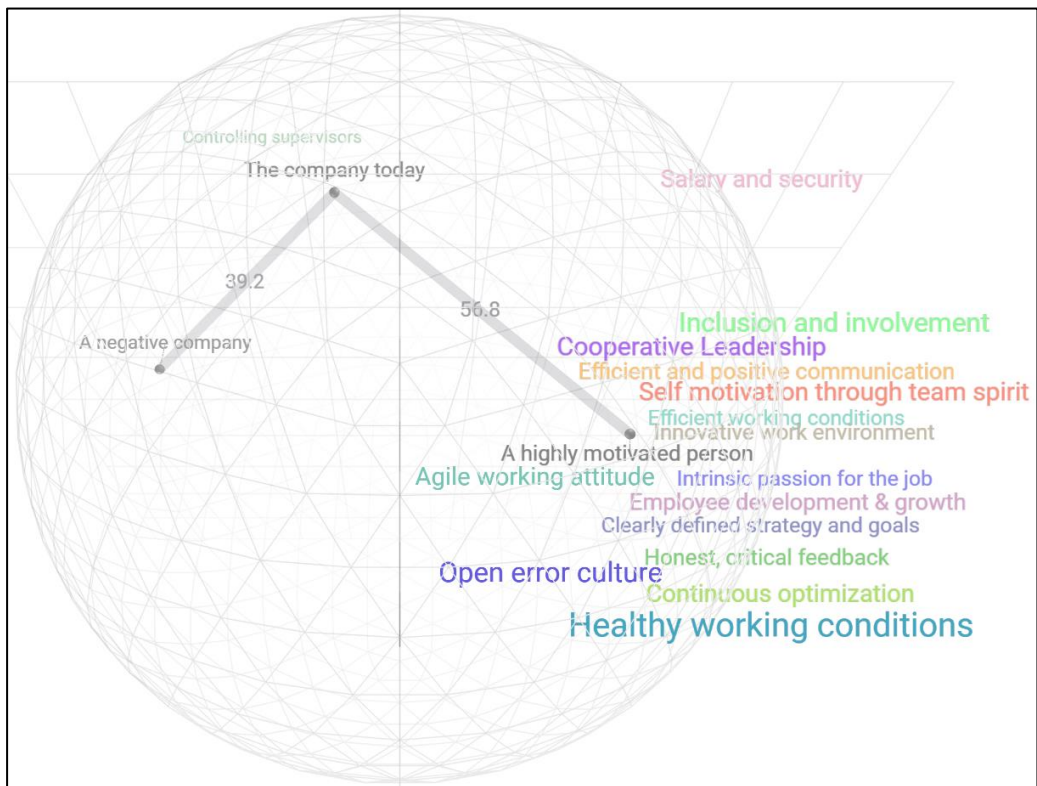
Source: Compiled by the author

In summary, 12 of 19 clusters confirm Herzberg's motivation-hygiene theory for today's working environment, even though economic circumstances have changed considerably. Seven clusters revealed by this repertory grid study are either not part of Herzberg's theory, or the findings of this study contradicted his theory. The first three clusters of Table 9 relate to the interpersonal relationship of employees and leaders. According to Herzberg's theory these are hygiene factors; their correlation with motivation indicates them as motivational factors. As discussed by Myers and Sadaghiani (2010) this is due to the changed values and ethics of generation Y. Work and relationships have become more important whilst salary and achievement are not as relevant anymore (Eisner, 2011).

The second main finding is that *honest, critical feedback* and an *open error culture* serve as motivational factors. The economy has become less predictable, and changes are occurring faster than when Kelly wrote his theory. As such an

open-minded approach towards committing errors in combination with honest and critical feedback is needed to cope with the challenges of a volatile and complex economic environment. These factors support advancement and personal growth as motivating elements (Ryan & Deci, 2000) but were not explicitly listed in Herzberg's theory. In the 1960s the leadership approach was more autocratic. Managers were the former employees with the most knowledge and were capable to plan the future. Error prevention was a primary aim whilst committing and communicating mistakes was considered a weakness. This leadership and error management approach changed into a mindset expectation towards *cooperative leadership* (91% correlation with high motivation) and *open error culture* (83%). Herzberg named his hygiene factor "quality of supervision" which is more based on a contrary perception of supervision than today's cooperative leadership approach. In summary, H_4 can be confirmed; teamwork and feedback were identified as motivational factors.

5.3.2 Conclusion and suggestions related to motivation

Despite the changes in leadership and management, the economic environment and the type of workforce, Herzberg's theory is still reproducible to a wide extent in contemporary work environments. The dataset supports the assumption that *feedback and an open error culture* must be considered motivational factors due to the economic surroundings described by VUCA (Bennett & Lemoine, 2014). In addition this is supported by another motivator, *agile working methods*, which includes a strong focus on empowerment and recognition (Gulla, 2020). The latter two are highlighted to additionally support organisational effectiveness through a higher degree of employee motivation (Manzoor, 2011; Ma'ruf et al., 2019). Quality of supervision was included in the two-factor theory as a hygiene factor, but this study suggests a renaming to *cooperative leadership*, which conditions a shift to being a motivator. Finally, *teamwork, efficient communication* and *good interpersonal relationships* were identified as additional motivators whilst Herzberg considered these hygiene factors. The literature review did not indicate

this shift; nevertheless it is an interesting finding that would need testing in a broader study.

In summary the research shows that RGIs based on Kelly's theory of personal constructs are a suitable way to investigate the two-factor theory. Further research based on this adapted motivation-hygiene theory is needed to test the theory on its application in a contemporary working environment. The limitation of the study is the dataset, as it only reflects one organisation with 61 qualitative interviews as a combination of employees and all leaders. Nevertheless, this can create first evidence on how Herzberg's theory could be adapted to today's economic environment and changed labour market. The author suggests further specific, quantitative research be conducted based on the finding of this study, such as that Utley conducted in 1997 (Utley et al., 1997). This would refine, 25 years later, the current scientific status and could produce valuable practical advice on how organisations can cope with the current economic challenges whilst motivating, retaining and satisfying their workforce.

5.4 Self-perception in leadership

5.4.1 Results and discussion

The personal constructs elicited in this research were semantically summarised into clusters. These clusters in turn can be summarised in five main topics, as shown in Table 10.

Table 10: Clusters and elements relevant in the context of self-perception

		Constructs		Degree of association				
	Topic-related clusters	**N**	**in %**	A negative company	The ideal company	My direct manager	Leader-ship culture	Myself as a manager
Recognition and feedback	Responsibility is not taken	15	1.9%	0.916	0.316	0.389	0.581	0.377
	Performance orientation	16	2.0%	0.417	0.823	0.727	0.573	0.861
	Honest, critical feedback	15	1.9%	0.310	0.920	0.717	0.489	0.806
	Error prevention	23	2.9%	0.857	0.387	0.450	0.614	0.450
	Organisational silence	15	1.9%	0.900	0.325	0.405	0.601	0.382
	Open error culture	21	2.7%	0.390	0.852	0.726	0.551	0.867

Job attitude	Employee development & growth	29	3.7%	0.405	0.850	0.768	0.589	0.808
	Work-to-rule	28	3.6%	0.841	0.359	0.374	0.499	0.442
	Stay in the comfort zone	18	2.3%	0.817	0.340	0.448	0.672	0.395
Leadership	Cooperative leadership	19	2.4%	0.324	0.895	0.840	0.590	0.786
	Controlling supervisors	14	1.8%	0.677	0.467	0.608	0.811	0.471
	Involvement missing	21	2.7%	0.886	0.368	0.423	0.580	0.419
	Inclusion and involvement	15	1.9%	0.290	0.849	0.834	0.589	0.799
Working conditions	Sluggishness in change	19	2.4%	0.890	0.318	0.401	0.603	0.379
	Continuous optimisation	21	2.7%	0.343	0.889	0.707	0.504	0.858
	Innovative work environment	13	1.7%	0.393	0.853	0.806	0.611	0.781

Source: Compiled by the author

The data is analysed by the spatial correlation of elements and the centric position of created clusters. Elements, as well as the centric point of a cluster, have a distinct set of coordinates which allows measuring the distances as a percentage. To test the hypotheses, corridors are defined, as shown in Table 11.

Table 11: Classification of type and degree of association

| Type	Degree of association
Actual association	75–100%
Indifferent	50–75%
Reverse association	25–50%

Source: Compiled by the author

For this research the clusters within recognition and feedback are especially relevant as they influence the leader's self-perception. H_1, developed from the literature review, posits that error prevention in combination with performance orientation supports OS. Firstly what kind of CC with regard to addressing errors is predominant in the underlying research subject must be examined.

One would expect either a high degree of association of the "employee culture" and "the company today" with the location of the cluster open error culture (standing for error management) or error prevention. In fact, *error prevention* shows an association degree of about 71% with the element employee culture. Likewise, *OS* relates 70% with employee culture. In addition, their spatial location is overlapping, which may indicate a thematic coherence of the two

clusters. In contrast, an *open error culture* (error management) is associated with an ideal company (85%) but is brought into context neither with employee culture nor with *OS*. This supports H_1 with regard to error prevention and OS. *Performance orientation*, on the other hand, is only associated with a degree of 55% so the influence is undifferentiated. In examining the perceived ideal company of the subjects, it becomes evident that this element relates solely to a small degree with *error prevention* (39%) and *OS* (33%), whilst *performance orientation* is positively associated in the context of an ideal company (85%). It can be concluded for H_1 that there is a linkage between error prevention and OS. For performance orientation the impact cannot be concluded, but neither can the causal coherence be discarded. It is highlighted that in the underlying research, case performance orientation is associated with an ideal organisation, whilst error prevention and OS are strongly seen as negative aspects of a company.

**Figure 20: Relation of error management to organisational silence**
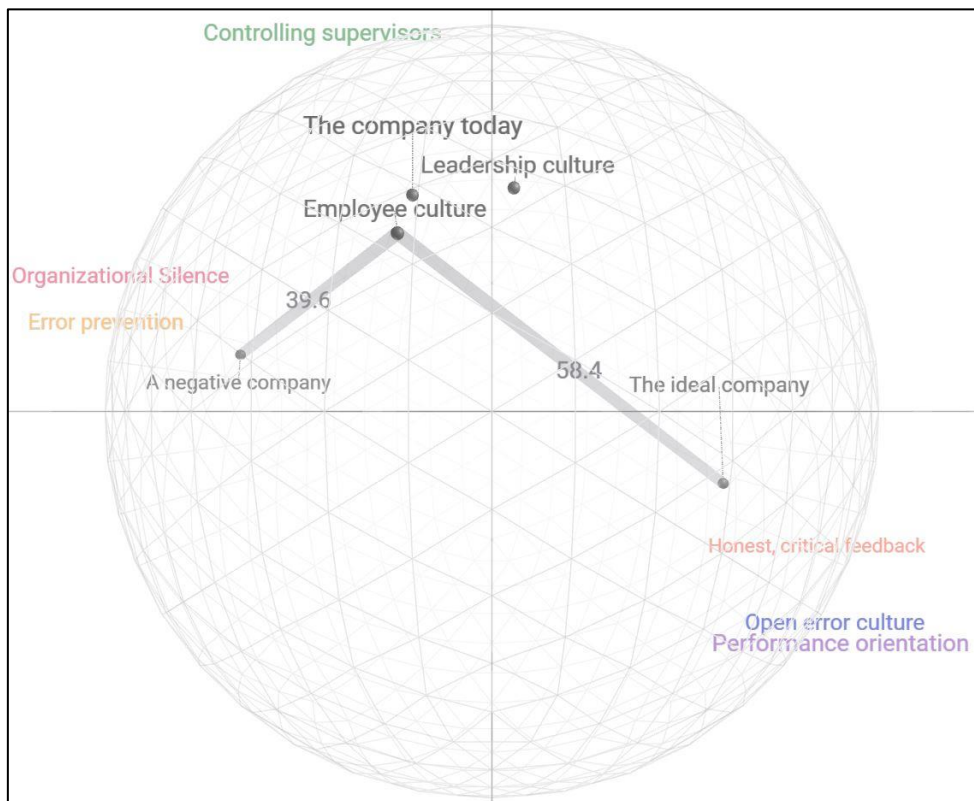
Source: Compiled by the author

Another subject identified by this repertory grid study that relates with OS and error prevention is *controlling supervisors*. It correlates 81% with employee culture and leadership culture which may indicate a linkage to OS. To conclude from one case to a general causality is not possible so it is suggested that further research on the causal connection of control by supervisors and OS be conducted.

