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Effective leadership in crisis situation

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Abstract

The background of this dissertation is a fundamental question that the author, an executive in the automotive industry, asked himself at the beginning of the COVID-19 pandemic, “How much is this crisis affecting his employees and he as a leader take measures to positively influence the behavior of his employees?” To investigate this question, it is important to research the reasons why employees leave the company at the beginning of a big crisis like the COVID-19 pandemic. Hence hypothesis I was formulated

H1: Money is not the main reason why employees from the high-performance culture in the automotive industry are leaving the company in the first year of the COVID-19 crisis in 2020.

Based on the results out of hypothesis I from the first year of the crisis in 2020, further questions and assumptions arose regarding the further course of the COVID-19 pandemic in the following years 2021 and 2022 and hypothesis II was developed

H2: The longer the COVID-19 crisis lasts, the more money becomes the reason why employees from the high-performance culture leave the company in the automotive industry.

With the knowledge from hypothesis I and hypothesis II that a large part of the leavings can be influenced by appropriate leadership methods, the last and decisive hypothesis III

H3: “PESSOA leadership” can be a crisis-resilient leadership method for the high-performance culture in the automotive industry.

The acronym "PESSOA" is derived from the Portuguese word for “human”, emphasizing the importance of people and relationships in this leadership method, newly invented in this dissertation, that combines approaches of the following elements:

- **P** stands for positive leadership
- **E** stands for empowerment
- **S** stands for strength-based leadership
- **S** stands for strength-based workstyle
- **O** stands for ownership
- **A** stands for agile work style

Crisis management methods have one thing in common as defined in the word itself: “They are methods to “react” to a crisis. PESSOA leadership is not conventional crisis management. This means that this method was not developed to react to a crisis, rather it should be a "crisis-resilient” standard leadership method - a leadership method that is used actively and preventively, made for the today's constantly changing VUCA world.

The PESSOA leadership style values the strengths and potential of individuals and their teams and aims to create a supportive and empowering work environment that allows them to reach their full potential. The focus is on individual, people and relationships (Portuguese “pessoa”), with an emphasis on promoting positivity, collaboration, and adaptability in the workplace. The goal is to boost job satisfaction, reduce turnover, and increase productivity by creating a culture of trust, ownership, and innovation.

1. Introduction

At the beginning of 2020, the corona virus had already spread worldwide and on January 11, China reported the first COVID-related death. At first only China was affected and other countries still thought they were safe. After it became known that the virus can be transmitted from person to person, the World Health Organization (WHO) was involved and shortly afterwards the virus arrived in Europe.

As the number of infections in Europe grew, so did the discomfort and wearing face masks, even without recommendation, quickly became the new normal and the demand for disinfectant soon exceeded supply. The President of the European Commission, Ursula Von Der Leyen, immediately approved a fund of 25 billion euros to mitigate the economic consequences of the crisis.

Even before the virus has reached Europe, the financial market on the stock exchange already collapsed – daily price declines fueled fears of the economic consequences and the enormous and lasting impact on the capital market became clear very quick. Institutions such as schools and universities were closed overnight and children were taught online at home for months. Companies switched to home office within days and implemented government-backed short-time work. Especially at the beginning, when people still believed in a short crisis and not in a global pandemic, shops and all non-essential facilities were also closed, only grocery stores, pharmacies, hospitals and gas stations were allowed to remain open - that was the first lock down; and countless more lockdowns worldwide have followed since.

Crises have existed as long as humanity has existed and the effects of a crisis are diverse, but the impact of the COVID-19 pandemic affects all areas, the political, economic, social, technical, environmental and legal areas (PESTEL) and has lasted for three years at the time this paper was written, making this crisis unique and very destructive. From the social perspective, the micro level, that of the individual and the family, to the meso level, the work area, groups and companies, to the macro level, under which institutions or governments are classified - everyone has been affected on a global scale.

Of course, crises always have an impact on leadership, or rather on the leadership methods that are used (crisis management), but the developments necessitated by the COVID-19 pandemic are so drastic that nobody could expect the effects. In addition, after three years of the pandemic, one can no longer speak of crisis management - crisis management has become the new standard. Since the world is currently changing very quickly in addition to the COVID-19 pandemic there is a war in the Ukraine - in the middle of Europe! As if that weren't enough, Europe, dependent on Russian natural gas, quickly found itself caught up in an energy crisis and double-digit inflation. The consequences of these closely linked crises are driving further discussions and decisions that would have been unthinkable years ago: nuclear energy is suddenly presented as "green energy" and the already signed contract of the European Commission to no longer allow combustion engines for public transport from 2035 was softened by the possibility of "e-fuels" (e-fuels is still gasoline burned in the combustion engine, but "produced from water and carbon dioxide with renewable energy").

The so-called VUCA world (volatility, uncertainty, complexity, ambiguity), a world where crises are happening more and more often at shorter intervals, makes it essential to find the right leadership approach. It must be asked what this constant crisis management looks like and how this crisis management can be sustainable in the future. The author's ideal is a crisis-resilient leadership method, made for the constantly changing VUCA world . This is where this dissertation comes into play with the answer: “PESSOA leadership”.

Decision making must take place at the working level in order to be able to react to changes more quickly. If possible, the optimum is that the company acts proactively to make suggestions for new products and services to the customer before they even knows that they might need them in the future. The author orientates himself on the method of “positive leadership” and combines the modern approaches of empowerment and ownership, with strength-based and agile work methods and develops the new, crisis-resistant and sustainable method which he calls "PESSOA leadership", the Portuguese acronym for “human”.

1.1. Background of the research

The anchor and, thus, the basis of the background of the research is a fundamental question that the author, an executive with more than 20 years’ experience in the automotive industry, asked himself at the beginning of the COVID-19 pandemic, “How much is the COVID-19 crisis affecting his employees and can a leader do something to positively influence the behavior of the employees?”

The first priority and most important motivation behind this question is to keep the personal well-being and quality of life of his employees at a good level, even in a crisis like the

COVID-19 pandemic. Other reasons take a back seat, but arise automatically, such as increased performance of a satisfied team and, thus, increased competitiveness in the automotive industry, which was already badly hit by the crisis.

To answer the research questions, the social behavior in a crisis must first be studied and analyzed. The focus is on the micro and meso level, which means in particular the individual, the employee, and their environment in the area of work. In a further step, it is important to know how strongly and in what way the employees are affected by the crisis. Are they "only" stressed, or does it goes as far as the point of depression with the result of quitting the company? Once the effects and their background have been clarified, the next step is to find possible influencing factors from scientific studies in order to influence the employees positively and sustained.

1.2. Research gap, research questions and hypotheses

In the course of a professional life one hears the statement "money is not everything" again and again. And in fact, scientific studies very rarely find money as a reason among the top three reasons why employees quit.

In addition to this gap, the existing results go in different directions and none of these studies examines the reasons in the high-performance culture in the automotive industry for a longer period of time in a crisis like the COVID-19 pandemic, in order to analyze not only the motivation why employees leaving, but also if this reason possibly changes in the course of this crisis, which has been going on for three years.

The author formulates the research gap:

- The investigation of the reasons why employees from the high-performance culture in the automotive industry quit during the COVID-19 crisis and whether these reasons change or remain the same from January 2020 to December 2022

The reason why there is still a research gap here is not surprising, since there has never been such a long-lasting pandemic as the COVID-19 crisis with the lasting impact on the entire world economy.

In the following table various examples of scientific studies are illustrated, strongly connected why employees quit the company:

Table 1. References why people quit the job

Authors	Reference/Title	Research background
Zimmerer and Stephen, 1989	Why middle managers quit	Differences in the termination of managers at different levels
Böckerman and Ilmakunnas, 2007	Job disamenities, Job Satisfaction, Quit Intentions, and Actual Separations: Putting the Pieces Together	Analysis of the influence of working conditions and the behavior to quit the job
Day-Calder, 2017	Weighing up the pros and cons before you quit your job	Research about high workload and low payment among nurses
Maerzt, Keith and Blenn, 2017	The Reasons Good vs. Poor Performers Quit Their Jobs	Comparison of good vs. poor performers quitting their jobs
Ismail, 2015	Job insecurity, Burnout and Intention to Quit	Impact of job insecurity on intention to quit
Suadicani at al., 2013	Job satisfaction and intention to quit the job	Influence of negative psychosocial working conditions to quit the job
Baxter, 2008	Is money the main reason mothers return to work after childbearing?	Research about women's reasons for returning to work after childbearing

Source: author´s research

Out of this research gap, the author develops the first research question:

- Q1: Why do employees from high-performance culture in the automotive industry quit their job during the COVID-10 pandemic and these reasons remain the same during the crisis (comparison of the first year 2020 with the years 2021 and 2022)?