H_2 posits that the absence of feedback in combination with error prevention leads to an incorrect self-perception or overestimation in leadership. For the underlying research case, the findings from the literature review are supported as the element "myself as a manager", which was only evaluated by the people in leadership positions, is situated closely to "the ideal company" (81%), whilst "leadership culture" (which reflects the rating of the employees and leaders) is not associated with the ideal (48%).

**Figure 21: Leadership culture in contrast to managers' self-perceptions**
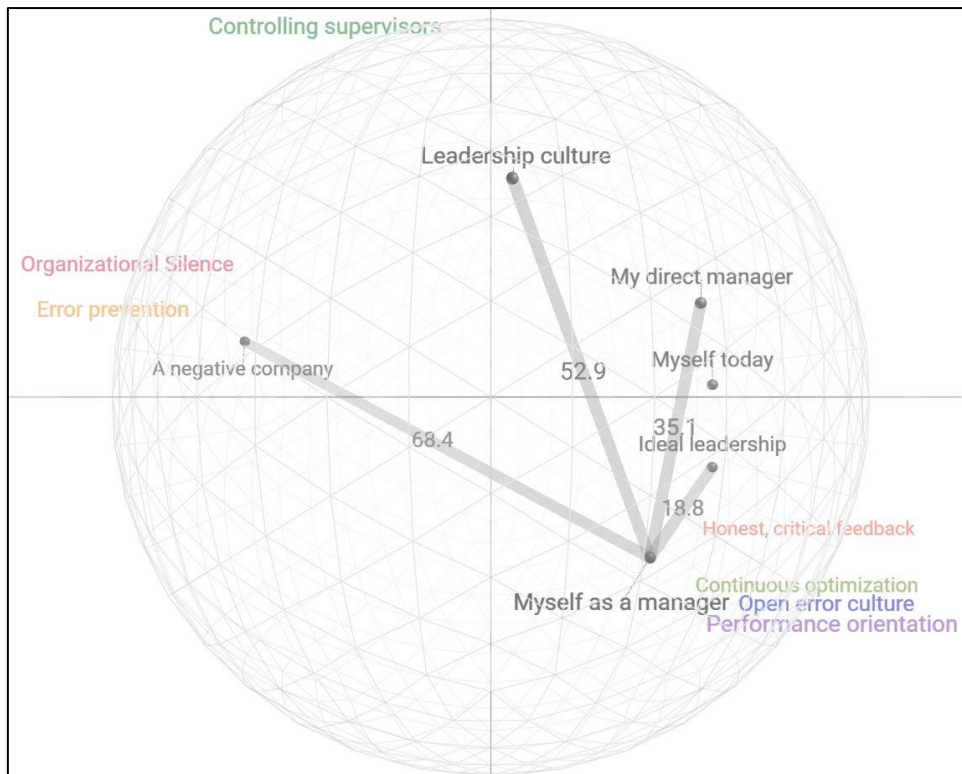
Source: Compiled by the author

In a CC in which honest and critical feedback is implemented alongside an open error culture, one would expect the element "myself as a manager" to be assessed as similar or slightly more positive according to the findings by Atwater et al. (1998) that humans generally tend to perceive themselves positively and overestimate their competences (Atwater et al., 1998; Silvia and Duval, 2001). In the underlying case managers perceive themselves as being open for errors (87%), giving *honest and critical feedback* (81%) and *fostering performance* (85%). On the contrary, leadership culture is most associated with controlling supervisors (81%), whereas the three above-mentioned elements rank below 60%. Interestingly, employees rate "my direct manager" persistently closer to the ideal (75%) than the entire leadership culture. It was expected that the aggregation of all "my direct manager" ratings would result in at least a very similar assessment as "our leadership culture", but the findings are contrary to this (see Figure 23). However, this supports the thesis that OS fosters overestimation in leadership, like Atwater et al. (1995) postulated. Employees devaluate overall leadership culture but do not give critical feedback about their direct managers, which would result in a higher self-reflection of leaders in return.

H_3 posits that overestimation in leadership supported by a culture where responsibility is not taken will result in the devaluation of the CC. Figure 23 presents the evidence generated from the database.

Figure 22: Devaluation of corporate culture
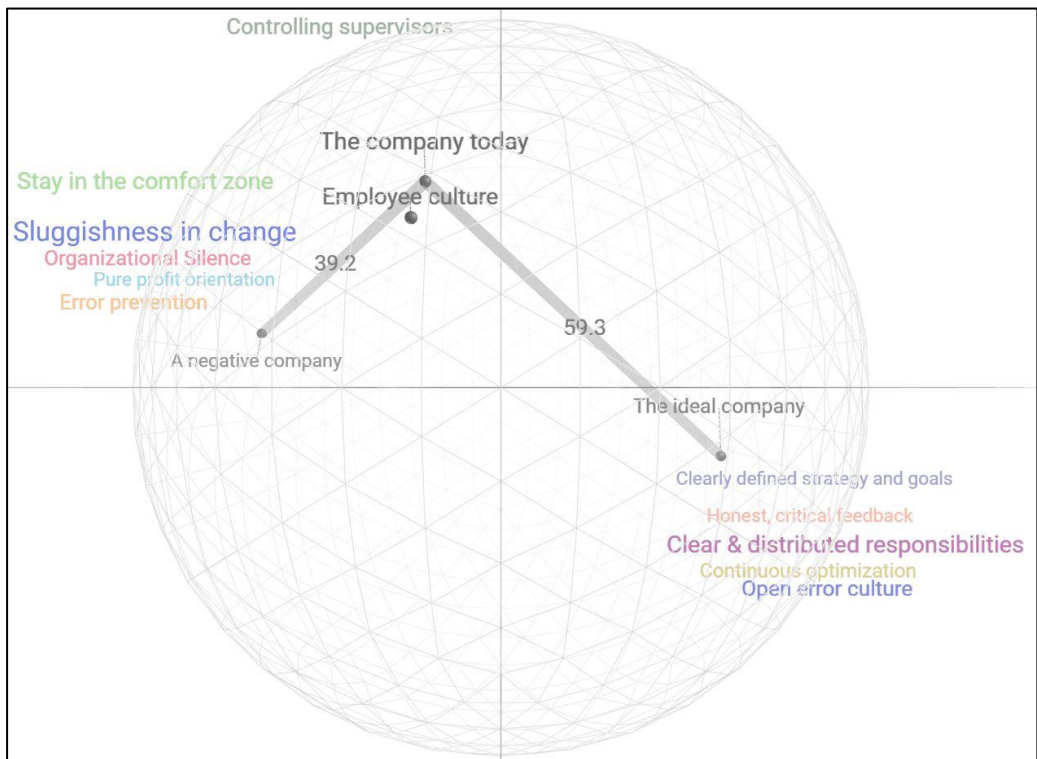
Source: Compiled by the author

The element "the company today" has the strongest relation with clusters that are also strongly associated to the subject's perception of a negative company. Further the locations of "the company today", the same as "employee culture", are closer to a negative company than the sematic corridor of "the ideal company". *Stay in the comfort zone* and *sluggishness in change* are clusters closely related to the unwillingness to take responsibility. OS and error prevention are clusters that also represent negative CCs. In addition, the organisation under review has a strong orientation towards profit which is perceived negatively by the subjects. In the literature review the topic of missing appreciation was touched upon in error management, whilst also in it is an element within the context of OS. The literature reviewed however produced no clear proposition on the outcome in case of a combination of the two aforementioned topics. The data of this research study indicates that missing appreciation paired with error prevention and supported by

a lack of involvement results in a culture in which employees do not take responsibility. Figure 23 visualises this relation between the elements and construct clusters.

Figure 23: Devaluation of employee culture with regard to proactivity
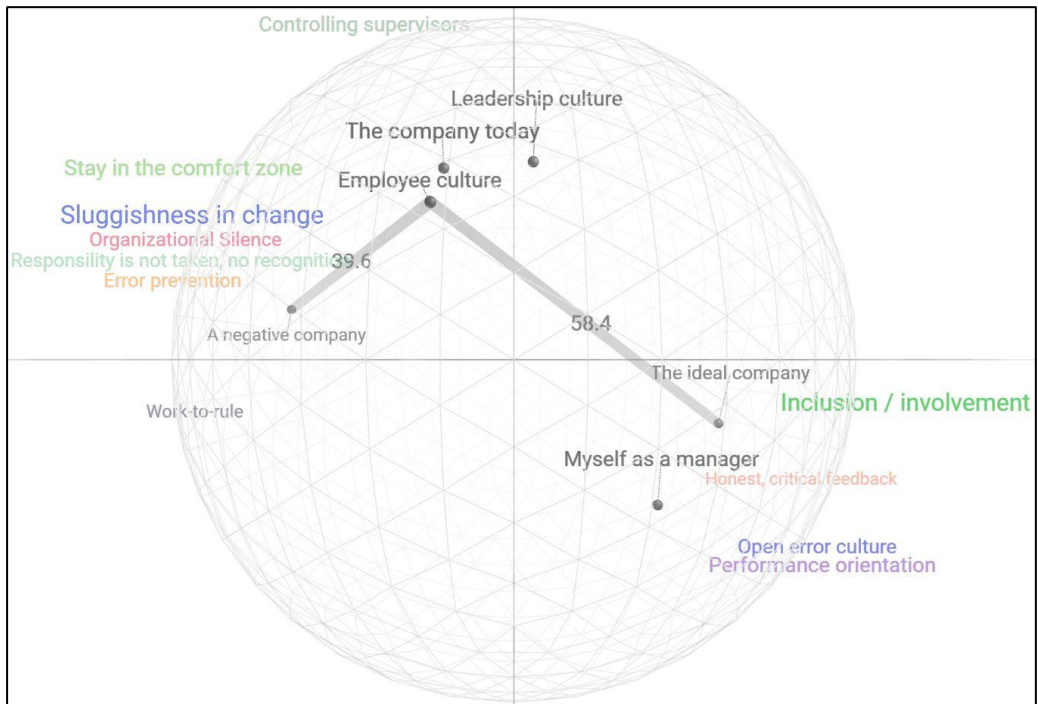
Source: Compiled by the author

Employee culture is situated close to missing recognition and the *absence of responsibility* (69%). However, it is not the strongest association of the investigated clusters. Still, it can be drawn from the dataset that *inclusion and involvement* are not associated with employee culture (52%). Among the closest clusters, *controlling supervisors* (81%) are indicated, which additionally represents a culture that supports the prevention of errors. Moreover, *stay in comfort zone* (79%) and *sluggishness in change* (71%) are connected as well. This supports the postulation that missing appreciation, error prevention/controlling supervisors and the absence of inclusion and involvement result in a culture in which employees do not take responsibility. Instead, employees rather stay in their comfort zone. In other words, if employees are not appreciated by their

supervisors and open communication about errors is not practised, employees tend to avoid making autonomous decisions regarding their tasks. Thus, a leadership culture which does not include employees in decision-making processes will support this unwanted result of employees' avoidance for responsibility.

H_4 posits that *overestimation in leadership supported by a culture where responsibility is not taken will result a devaluation of the corporate culture*. The element "the company" today has the strongest correlation with clusters that also strongly correlate to the subject's perception of a negative company. Furthermore the location of the company today, same as employee culture, is closer to a negative company than the sematic corridor of an ideal company. Stay in the comfort zone and sluggishness in change are clusters closely related to the unwillingness to act and take responsibility. OS and error prevention are clusters that also represent negative CCs. In addition, the organisation under review has additionally a strong orientation towards profit which is perceived negatively by the subjects.

The repertory grid study can only be a first test of plausibility on the findings from the literature review. Nevertheless, it supports that error prevention and OS are connected to the self-evaluation of leaders.

5.4.2 Conclusion and suggestions for leadership research

In summary, the research and hypothesis model could be verified for the research object of this study. The research points out that the error culture of an organisation influences several areas which are critical to a positively perceived CC. It certainly can lead employees into OS which in return induces a falsified self-perception in leadership, as there is little reason for managers to reflect upon their own habits.

In addition, an error prevention strategy is likely to favour a habit where managers as well as employees try to avoid responsibility. Risk minimisation is the prime

objective so not being responsible collateralises negatives consequences for one's work. In a culture of missing recognition and a lack of involvement into decisions, this effect is positively reinforced, as H_3 indicates.

The basis for this research is a literature review on self-perception in leadership, error management and OS supported by Laura Kussin (Kussin & Bundtzen, 2021). We tried to prove the interrelationship of these three research topics but were limited to a single research object with a comprehensive data basis. This research section 5.4 advocates that further research on error management in the context of CC and especially OS is conducted. The study leads to the conclusion that error management has a higher impact on the overall CC, OS and distributed responsibility than is currently reflected scientific literature.

5.5 Employee proactivity

5.5.1 Thematic transfer to employee proactivity

As discussed in the previous section 5.4, an organisation that incorporates an error management and organisational learning approach is likely to create a work environment that stimulates innovation and constant service improvement (van Dyck et al., 2005; Maurer et al., 2017). The advantage in such an environment is that employees openly admit errors or search for help to rectify their mistakes (van Dyck et al., 2005). Hence the environment supports proactive employee behaviour. But what is about leaders? Do they not make mistakes the same as any employee, and does a turbulent time like the COVID-19 pandemic not increase the likelihood of errors in leadership decisions? Are leaders not as vulnerable as employees, although is it acceptable to show these errors openly in a business environment?

This section aims to analyse possible cultural influences on the corporate level that led to a scenario of employee reluctance to authority and empowerment. To find a new path in CC research, a psychological theory was employed in this case study to allow an unbiased view of an LMX. In the underlying cultural case, error

prevention with missing involvement were present, which pointed to a first direction as preconditions leading to missing proactivity. Thus, employee culture is closely associated with missing adoption of responsibility and lack of recognition (Manzoor, 2011). Contrary to proactive employee behaviour are attitudes such as staying in one's comfort zone and OS. The latter describes missing upward feedback and the withholding of ideas.

This research originated in a single organisation to produce interrelated results of the LMX because a special focus on leadership was pursued. As the methodology is explorative, a literature review followed to allow a wide applicable range of scientifically supported conclusions. The PCP method enabled the visualisation of CC in a three-dimensional sphere, which revealed that managers perceive themselves as representing an open error culture. Indeed, the entire leadership culture, an element that the employees and managers rated, is relatively distant from this characteristic, meaning that culture stands for error prevention more than for an open approach to manage errors. Cooperative leadership and organisational engagement are additional relevant clusters.

This study approach highlighted that clear and distributed responsibilities in combination with honest and critical feedback are associated with ideal leadership. Furthermore, an open error culture is considered positive, although the employee culture of the organisation is far from inheriting this attribute, as it represents a large spatial distance. It seems that employee development and growth are similar in semantic meaning to inclusion. In this study case closely associated with ideal leadership by employees and leaders, but the company shows no close linkage to these semantic clusters.

The above-outlined results advocate conducting a systematic review of the current scientific literature to contextualise error culture, leadership attitudes and proactive employee behaviour. Focus was given to the topic of vulnerability in leadership as it is closely linked to how leaders handle and communicate their own mistakes (Meyer et al., 2017). The following research question was thus

formulated to be analysed in this section: *How do vulnerability in leadership and error management influence the proactivity of employees?*

5.5.2 Systematic review scheme on employee proactivity

The systematic review for this section, in the context of vulnerability in leadership, was conducted by applying the PRISMA scheme (Moher et al., 2009). The publications in this part were taken from the scientific databases ScienceDirect of the Elsevier publishing house and GoogleScholar on 30 November 2020. Table 12 indicates how the research question was translated into a systematic review.

Table 12: Review protocol in vulnerability in leadership

Review question	*How does vulnerability in leadership and error management influence the proactivity of employees?*
Literature search	*Sources:* ScienceDirect, Google Scholar *Search terms:* "leadership" AND "proactivity"*; "error prevention" AND "proactivity"; "error management" AND "proactivity"; "proactive behaviour" AND "vulnerability"; "vulnerability" AND "leadership"
Filter criteria	*Type of work:* Research articles; Years: 2017–2020 Publication type: all articles, no books
Exclusions	*By title:* Examination of a thematic reference in broader sense; exclusion of e.g. articles with medical or educational background By abstract: Exclusion of articles not related to business or management research
Evaluation	*Full text assessment:* Inclusion of only those articles with specific references to the influence of leadership and error approaches to proactive behaviour

Source: Compiled by the author

To ensure that the latest scientific results were integrated into the model, the systematic review was filtered to include only 2017–2020. Only papers marked as research articles were. As the total results of two searched keywords were not possible to screen (>10,000 total results) and it was unlikely that all these titles were linked to the research question, the search was limited in these two cases to titles including at least one of the above-mentioned search terms (marked with *

in Table 13). This served to primarily extract papers relevant to the investigated topic.

**Table 13: Results of the initial literature search on ScienceDirect**

Search phrases	Total results	2017 – 2020	Research articles	Filtered results
"leadership" AND "proactivity"*	1,335	522	403	143
"error prevention" AND "proactivity"	288	81	42	5
"error management" AND "proactivity"	224	65	42	16
"proactive behaviour" AND "vulnerability"	350	161	114	57
"vulnerability" AND "leadership"*	2,477	1,053	759	134
Total				**355**

Source: Compiled by the author

An additional search from GoogleScholar by the above-mentioned filter criteria based on the keywords in the title added another 124 research articles. After the removal of duplicates, 385 of 479 entries remained in the literature database, which were checked on basis of title and abstract. The employed criteria referred to the research question of this paper.

Figure 24: PRISMA statement for vulnerability in leadership
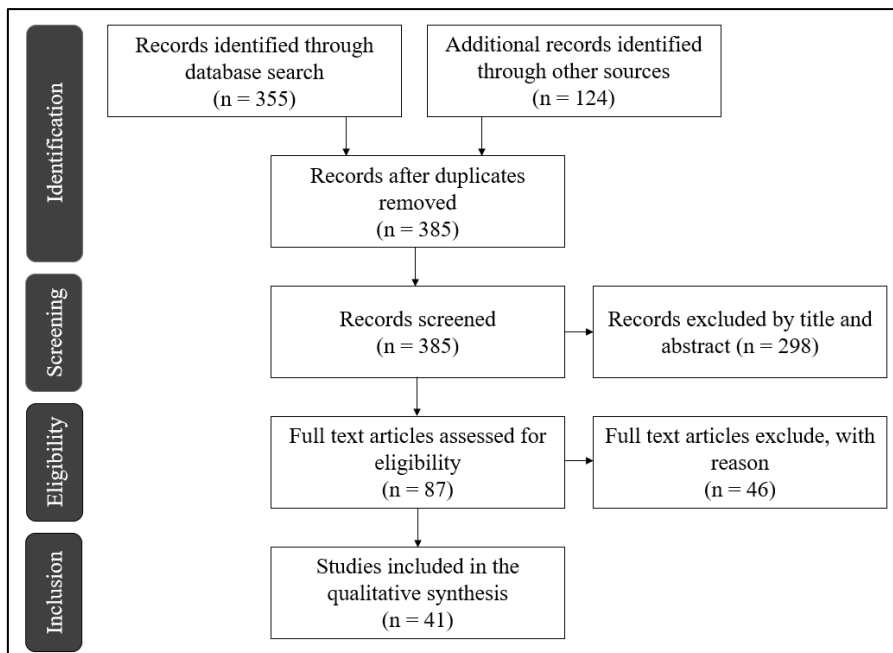
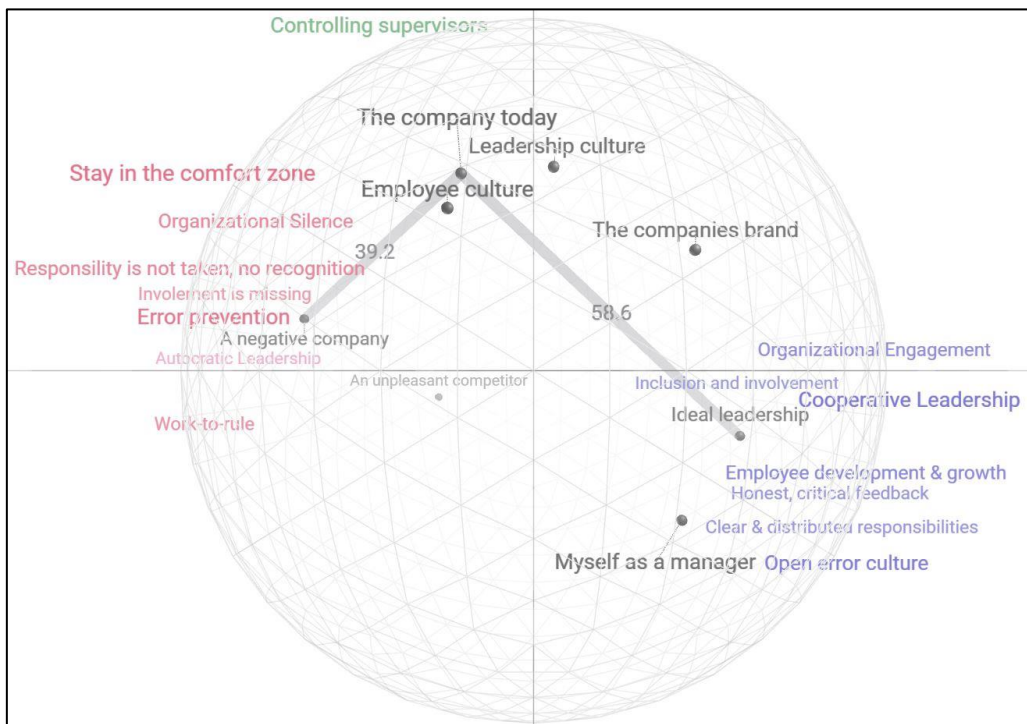*Source: Compiled by the author on the basis of Moher et al. (2009)*

In a successive assessment of the abstracts and titles, 298 papers were excluded due to missing references to the research topic. Eighty-seven research articles were consequently included in a full text assessment, of which in a final stage, 41 papers were included in this research.

5.5.3 Results and discussion of the case study and literature

Figure 25 shows the elements describing the CC scenario that led to the research question of this section. The red and blue descriptive clusters, elicited during the interview process, highlight the organisational matters most relevant for the research questions.

Figure 25: Visualisation of the corporate culture case study
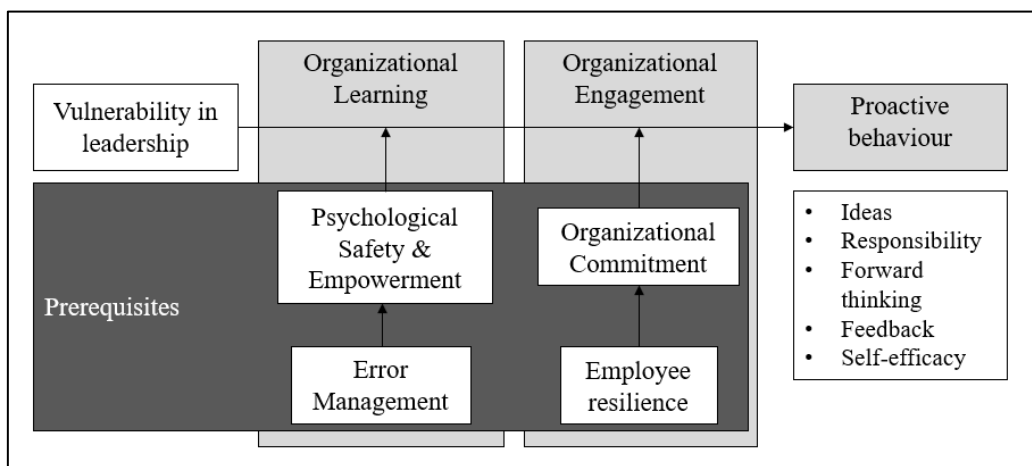

Source: Compiled by the author

The visualisation shows a similar evaluation of *error prevention* with *missing involvement* in the underlying cultural case. In addition employee culture is associated with *missing adoption of responsibility* and *lack of recognition*. The clusters of *staying in the comfort zone* and *OS* are also contrary to proactive

employee behaviour. The latter cluster describes missing upward feedback and the withholding of ideas. Finally, an *autocratic leadership* style is associated with a negative company and is situated close to the cluster of *work-to-rules*, meaning a job mentality without additional efforts to the required job performance.

In summary, from the literature review a new model was created that identifies the interlinkages and influencing factors mediating proactive employee behaviour. From the systematic review, factors were identified and contextualized to emphasize the way they influence another. Figure 26 shows the prerequisites identified to achieve proactive behaviour whilst highlighting vulnerability in leadership as an important leadership trait.

Figure 26: Model of influencing factors to proactivity

Source: Compiled by the author

The model emphasises that error management functions as a prerequisite in CC to enable psychological safety and empowerment. If the main objective of the organisation is to prevent any errors, employees and even managers are less likely to take responsibility and try new things. As a consequence an approach that acknowledges that mistakes occur is needed. The culture should support the open communication of errors and possibilities to address mistakes. Only in such an environment is psychological safety given so that empowered employees take responsibility. Recognition in this case is another factor that must be considered.

The literature review has shown that if these prerequisites and attitudes are given, organisational learning will be part of the organisational culture. As a precondition however leaders must communicate and stand by their errors as well. They must be a part of the team showing their own vulnerability. Only in this manner can full organisational commitment by employees be achieved. Vulnerability in leadership thus stands in contrast to the autocratic, heroic leadership style which is hardly possible in a volatile und ambiguous economic environment. Furthermore, it counteracts follower proactivity (Li et al., 2019).

Another prerequisite identified through the literature review was employee resilience to enable organisational commitment. Today's requirement to react with flexibility and agility exerts much stress onto employees, resulting in an organisation supporting building employee resilience. In this manner full organisational commitment is possible, resulting in a higher level of engagement. If either one is not given, be it resilience or commitment to the cooperation, full engagement is not present.

Finally, proactive behaviour including continuous learning and engagement by employees will be the outcome if the prerequisites are inherent in the CC. In the definition of this research, proactive behaviour includes employee voice, the bringing forward of ideas and critical feedback on all hierarchical levels. Furthermore, responsibility is taken as there is no fear to commit errors or stand by them. The organisation is aware that errors happen where humans interact and manages errors with a positive basic attitude. In addition, employees are encouraged to engage in forward thinking, which becomes increasingly important in a complex world where leaders alone are not capable of foreseeing developments precisely anymore. The psychological safety arising from an open error culture and leaders showing their own vulnerability consequently supports the self-efficacy of employees as a proactive element.

5.5.4 Conclusion and suggestions for organisational behaviour

This section has presented, through exploratory and literature review-based research, a deeper insight into CC, vulnerability in leadership, approaches to error management and subsequent employee proactive behaviour. It has attempted to explain the moderating roles of organisational learning and the organisational engagement of employees as supporting elements to proactive workforce behaviour. The type of proactivity that results from the prerequisites error management and employee resilience in combination with empowerment and commitment for the organisation is proposed in a conducive cultural model in this study. The study can act as a contributor to leadership practices as it highlights that vulnerability and error management are indispensable if managers seek empowered and committed employees that adopt tasks and think proactively . Such behaviour becomes key in an ambiguous, volatile and increasingly complex economic environment as the success of an organisation is distributed onto more than one set of shoulders. This highlights that the study is especially relevant in economic crises as experienced throughout the COVID-19 pandemic in 2020 and 2021.

Apart from supplying deeper and insightful understandings about the constructs and their relations, the proposed model tries to bring forth a pragmatic approach towards facilitating employee proactivity through enhanced organisational learning and engagement. Empowerment is a key element to a cooperative leadership approach and agile working structures, but what companies do if employees do not take the responsibility they are given must be questioned. The inductive case study approach contributed to these interesting research questions and sought to find answers by undertaking a rigorous scientific review. The compiled CC model highlights several attitudes and prerequisites that organisations must challenge when experiencing that empowerment is not lived by employees. Vulnerability in leadership, error management and employee resilience are studied as predictors to employee behavioural outcome. There has

been little research conducted to attempt to understand how an organisation can change employees from staying in their comfort zones to become enhanced proactive employees. This thorough investigation compromising leadership styles, error management and employee engagement fills the research gap on vulnerability in leadership and proactivity. This research outlines the various criteria required in an organisation so that it can transcend from a work-to-rule mentality to a culture where employees want to develop and grow. In this manner empowerment does not remain a hollow idea in the mind of managers but a practised way to react with agility to economic challenges (Gulla, 2020).

5.6 Organisational agility

5.6.1 Results and discussion

From the literature several traits and practices regarding the status quo of an agile organisation were drawn. Table 14 lists the clusters of the underlying repertory grid study referring to these traits.

Table 14: Clusters relevant for analysing organisational agility

| | Topic-related clusters | Constructs | | Degree of association | | | |
		N	in %	The company today	An unpleasant competitor	The market in the future	A negative company
Error handling	Error prevention	23	2.9%	0.701	0.687	0.402	0.857
	Organisational silence	15	1.9%	0.704	0.651	0.337	0.900
	Honest, critical feedback	15	1.9%	0.424	0.476	0.949	0.310
	Open error culture	21	2.7%	0.498	0.516	0.873	0.390
Job attitude	Work-to-rule	28	3.6%	0.579	0.733	0.382	0.841
	Past customer needs	12	3.6%	0.724	0.644	0.459	0.773
	Focus on customer needs	29	3.6%	0.647	0.546	0.745	0.487
	Stay in the comfort zone	18	2.3%	0.783	0.583	0.347	0.817
Leadership	Controlling supervisors	14	1.8%	0.862	0.586	0.465	0.677
	Clear & distributed responsibilities	20	2.6%	0.495	0.507	0.896	0.371
	Involvement is missing	21	2.7%	0.664	0.735	0.384	0.886
	Inclusion and involvement	15	1.9%	0.503	0.367	0.817	0.290

|							
Working conditions	Wasteful processes	31	4.0%	0.661	0.675	0.344	0.913
	Digitisation/IT capacity	11	4.0%	0.495	0.551	0.871	0.400
	Agile working attitude	23	2.9%	0.532	0.533	0.858	0.407
	Efficient working conditions	32	4.1%	0.511	0.474	0.862	0.345
	Sluggishness in change	19	2.4%	0.709	0.631	0.330	0.890
	Continuous optimisation	21	2.7%	0.447	0.495	0.923	0.343
	Innovative work environment	13	1.7%	0.544	0.512	0.849	0.393

Source: Compiled by the author

One important part of organisational agility highlighted in the literature review was that leaders and employees must leave their comfort zones. In the study's figures, two contrary construct clusters are included that refer to this trait, namely *work-to-rule* and *stay in comfort zone*. In particular with regard to *staying in the comfort zone*, the "company today" is rated highly (78%), *work-to-rule* as a degree of association of 58%. As a consequence the organisation must focus on developing this part of organisational culture to progress towards a higher agility degree. Advancing the proactivity of employees though requires a distinct set of cultural values and leadership prerequisites as laid out in the sections on leaders' self-perception and employee proactivity. These are valuable starting points to evolve the organisation towards corporate agility.

With regard to market sensing capabilities, the two clusters *past customer needs* and *focus on customer needs* represent the bipolarity of constructs usually generated by RGIs. Again the company today rates higher on *past customer needs* (72%, in comparison to 65%). Interestingly the element "an unpleasant competitor" (which had to be a specific competitor) ranks even worse on customer need focus, although lower on *past customer needs*. It can be derived from this case study that this part of organisational traits is generated by RGIs allowing an assessment of the organisation. To improve the ability to deal with ambiguous customer demands, more focus on the customer is required. This includes the mentality in the same way as organizational structure to ensure customer centricity.

As another example the organisation's approach towards errors has an impact on agility, which does not have the focus it may should have. Figure 27 visualises the employee's and leader's perceptions of the two error-related clusters. *Error prevention* which aims to minimise errors and may lead to suppression of errors is highly correlated to "a negative company" (86%). In contrast an *open error culture* has a strong correlation with an "ideal company" (85%) and is strongly correlated with the clusters *continuous optimisation* and *agile working attitude.* In the literature on organisational agility not much attention is given to error handling. The high degree of association in the underlying data set suggests though that there is a strong interlinkage to achieve continuous improvement of processes and products. In conclusion an open error culture, where it is recognised that errors happen and that a broader circle of the workforce can learn from mistakes made, is in turn associated with an ideal organisation and supports organisational agility.

Figure 27: Visualisation of elements and clusters related to corporate agility
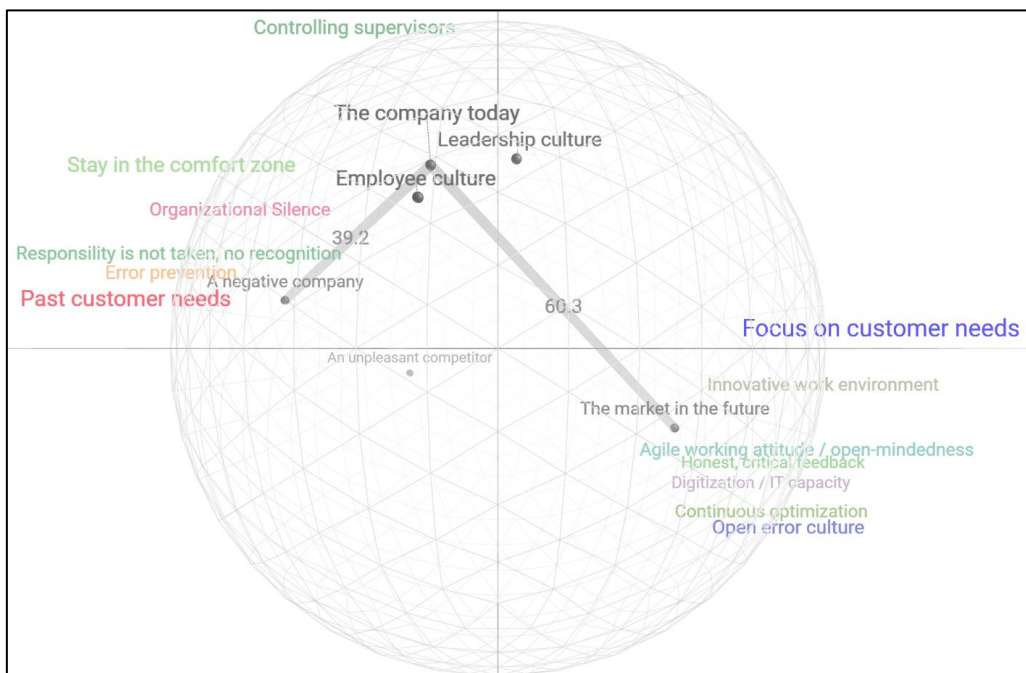
Source: Compiled by the author

In addition, the dataset suggests that *honest, critical feedback* is highlighted as part of the company culture. It strongly correlates with *agile working attitudes*. Holocracy and Scrum underline this factor with continuous retrospective meetings or a system that ensure constant feedback from any hierarchical level. In this data set *honest, critical feedback* is closely associated with the requirements for "the market in the future" (95%) while the assessment of "the company today" (42%) highlights that improvement with regards to feedback behaviour can in return support the agility status. The cluster *organisational silence,* which represents the absence of upward directed feedback, substantiates this conclusion with a relatively high degree of association (70%) with "the company today".

The bipolarity of the two construct clusters *innovative work environment* and *sluggishness in change* is reflected in the degree of association with "the market in the future". While an *innovative work environment* is discerned as a necessity for the market environment (85%), the cluster *sluggishness in change* is positioned far from this element (33%). Instead, this cluster is highly associated with "a negative company" (89%), indicating that employees and leaders acknowledge the importance of continuous change. With regard to assessing the company in this exemplary case study the "leadership culture" (60%) and the "employee culture" (71%) both show some degree of association with *sluggishness in change*. Again, a toehold to advance agility which requires a change in the employee's mentality.

To enable the sensing of market activities and trends literature on corporate agility advocates digitisation and the establishment of respective IT capacity. The aim is an efficient analysis and processing of data. Especially "the market in the future" reflects this insight from the literature review as it is located closely to the constructs summarized with *digitisation/IT capacity* (87%). The assessment of the studied organisation reveals that it has potential for improvement in this criterion for an agile organisation.

Finally, the construct clusters related to *inclusion and involvement* together with the contrary cluster *involvement is missing* is analysed to assess the corporate agile status. "The company today" is rated better with regards to *inclusion and involvement* (50%) than "an unpleasant competitor" (37%) which is reinforced by the lower degree of association for *involvement is missing* (66% compared to 74%). Again, this reflects a possibility to improve but it can be concluded that the organisation rates better than its competition. *Clear and distributed responsibilities* is semantically closely related to involvement. For this cluster the company is on the same level with the competition (both 50%). The rating shows though that handing responsibility over to employees while involving them in decisions is another toehold identified through this study.

5.6.2 Conclusion and suggestions related to organisational agility

RGIs based on PCP represent a suitable way to investigate the agile status quo of an organisation. The study shows that it is possible to create agility related clusters from the entire data set. The degree of association of the distinct clusters enables an assessment of the agility practices and enablers identified through the literature review (section 3.6 on organisational agility). In scientific literature there is no RGI study specifically targeted to corporate agility which indicates that this section represents new approach to investigate organisational behaviour. The compiled three-dimensional plot visualised in Figure 27 allows the researcher and reader furthermore an easy understandable possibility to interpret the results. That way this investigative methodology can even be applied practically to allow organisations an unbiased way to assess its own agility status.

When measuring or visualising the agile status quo of an organisation, the internal properties of the agile systems are often evaluated, whilst reference to the economic environment match is not integrated (Giachetti et al., 2003). This means that there is no alignment between the market requirements for agility, which differ to a great extend between different markets, and the company's agility practices. The same limitation holds true for the RGI approach of this research, as

it investigates the agility status of an organisation from the inside. It can be argued that the enquired employees and leaders take the environmental requirements into consideration whilst ranking the elements, but this is not ensured by the chosen method. In consequence this study advocates further research to escalate the scientific research to an external view. This would require a different set of elements, however, which limits comparability to the internal findings. In addition, an enquiry with the same set of elements in other organisation can be another path for future research identified by this section. Comparing the results specifically to the degree of association for the construct clusters elicited, can produce interesting insights of how the different agility related factors influence each other. For example, if further investigated companies show the same closeness of the clusters *clear and distributed responsibilities* with *inclusion and involvement* it can be concluded that these reinforce themselves.

In summary several starting points to escalate corporate agility were identified for the investigated company. Thus, it can be concluded that RGI is a scientifically and practically suitable methodology for analysing corporate agility. A questionnaire or interview-based enquiry of employees targeted to agility bears the risk that subjects are assessing agile factors they would usually not refer to. Even socially desirable answers may be the result as agility is an in-vogue topic in organisational research. The RGIs of this study indicate that agility related thoughts are inherent of the interviewed subjects' perception of the world and organisation around them.

5.6.3 Linking VUCA to organisational agility

The aim of this qualitative literature review is to develop a comprehensive and practically applicable model on how organisations respond to such economic scenarios. The aim of this research is to not only create a new model that explains the interlinkages between agile methods and VUCA but also make the concepts commonly understandable outside the scientific world and ideally be available to be implemented in advisory for the development of CC with a focus on unstable

economic situations and agility. Thus, for visualisation purposes the model should be adjacent to the Denison model of organisational culture to construe a comprehensible and practical established model. Denison's organisational culture model is well recognised and used for analysing and advising on CC, performance and efficiency (Denison, 1984). A review of current scientific literature was conducted to evaluate the theoretical and practical answers to the challenges of the VUCA world. Research was focussed on gaining an overview of the frameworks, models and theories that describe how organisations can address dynamic economic challenges. Table 15 lists the research that was integrated into the conceptual model created in this section. In addition, a short paragraph highlights which and how the concepts were integrated into the final model on corporate agility in this section.

Table 15: Research articles integrated into the corporate agility model

Author	Title	Concepts integrated
Appelbaum, Steven H.; Calla, Rafael; Desautels, Dany; Hasan, Lisa	*The challenges of organizational agility*	Components to respond to the challenges of organisational agility, e.g. strategic commitment, environmental scanning and adaptable network structures.
Baran, Benjamin E.; Woznyj, Haley M.	*Managing VUCA: The human dynamics of agility*	Connection between obstacles to manage VUCA and the recommended practices for overcoming these challenges. Precondition of leaders' sense needs and opportunities for change.
Baškarada, Saša; Koronios, Andy	*The 5S organizational agility framework: a dynamic capabilities perspective*	Agile framework consisting of sensing, searching, seizing, shifting and shaping as an agile response to external changes.
Bennett, Nathan; Lemoine, G. James	*What a difference a word makes: Understanding threats to performance in a VUCA world*	Distinctions within the VUCA framework on how these challenges can be effectively addressed. This includes agility, information, restructuring and experimentation.
Cegarra-Navarro, Juan-Gabriel; Soto-Acosta, Pedro; Wensley, Anthony K.P.	*Structured knowledge processes and firm performance: The role of organizational agility*	Organisational agility mediating the relationship between knowledge application and form performance. Precondition is a conversion process of the acquired knowledge.
Cegarra-Navarro, Juan-Gabriel; Martelo-Landroguez, Silvia	*The effect of organizational memory on organizational agility*	Transferring and retrieving knowledge to stimulate the creation of intellectual capital and analyse the constantly changing environment to adapt and change if necessary.

Author	Title	Concepts integrated
Cepeda, Juan; Arias-Pérez, José	*Information technology capabilities and organizational agility*	Requirements for IT and data processing capabilities that support the exploitation of open innovation. Created data and knowledge must be shared with partners.
Denning, Stephen	*Agile: it's time to put it to use to manage business complexity*	Empowered teams with a strong emphasis on creativity and innovation. This requires decreased hierarchical bureaucracy.
Denning, Stephen	*How to make the whole organization "Agile"*	Changing leadership to an "agile mindset", meaning replacing the hierarchical mindset that includes a top-down bureaucracy with a constant interaction of management, customers and workers.
Eshlaghy, Abbas Toloie; Mashayekhi, Ali N.; Rajabzadeh, Ali; Razavian, Mir Majid	*Applying path analysis method in defining effective factors in organizational agility*	Required set of enablers for an organisation that ensure agile capabilities like flexibility, responsibility, competency and speed. In addition, agile drivers describe the VUCA from a different viewpoint.
Felipe, Carmen M.; Roldán, José L.; Leal-Rodríguez, Antonio L.	*An explanatory and predictive model for organizational agility*	Information system capabilities impact the absorptive capacity of an organisation and organisational agility directly. Hierarchical culture can prevent, however, the absorptive capacity from being transmitted to organisational agility.
Ganguly, Anirban; Nilchiani, Roshanak; Farr, John V.	*Evaluating agility in corporate enterprises*	Agility drivers describing the business environment that explain the need for assessing agility. These include e.g. price sensitivity, changed customer preferences and technological changes.
King, Elizabeth; Badham, Richard	*Leadership in uncertainty*	Mindfulness of leadership to address uncertain situations. The approach was broadened to organisational mindfulness including awareness, attention and acceptance.
Nijssen, M.; Paauwe, J.	*HRM in turbulent times: how to achieve organizational agility?*	Elements of a scalable workforce, fast organisational learning and highly adaptable organisational infrastructure as factors leading to organisational agility.
Nurdiani, Indira; Börstler, Jürgen; Fricker, Samuel; Petersen, Kai; Chatzipetrou, Panagiota	*Understanding the order of agile practice introduction: Comparing agile maturity models and practitioners' experience*	Concepts to transfer agile methods onto organisational level and practical implications, e.g. minimisation of ambiguity through user stories, whilst iterative reviews ensure integration of customer preferences.
Ravichandran, T.	*Exploring the relationships between IT competence, innovation capacity and organizational agility*	IT competence including information system capabilities and investment orientation impacted through digital platform capabilities organisational agility. Innovation capacity mediates this correlation.
Rigby, Darrell K., Jeff Sutherland, and Hirotaka Takeuchi	*Embracing Agile – How to Master the Process That's Transforming Management*	Conditions for agile management and organisations. These include market environment, customer involvement, innovation and the impact of mistakes in iterative work.
Shams, Riad; Vrontis, Demetris; Belyaeva, Zhanna; Ferraris, Alberto; Czinkota, Michael R.	*Strategic agility in international business: A conceptual framework for "agile" multinationals*	Drivers and triggers of strategic agility. Specifying strategic agility through supply chain agility, IT agility and agile and sustainable productions.

Author	Title	Concepts integrated
Sherehiy, Bohdana; Karwowski, Waldemar; Layer, John K.	*A review of enterprise agility: Concepts, frameworks, and attributes*	Comprehensive set of characteristics of agile enterprises focused on the organisation and workforce. Integration of approaches towards authority, proactivity and HRM practices.
David Wiraeus; James Creelman	*How to Build an Agile and Adaptive Balanced Scorecard*	Process to build an agile and adaptive balanced scorecard system which includes cross-enterprise collaboration and disruptive innovation management.
Wageeh, Nafei A.	*Organizational Agility: The Key to Organizational Success*	Impacts of sensing agility, decision-making agility and acting agility on organisational success.
Xing, Yijun; Liu, Yipeng; Boojihawon, Dev K.; Tarba, Shlomo	*Entrepreneurial team and strategic agility: A conceptual framework and research agenda*	Conceptual framework that highlights leadership unity, resource fluidity and strategic sensitivity as parts of strategic agility.
Zitkiene, Rima; Deksnys, Mindaugas	*Organizational Agility Conceptual Model*	A sense–response framework including the basics of sensing capabilities, enablers and response/action capabilities for an agile organisation.

Source: Compiled by the author

These 23 frameworks give a comprehensive overview over which elements are essential when implementing organisational agility. During this research the frameworks, models and theories were reviewed, and elements were aligned in relation to their response to VUCA; the four VUCA terms were defined to develop a common understanding of the characteristics of each of the four acronym parts and how they differ. The aim of this section is to provide a practical model that compresses all parts of organisational agility into a quickly and easily understood model.

Each part of VUCA is a different challenge and requires a different type of response from the agile framework. Bennett and Lemoine (2014) showed in their iteration of organisational performance that by ignoring important disparities between VUCA, leaders are left disempowered. To better distribute organisational resources aiming at maintaining and boosting corporate efficiency, it must be explained how managers can understand the distinctions between these dynamic environmental circumstances.

Volatility

A volatile environment can be referred to as comprising unstable and unpredictable change. It is certain that change constantly happens, but there is no information about the time, magnitude or direction of adjustment to the environment. Examples can be a change in the intensity of competition, customer requirements or society (Eshlaghy et al., 2010). In this manner organisations must take precautions to be capable to react to these unavoidable changes with a different approach to resource fluidity (Xing et al., 2020; Tallon et al., 2019). One enabler is slack resources, or at least a plan for how resources or capacities can quickly be aligned to the new situation through a quickly scalable workforce (Nijssen & Paauwe, 2012; Appelbaum et al., 2017b; Baškarada & Koronios, 2018; Heilmann et al., 2020). The latter is certainly less cost intensive than constantly carrying a surplus of resources. In this manner agility is kept during volatile changes in economic surroundings. The organisational structure must be aligned to answer flexibly and quickly to those inevitable changes (Heilmann et al., 2020). On one hand this refers to fluid role definition to be exchanged against static job descriptions (Sherehiy et al., 2007). On the other hand a hierarchical top-down structure is unlikely to have fast decision work flows, which asks for a setting in which decision power is distributed, and employees on lower hierarchical levels are empowered (Eshlaghy et al., 2010). Thus, volatility requires flat hierarchies combined with minimal formal authority (Nijssen & Paauwe, 2012). Instead of authority and decision-making power being attributed to certain managers, it should be tied to tasks, which results in a scenario where the person identifying a need for action can directly counteract against such development, ensuring organisational performance (Sherehiy et al., 2007). Such flexibility also includes a scalable workforce (Heilmann et al., 2020) and production systems. In summary, volatility requires a certain set of enablers, namely slack resources, agility and decentralised power (Eshlaghy et al., 2010; Sherehiy et al., 2007; Zitkiene & Deksnys, 2018). These enablers must be inherent

within the organisation and its structure (Tallon et al., 2019). The long time required to install these enablers is decisive, whilst volatility requires, with fast actions, exactly the opposite.

Uncertainty

Lack of knowledge on which and how significant of changes will happen describes the term "uncertainty". Its meaning differs from volatility, as the unknow does not lie in the magnitude or timing of a shift but rather in if any change will happen (Bennett & Lemoine, 2014). The main objective of addressing uncertainty is to gather as much real time information and knowledge as possible by sensing all parts of the environment for external changes (Zitkiene & Deksnys, 2018). This knowledge must be compressed so that it can be quickly considered (Cegarra-Navarro & Martelo-Landroguez, 2020), which requires information technology and data processing capabilities (Cepeda & Arias-Pérez, 2019; Felipe et al., 2016; Ravichandran, 2018). As uncertainty can come from various angles, all those parts of the environment must be considered. This can be governmental decisions, competitors or customer strategies, as well as financial or environmental impacts which an organisation must constantly monitor to be able to assess future developments. Termed "organisational mindfulness", this includes awareness, attention and acceptance (King & Badham, 2019).

Making future preferences or requirements of the company's customers more certain necessitates strong connections and cooperation with customers (Baran & Woznyj, 2020; Rigby, Darrell K., Jeff Sutherland, and Hirotaka Takeuchi, 2016). In the Scrum methodology this is ensured be the product owner who puts the requirements for software engineering through a type of lens (Nurdiani et al., 2019). For a full organisational inclusion of agile linkages suppliers should also be aligned as strong agile partners (Appelbaum et al., 2017b).

As uncertainty can derive from any direction and masses of data can be collected, absorptive data processing capacities are needed to process the information, which describes another important sensing tool, ideally through business

intelligence (Cheng et al., 2020). However, hierarchical cultures can prevent knowledge and information being transferred to where it is required (Felipe et al., 2016; Cegarra-Navarro et al., 2016; Cheng et al., 2020; Felipe et al., 2017) which makes the link to flat hierarchies as an enabler to respond to volatility, namely, the knowledge produced internally should be shared with partners and all employees, which reinforces the customer focus (Cepeda & Arias-Pérez, 2019).

To decrease uncertainty to the lowest possible degree, not only must the organisation turn agile but ideally, a fully agile supply chain should be implemented to achieve strategic agility (Shams et al., 2020). In summary, the organisation must integrate sensing tools to make the uncertain environment more certain and thus more manageable (Baškarada & Koronios, 2018). The sensing mechanisms include IT and data systems, knowledge and data gathering and a strong customer focus as proposed by Scrum.

Complexity

Interconnected parts characterise a complex world. One successful way an organisation can address complexity is by implementing a structure that mirrors the environment (Bennett & Lemoine, 2014). Strangely, however, the organisation should try to simplify workflows, processes and IT systems to prevent adding proprietary complexity to the complex environmental systems and interlinkages (Sherehiy et al., 2007; Heilmann et al., 2020). In practice this means that the market or customer structure should be reflected in the organisation's departments or even better agile team structures that constantly adapt to the changing outside systems through cross-enterprise collaboration (Baškarada & Koronios, 2018; Wageeh, 2016; David Wiraeus & James Creelman, 2019). In the same step processes and workflows should be examined with the purpose to reduce their complexity.

As complex materials or situations are hard to plan for or forecast the outcome, an iterative working practice helps to do small steps in the right direction (Baran & Woznyj, 2020; King & Badham, 2019; Nurdiani et al., 2019). This process

reflects an organisational learning approach (Appelbaum et al., 2017b). The knowledge creation and alignment process described as a response to uncertainty must be structured to support organisational learning. Knowledge creation includes the sharing of knowledge across departments and team but also by experimentation and simulation (Nijssen & Paauwe, 2012; Baran & Woznyj, 2020; Cegarra-Navarro & Martelo-Landroguez, 2020; Cegarra-Navarro et al., 2016). The learning curve is supported by cross-functional teamwork to ensure that the highest knowledge capacity possible tackles the complex issue (Eshlaghy et al., 2010). Mistakes within the iterative working attitude must be seen as valuable learning (Rigby, Darrell K., Jeff Sutherland, and Hirotaka Takeuchi, 2016).

In summary, the combination of an iterative approach, cross-functional teamwork and fostered organisational learning ensure complex environments are addressed. Whilst iterative learning and working methods can be quickly implemented, the restructuring of the organisation towards these practices needs long-term commitment and a cultural shift towards error handling methods rather than error prevention.

Ambiguity

In ambiguous situations it is hard to identify cause-and-effect relationships. Ambiguous situations usually represent new products, market structures or technologies. Due to the new nature, responding with gathering information or having slack resources does not prepare an organisation to cope with ambiguous issues. Instead ambiguity requires acting with agility to external change which converts the situation of the organisation (Wageeh, 2016; Zitkiene & Deksnys, 2018). Alternatively an experimentative mindset is required as for example, it is not clear how customers will react to a new product or technology (Bennett & Lemoine, 2014). In this manner it is closely linked to customer partnerships and an iterative work approach with constant discussions and reflecting such as in the Scrum methodology (Nijssen & Paauwe, 2012). In this manner clear user stories,

or in other words customer requirements and preferences, minimise ambiguity (Nurdiani et al., 2019).

The development of a product through to the end based on believed customer preferences is not intended anymore but rather an experimental attitude with several options which leave the final solution open and enable customer response integration. The innovation capacity is a crucial point to answer ambiguity because multiple approaches and new ways of thinking are required (Ravichandran, 2018).

Being self-innovative and creative is another response to ambiguity which can be reinforced by radical agile management and the reduction of hierarchical bureaucracy (Denning, 2015), making the link to agile enablers. Disruptive innovation changes the organisation from a reactive position into a proactive one (Wageeh, 2016; David Wiraeus & James Creelman, 2019). For the exploitation capability of open innovation, organisations can trigger technological leaps instead of reacting to them (Cepeda & Arias-Pérez, 2019). This requires proactivity by leaders and employees. Proactivity in this context involves the anticipation of problems caused by ambiguity and initiative to find solutions for change-related problems (Sherehiy et al., 2007).

5.6.4 New model on organisation agility

In summary, ambiguity implicates innovation, proactivity and experimentation as agile responses. To condense the results deviated above, a model was created that brings the environmental forces of VUCA into context with the agile characteristics an organisation should incorporate as a response.

Figure 28: Agile characteristics to address VUCA forces
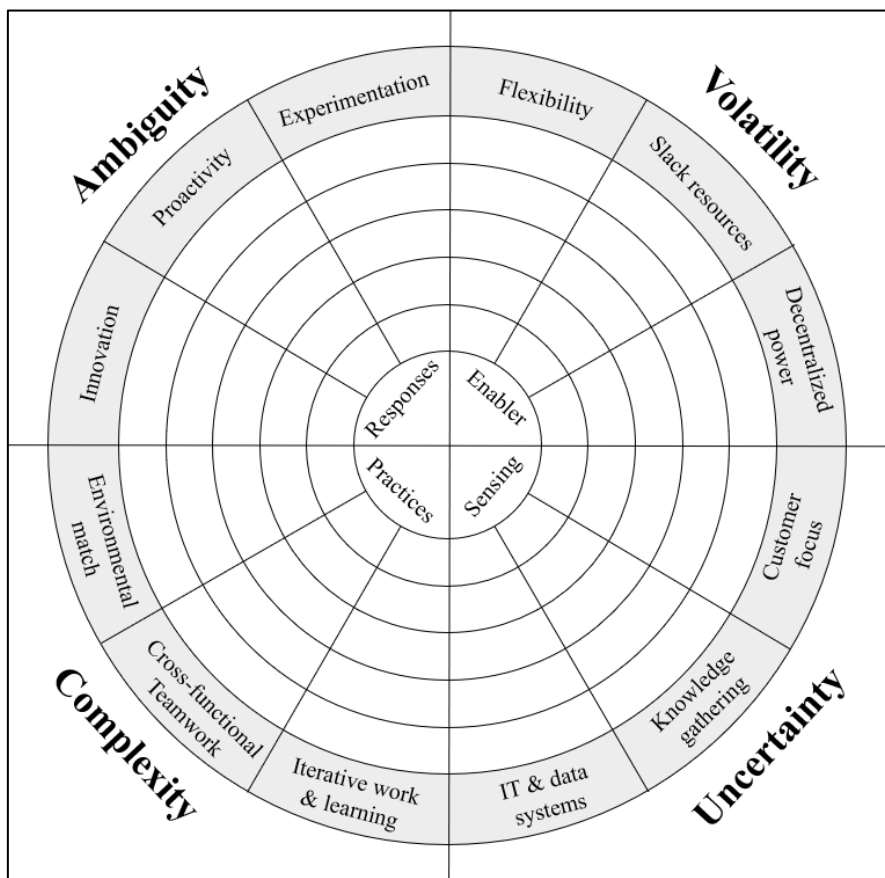
Source: Compiled by the author

The model highlights that for addressing volatility, an organisation should incorporate certain enablers. The existence of volatility is certain; only the timing, magnitude and direction cannot be foreseen. As such it remains worthwhile to invest in these enablers, as slack resources might seem wasteful at first but can secure profitability and competitive advantage for the organisation in especially volatile circumstances such as the COVID-19 pandemic. Whilst some industries have been confronted with a drastic decrease in business and income, such as aviation and hospitality, other have been confronted with massive increases, in particular, online traders, DIY stores and pet product retailers. The ones with slack resources in their organisations were able to react faster to the increased business opportunities. Flexibility for example in the work force or logistical capabilities

allows organisations to adapt to volatile situations in both directions. Decentralised power on the other hand enables quick reactions and the detection of volatility and makes in this manner the transition to the organisational sensing characteristics to address uncertainty. The stronger the connection or even partnership with customers is, the more knowledge or even data can be obtained to get some certainty in such an economic scenario.

Complexity on the other hand makes it impossible to foresee or plan the future reliably. Practices such as iterative work, learning methods and cross-functional teamwork allow progress without knowing the exact final requirement or outcome. On an organisational level the structure must match the environment. This can refer to the customer structure, governmental policies or supplier composition. The better these outside factors are matched internally, the better an organisation copes with complexity. In addition, this practice supports customer focus and knowledge gathering due to close and represented connections with the environment. Finally, ambiguity requires a set of responses. Innovation focus aims at being disruptive on its own instead of having to react to ambiguous customer needs or technological leaps by competitors, which leave it unclear how the organisation should respond. Proactivity and experimentation support this progress and are in close association with iterative work and learning practices that are required to address complexity.

Surprisingly, the created model does not include two important pillars of business research and practice, namely strategy and leadership. This consequently begs the question of whether these two elements, or even managers entirely, become obsolete in a VUCA environment, or how an organisation should handle these two important elements in management.

One questions that remains open is about the approach towards *strategy*. Agile strategy means nothing more than the strategic commitment to implementing agile working methods into the organisation. Strategy is in certain ways contradictive to agile responses, but with regard to brand key, operating markets

and sectors, it remains an inevitable element of management and leadership. The only thing that must be added as a continuum is the commitment to agile methods (Appelbaum et al., 2017a) summarised in this article. Strategic agility furthermore includes supply chain agility and IT agility (against uncertainty), as well as agile and sustainable productions to cope with volatility (Shams et al., 2020). Thus, strategy committing towards agile practices and structures is rather seen as a prerequisite than a single element of the agile model. If this direction is not supported, and the importance for addressing VUCA is not seen, the described enablers, practices and responses will never find their way to becoming a substantial part of the CC. As a consequence leadership must support this direction from the beginning.

A second stumbling point is the missing element *leadership* in the model to assess agility. The same as with strategy, it is a precondition, and the main condition is that leadership has an "agile mindset" (Joiner, 2019). This means replacing the hierarchical mindset that includes a top-down bureaucracy with a constant interaction of management, customers and workers (Denning, 2016). To address uncertainty and ambiguity, mindfulness in leadership ensures inclusive and pragmatic work attitudes, which reinforces the identification of employees (King & Badham, 2019). Making an organisation agile requires large changes from managers. In this manner leadership unity towards the common goal is especially important to balance efficiency and flexibility in dynamic environments (Xing et al., 2020; Joiner, 2019). As a consequence ambidexterity in leadership enables the organisation to be experimental, innovative and even have slack resources by ensuring profitability through the exploitation of well-placed products and services (Du & Chen, 2018). Agile working practices include handing responsibility and authority to employees. One question remains mostly open in agile transformations of organisation, namely who is in charge of the disciplinary guidance of workers. Organisations have found a wide range of answers to this question, ranging from being part of the Scrum Masters role to specialised people

managers who lead between 20 and 40 employees. In conclusion organisations must subordinate the topic of leadership in the same model as described in this paper (Joiner, 2019), using experimentation and iterative work processes to make the development of the leadership role a continuous learning process. Thus, leadership is not an element of the agile transformation model but rather an internal factor that can be developed through the application of the sensing, responding and practice elements of the model internally.

From the literature review a comprehensive model for developing corporate agility was created. The model contextualizes elements of corporate agility with the four parts of VUCA as these environmental forces have proven to be main economic scenarios in the pandemic year 2020. Practical applicability and acceptance are provided through the adaption of a similar visualisation as the CC model by Denison (Denison et al., 2004). It is a common assessment tool with worldwide practitioners. By underlining the 12 elements, leadership and strategy can also be developed. However, a basic requirement for application is a strategic commitment to organisational agility as a prerequisite. The scientific and practical relevance of the developed model is provided through the dramatic governmental, economic and social changes organisations have experienced because of COVID-19. Outside the scope of this research were the development of scales for each element. As further research on the created model, we suggest the creation of a model-based questionnaire to allow practitioners to assess the agile status quo of their organisation. Possibly this model can be deployed to gather sectoral scientific evidence on how advance in terms of agile practices enterprises are as this would make results comparable.

6. CONCLUSIONS AND SUGGESTIONS

It became evident that the topics within CC reinforce and influence each other. Figure 29 shows which organisational culture-related topics were highlighted in each section, as well as the multiple keywords of each CC-related subject. These are interlinked elements which emphasis the complexity when analysing the culture of an organisation. The figure certainly does not list the full extent of CC elements but is rather limited to the ones drawn from the quantitative and qualitative results of this study and the scientific literature reviewed.

Figure 29: Analysis of corporate culture linkages
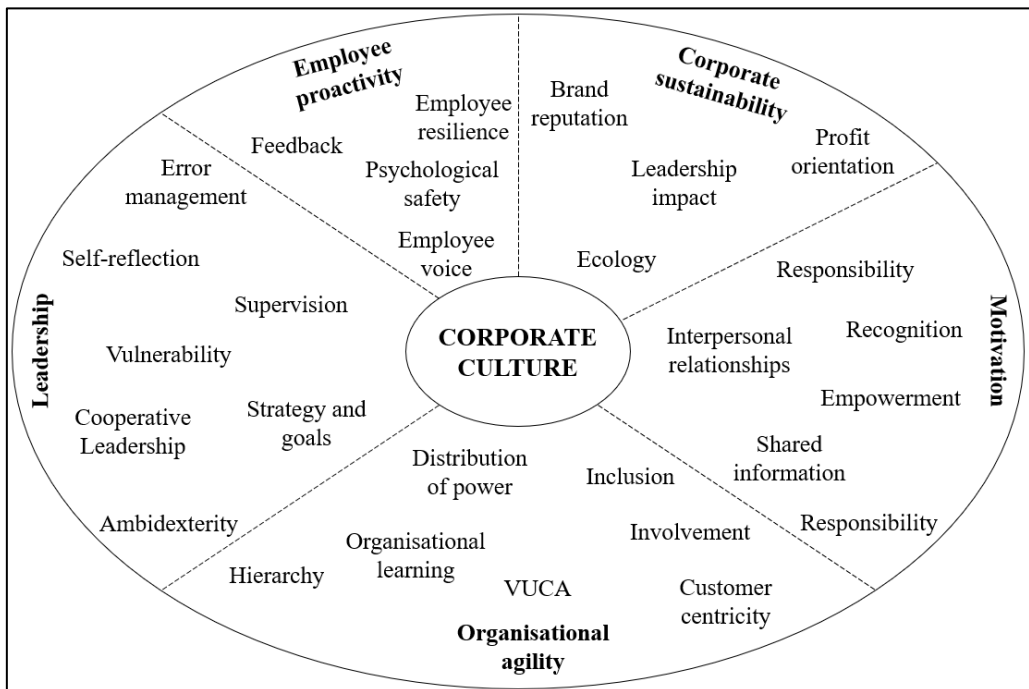
Source: Compiled by the author

CC is a complex framework of a diverse number of people's assumptions and interpretations. Making these visible via an unbiased methodology enabled the discovery of new paths in research of organisation behaviour. The utilised software, *rep:grid*, has proven to be a strong support in this investigation, both in the data generation and analysis. The dataset can be extracted including all 782

constructs and their unique grid coordinates. In this manner the data can be analysed later with additional tools such as R.

The explorative approach to analyse organisational culture, combined with reviews of contemporary literature, revealed to be a research approach worth following. In particular this holds true for triangulation methods that generate quantitative and qualitative data simultaneously. In this case the limitation of one investigated organisation had the opposite advantage that explicitly LMX-related data was created and analysed.

As a starting point CS was analysed to highlight the importance of leadership and a strong strategical commitment towards CS. Section 5.2 on CS presented, through exploratory and literature review-based research, a deeper insight into CS within the CC, whilst suggesting, however, that in practice the topic is not as relevant as expected. Here the intuitive and unbiased approach of PCP proved advantageous as it obviates socially desirable results by leaders and followers. Herzberg's motivation-hygiene theory was tested and visualised in a contemporary work environment, and its outcome suggested a resurrection alongside an adaption of the theory to today's economic circumstances. An essential part of the motivation theory was and is leadership, which brought the subsequent topic of self-perception in leadership into focus. This topic, as well as the effect of a manager's distorted self-perceptions, has not been researched comprehensively in scientific literature, which already made this research worthwhile. The findings of this study introduced error handling and employee voices as strong influential drivers for leaders' own evaluations. After the publication of these findings, it became evident that one element was missing in drawing corporate-wide conclusions, namely the handling and communication of managers' own mistakes and uncertainties. The dataset was thus explored again, focussing on vulnerability in leadership and its effect on employee proactivity. The literature supports the conclusion that organisational learning and employee commitment mediate the proactive employee behaviour, requiring resilience and

psychological safety to communicate errors as prerequisites. Finally, the dataset allowed the visualisation of the agile status quo of an organisation leading to a new investigative model that links VUCA forces with the different parts of organisational agility. In summary, the explorative approach provides valuable insights into future research directions, especially for quantitative analysis methods to substantiate the initial findings.

Corporate sustainability

Repertory grid analysis is a suitable method to visualise the CS status quo of an organisation. By not directly asking CS-related questions, unbiased results regarding leaders' and employees' sustainability-related assessment criteria have been generated. As sustainability has increased in importance on a societal level, questionnaires targeted to assessing CS are more likely to evoke socially desirable results than confronting people with elements alone. Furthermore, the investigation related to CS concluded that in the investigated organisation, its relevance is not high in the minds of the employees, whilst reinforcing the scientific tenet that leadership is an important lever for advancing CS in an organisation.

Motivation in a work context

The grid data was used in another context to re-evaluate Herzberg's motivator-hygiene theory. The conducted semantic cluster analysis revealed that even without targeted questions, clusters were derived that advocated a readoption of Herzberg's theory. However, the results of this study suggest a revision of the factors originally listed by Herzberg to update the theory to today's working environment. Workforce generation, altered to include different traits and values, requires representation in the same way. Agile working practices are required due to the different economical structure 60 years after Herzberg wrote his theory. Not only can organisational agility in this context increase the flexibility and reaction speed of an organisation, but the findings of this study suggest that it even

functions as a motivational factor for employees. As a consequence the leadership requirements with regard to motivating employees have changed, which suggests that it has developed into a motivational, rather that hygiene, factor. In addition teamwork and feedback have become motivational factors which is likely to be linked to the changed workforce generation.

Self-perception in leadership and cultural influences

The inductive approach of this study encouraged research on the factors influencing managers' perceptions of both themselves and others. A recent scientific literature review originally claimed that corporate strategy towards addressing error is a central element still underrepresented in scientific and practical notions. In this manner a new link was made between error prevention and performance orientation, which in combination led to a cultural scenario described as OS. This absence of feedback and open error culture induces false self-perceptions or overestimation in leadership. When a CC further does not engage in inherent recognition or involvement, a reluctance towards taking responsibility will consequently result, as there is no return on exposure to possible error commitment.

Leadership vulnerability

A new meta-framework was created that describes how vulnerability in leadership influences proactive behaviour by followers. As prerequisites error management and psychological safety were identified by analysing 41 scientific models and frameworks from the research field of vulnerability in leadership. In addition organisational commitment and employee resilience are requirements for employee proactivity. In this manner a vulnerable approach to leadership supported by organisational learning and engagement creates a proactive culture in which ideas are brought forward, responsibility is taken and self-efficacy is reinforced through feedback and a forward-thinking mentality.

Organisational agility

In a comprehensive literature review the subject of organisational agility was studied to highlight which elements are important in the process of making an organisation more agile. The results were compared to the clustered results of the RGIs. In this manner PCP was identified as a potential new scientific approach to assess and visualise, in a three-dimensional grid, the agile status quo of an organisation. This can contribute to business practice as well as to science.

Whilst investigating corporate agility, it became evident that there was no model or framework on organisational agility that linked the elements of VUCA to those of agility. Thus, a new assessment model was created by combining 23 of the most relevant frameworks and models. As its layout is similar to the cultural model created by Denison et al. (2004), it can contribute to future research and practical application in the same way. In summary, the model most emphasises which agile enablers, sensors, practices and responses an organisation must incorporate as an answer to VUCA.

Suggestions

The results of this dissertation are limited with regard to the quantitative data collected. As noteworthy new patterns in organisational behaviour were identified, however, this leads to the following further research suggestions and implications for scientific research:

- Substantiation through a new methodology that CS is fostered through leadership impact.
- The research developed an updated structure for Herzberg's two-factor theory of motivation. Testing the concluded results of motivator and hygiene classification quantitatively in a contemporary work environment is required to validate, discard or adapt the findings. The research highlights that resurrecting the theory is a worthwhile research path.

- Quantitative testing of the hypothesis model developed for the influencing factors for a misleading self-perception in leadership was suggested in the section 5.4; a respective scale must be developed.

- Error handling from a cultural, as well as a leadership, perspective is highlighted by this research as an underrepresented field with potential new insights with regard to the impact and importance of error management and communication in organisational research. Quantitative data could substantiate the interesting interrelations identified in this personal construct study.

- Finally, a new assessment model linking organisational agility elements with VUCA forces was developed based on the research conducted in the section on organisational agility. Developing a scale to generate quantitative data would be the next step towards establishing or modulating the model for scientific research and practical deployment.

With regard to practical implications, the following findings can be drawn from this study:

- PCP transacted through RGIs has proven to be a powerful tool to investigate CC. This way it can provide managers and employees valuable insights into CC-related issues as well as positive aspects that can be reinforced.

- An RGI study based on PCP is a suitable access framework to analyse and transform CC giving leaders an unbiased picture of the CC of their organization. The visualisation can be easily interpreted which makes them practically applicable.

- In practice a focus by employees and leaders with regard to handling and communicating errors made by others and their own is required. Mistakes are a valuable element in organisational learning, the development of self-efficacy and psychological safety.

- Proactive employee behaviour requires the above-mentioned prerequisites to ensure empowerment is thoroughly experienced in practice.

- Organisations can assess the agile status quo of the organisation by conducting RGIs. The results of section 5.6 on organisational agility suggest though that the created assessment model can directly produce results in linking the criteria to the forces described by VUCA.

A final key suggestion of this research relates to current notion of managerial science and practice, advocating that corporate culture can be formed by stating clear corporate values. This proclaims that a set of values determined by leadership will guide managers and employees as it gives them something to aspire to and live by. The concluding advice is that a communication of corporate "shiny" values will change the culture in a favourable and desirable way. This flawed reasoning misses one key element in forming corporate culture that is highlighted by this personal construct study on corporate culture. The reasoning is based on a linear deed and perception interrelation. Meaning for example, "transparency" as a proclaimed corporate value leads to transparent information sharing by leaders and employees which in return is perceived an act of transparency. The last step though depends on the anticipated and perceived behaviour of another person. Hence, the last fragment of the above-described action chain can result in a perception of bogus-transparency. If a manager formerly keeps information to himself, but after the values being communicated proactively shares information, the question arises how this act is interpreted. As the anticipated behaviour is that the managers true values are obtaining an advantage by additional knowledge the act of information sharing is likely to be perceived as "not sharing all or the important information", which in return leads to a devaluation in corporate culture. In consequence the positive intention of stating aspirational corporate values can cause a negative corporate cultural result. As PCP is identified as a suitable approach to assess and visualize a CC, it can be a new access point to initiate a change in CC. This implies that research does not

focus on favourable or unfavourable organisational values but rather the impact of management practices and organisational structures that ensure a coherent action, anticipation and perception interrelation.

Based on this conclusion this research suggests that research and in practice business advisory focuses more on expectations and interpretation like in the personal construct framework as the same event or action is perceived differently by the participating subject. This is reflected in the different personal constructs created as well as the diverting evaluations of these constructs. Thus, CC cannot be influenced by a proclaimed value but rather evolving from management practices and the resulting behaviour. This advocates research in distinct practices, rules and frameworks and their influence on perceived culture and business performance rather that the right values.

7. LIMITATIONS

The most relevant dichotomy of this study refers to the dataset being limited to one organisation. On the one hand, two factors favour this limitation of scope: direct LMX data, which enabled new implications, such as the results with regard to self-perception in leadership, and the possibility of creating a holistic CC view of an organisation, since a conflation of repertory grid data from several organisations would not have generated expedient results. On the other hand, making enquiries with interviewees of several companies would have made comparable results, which would lower the representativeness of the organisation. In addition the depths and number of clusters or topics would decrease with a reduction of interviews per organisation. Still the results would not be generalisable in a quantitative manner. As a consequence an in-depth qualitative approach was chosen with a limitation to one organisation. In retrospect this has proven to be an effectual method as new paths in organisational research were identified. To make the qualitative results of this research which combined empirical and qualitive elements generally applicable, quantitative enquiries would need to be performed. These quantitative enquiries should be carried out in a diverse number of organisations from several countries. That way the collected data can support or discard the validity of this studies finding to generalize them practically and scientifically. In this manner the exploratory approach developed several research paths.

An extension within the organisation under investigation was carried out to collect the perspectives of more employees. The purely quantitative enquiries based on the quantitative results of the primary RGI approach did not add any new insights or different results. Thus, these quantitative results were not integrated into the formulation of this dissertation to prevent a dilution of the investigative PCP methodology. The studies limitation of one company in one country can rather be removed by applying the element set to further organisations in other countries than Germany. The employed software *rep:grid* allows this as it is a multi-

language tool. Only the elements must be translated manually to ensure a consistent sense in the other language.

In particular, implications result from the findings in the context of error management and self-perception in leadership. The quantitative and qualitative data created empirically in this study guided the literature review, which made evident that further research is required in this field due to its importance in the framework of CC.

Another limitation of this research work is that the creation of clusters was limited to one researcher. Ideally the 782 constructs would have been analysed by one or more additional people to increase the semantic cluster validity. However, the usage of the *rep:grid* tool is limited to trained people, which is why the author created the clusters and had them reviewed. An independent cluster creation with an ex-post alignment would be the ideal approach to the clustering and review process of the constructs of this dataset. As Feixas et al. (2002) showed an independent clustering process by two researchers created high degree of consensus (87.3%) meaning the validity can still be assessed as being given.

Another limitation is the uncommon type of interpretation of the repertory grid results. As no significant levels of correlations are created, the analysis required working with spatial distances and the associations of the interviewees. Example levels of "high associations" can be found in literature, such as the work of Hauser et al. (2011), which served as an orientation. However, no definite level can be drawn for the exact interpretation of results, so the interpretation must follow an approximation methodology, which leads to the implications of this research.

8. NEW SCIENTIFIC RESULTS

This dissertation – and the associated publications – have resulted in the following 5 new scientific results:

1. *It was demonstrated that PCP via the execution of RGIs is an appropriate methodological approach to investigate parts of a CC.*

In consequence the first research question: *Is personal construct psychology an applicable methodology to investigate corporate culture?* can be confirmed. This dissertation represents an entire RGI data set of a corporate culture which was not identified in the scientific literature before. As Brophy (2007) has stated PCP is a powerful tool to research CC, which is reinforced by the results of this dissertation. Consequently, has

2. *this research broadened the current estate of PCP related studies by a holistic cultural study of one organisation.*

The specific quantitative and qualitative results compiled by this investigative method allowed a three-dimensional visualisation which provides scientists and practitioners an easy-to-understand approach for exploring organisational behaviour.

3. *Thus, RGIs a suitable way to enquire and visualise the complex framework of corporate culture in quantitative three-dimensional plots.*

This was highlighted within the results and discussion chapter, namely the specific sections 5.2 to 5.6 which give valuable insights into parts of a complex CC framework. The pandemic crisis in 2020 and 2021 showed arrestingly how volatile, ambiguous and uncertain the economic environment organisations are facing can be. Linked to research questions three (Does the interpretation of the results allow one to draw conclusions on the above-stated contemporary CC-related forces and economic scenarios?) this research showed as additional novel result that:

4. *Without pointing subjects to underlying economic forces, in repertory grid structured interviews personal constructs are created that relate to contemporary corporate values and perceptions.*

In addition, this study showed that:

5. *RGIs based on PCP reflect contemporary research topics in organisational behaviour allowing to draw scientific conclusions.*

The derived results in each section 5.2 to 5.6 highlighted that new scientific conclusions can result from PCP research in a CC context. As they are lengthy discussed in each subsection the subject specific novel results are not reiterated in this chapter.

The final objective of this dissertation was to evaluate if the generated dataset promotes further worthwhile research directions for extended investigation. This can be answered positively as for example new cultural pattern have been identified that advocate a stronger focus on the approach to handle errors as part of organisational behaviour. Conclusively the main contribution of this dissertation is to substantiate PCP as a suitable research method in organisational research. This research emphasizes that RGIs based on PCP are a possibility to originate novel research directions.

9. SUMMARY

Starting a dissertation project with a methodology which is not well established in organisational research, in combination with a theory that was developed in the field of psychology in clinical application, bears both risk and opportunity. The mixture of anticipated potential with curiosity led to the decision to direct this research in the context of organisational behaviour. Making an entire CC visible three-dimensionally, interpretable and mathematically analysable is the major contribution of this research study.

The research approach indicates that through exploratory methods, new insights in organisational research can be created. Of course, these must be verified and substantiated in a quantitative matter, but the data generated through RGIs offers a first basis to motivate that further research in this direction is worthwhile. The triangulation research model of this study, which included generating quantitative and qualitative results simultaneously with a subsequent analysis from a different perspective, has proven to be a powerful tool in organisational research.

Section 5.6 on agility has reinforced that organisations, governments and humankind must be flexible and up to date with external changes. This circumstance was especially highlighted through the COVID-19 crisis in 2020 and 2021. Science is thus required to remain open-minded to new investigative approaches in the same matter. This research illustrates that a novel research strategy is able to produce new and relevant results. For example, analysing the distorted self-perceptions of leaders created some valuable insights about the importance of error management in the framework of analysing and transforming a CC.

In summary PCP combined with RGIs is identified as a suitable tool and method to analyse the CC. In practical usage in particular, it has a prime advantage over questionnaire-driven investigations. No stakeholder can lead the investigation in a certain direction by in- or excluding specific cultural elements. As Kelly

highlighted, people construe their own perceptions of the world or organisation on how they anticipate events. This reflects a filter when conducting a questionnaire or interview, which is eliminated by the unassured and unprejudiced approach of PCP. In practical terms this may however reflect an obstacle as leaders and stakeholders must commit to an investigation of their CC without knowing in advance the assessments, or even the assessment criteria. As a consequence a commitment for this approach and the uncertain results is required, just in the same way as it was required in the initiation of this research. In retrospect, however, I can confirm that it has been worth the doubts and efforts

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writing this dissertation will hopefully ensure a mutual beneficial outcome with developing and implementing new insights in organisational research.

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PUBLICATIONS

Publications related to this dissertation:

Bundtzen, H. (2019). Assessing Corporate Sustainability with Repertory Grid Based Personal Construct Psychology. *Regional and Business Studies, 11(2).* https://doi.org/10.33568/rbs.2406

Bundtzen, H. (2020). Adapting Herzberg's Motivation-Hygiene Theory to a VUCA World – A Repertory Grid Study. *European Journal of Economics and Business Studies, [S.l.], v. 6, n. 3, p. 145-159, jan. 2021. ISSN 2411-9571.* Available at: http://journals.euser.org/index.php/ejes/article/view/4933. Date accessed: 16 feb. 2021.

Bundtzen, H., & Hinrichs, G. (2021). Innovation Capability of the Company: the Role of Leadership and Error Management. *Marketing and Management of Innovations*, 1, 112-123. http://doi.org/10.21272/mmi.2021.1-09

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CERRICULUM VITAE

I, Henning Bundtzen was born on March 18th in 1986 in Flensburg. After finishing German secondary school in 2005 and a work-and-travel year in Australia I started my academic education at the Baden-Wuerttemberg Cooperative State University (DHBW) in September 2007. Accompanied to this study was an apprenticeship in the German Corporation for International Cooperation GmbH (GIZ). The Bachelor's degree in International Business followed an avocational study at the University of Applied Science (HFH Hamburg) graduating with a master's degree in General Management (MBA) in November 2013. In September 2018 I started the PhD program in Management and Organisational Science at the University in Kaposvár, Hungary. My professional career commenced at that PwC AG WPG Hamburg in October 2010, working as a consultant in system and process assurance. Since April 2012 I work for my current employer TRIXIE Heimtierbedarf GmbH & Co. KG where I started as Export Area Manager covering the markets UK, Benelux, Iberian Peninsula and Latin America. In the final phase of this job, I was leading an international team of 20 salespeople. From this sales position I changed to my current position as organisational developer within the same company. My research interests focus on organisational behaviour, especially in the context of leadership and corporate culture. This dissertation evoked furthermore a special interest in repertory grids and psychological theories. In addition, sustainability is a personal as well as research interest of myself.

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