A psychological-economic analysis is needed, to understand the influence and the associated behavior of employees of a high-performance culture in the automotive industry in the COVID-19 crisis. The most severe action of an employee triggered by a crisis is to resign and leave the company. It must, therefore, be understood why employees in the automotive industry quit during the crisis, resulting in the first research question which revolves around the subject of the background why employees leave. The author developed two hypotheses, H1 and H2 to be able to fully answer the research question Q1. To get to the bottom of the first part of the research question Q1, the author formulates the hypothesis I:

- H1: Money is not the main reason why employees from the high-performance culture in the automotive industry are leaving the company in the first year of the COVID-19 crisis in 2020.

Once the reasons for the resigning of employees in the automotive industry has been clarified with H1 for 2020, the second part of the research question Q1 is interesting: "Is the reason why employees in the COVID-19 crisis resign the same as in 2020 over the entire course of the crisis, or does the reason change?" Against this background, the second research question is formulated hypothesis II as follows:

- H2: The longer the COVID-19 crisis lasts, the more money becomes the reason why employees from the high performance culture in the automotive industry leave the company.

From a psychosocial point of view, it can certainly be the case that in major crises such as the COVID-19 crisis, people initially resign without much consideration due to bounded rational reasons or for rationally incomprehensible reasons. It is, therefore, quite possible that after some time of such a severe crisis, people will weigh the decision to quit very carefully and make decisions more rational e.g. about the financial impact of the crisis on the individual, but also on the entire family.

On the one hand, the economic-psychological behavior of employees in the automotive industry in a crisis, has been clearly proven to be possibly influenced by appropriate leadership methods in a wide variety of literature research and previous publications by the author (Solderits, 2022). On the other hand, by analyzing the reasons why employees quit, a large part can be traced back to leadership or, at least, can also be strongly influenced by appropriate leadership methods.

The findings from research question Q1 by answering the hypotheses H1 and H2 are therefore linked and lead to the decisive second research question:

- Q2: Which crisis-resistant management methods need to be used in this VUCA world and the resulting constant and rapid changes for high-performance cultures in the automotive industry for the COVID-19 endemic?

The COVID-19 pandemic not only has an impact on the global health system and the global economy. With the almost forgotten problems such as global warming, refugee crises all over the world and the Ukraine war in Europe that has been raging since February 2022 (in which the whole world is meantime involved), the entire area that can be described by a PESTEL analysis is affected - and that consistently and sustainably.

In the area of high-performance culture in the automotive industry, standard leadership methods alone are therefore not applicable in this constantly changing VUCA world. Even crisis management fails because the world is in constant crisis and constant change.

From the research gap, the research question and the circumstances described, resulting hypothesis III:

- H3: "PESSOA leadership" can be a crisis-resilient leadership method for the high-performance culture in the automotive industry.

After the description of the research gap, the two research questions and the three hypotheses, the connection and the proverbial common thread of the entire dissertation can be seen: Hypotheses H1 and H2 provide the basis of the research (with the reasons employees from the automotive industry leaving in the COVID-19 crisis, if and how these reasons are changing), finalized with hypothesis H3, a crisis-resilient leadership method.

2. Literature review and theoretical framework

The theoretical framework begins with a literature research using an economic-psychological approach to understand people's behavior in the COVID-19 crisis, which is the basis to answer the first research Question in the empirical part.

The second part of the literature research is leadership related and starts with the development of leadership, through classic methods and styles, to modern approaches. This chapter concludes with the leadership methods, which represent the six pillars - the basis - of the new PESSOA leadership method: positive leadership, empowerment, strength-based approach, ownership and agile workstyle methods. This part of the literature research forms the basis for answering the second research question in the empirical part.

2.1. The behavior of employees in the automotive industry in the COVID-19 crisis

The basis of this chapter is the research paper by the author (Solderits, 2021) “Leadership influence on employee’s behavior in the automotive industry in the Corona crisis”. This research paper is a further development of the economic-philosophical literature review by Kirchler, Pitters and Kastlunger (2020), reflecting on the change of the behavior of employees from the high-performance culture in the automotive industry. The author could prove this behavior can be influenced by appropriate leadership methods.

The result which supports the hypothesis is visualized in the table 2. below, with the corresponding research paper listed on the right side of the table.

Table 2. Influence of leadership in employees behavior in the COVID-19 crisis

Employees´ behavior	Leadership research paper
Communication	de Vries, Bakker-Pieper and Oostenveld 2009 Ebner 2020, Harrison and Mühlberg 2014
Decision making	de Vries, Bakker-Pieper and Oostenveld 2009 Drucker 1967, Ebner 2020 Harrison and Mühlberg 2014 Kayode, Mojeed and Fatai 2014

Social habits	Grant and Hoffman 2011 Kotter 1997
Adaptation strategy	Blickhan, 2015, Ebner 2020 Grant and Hoffman 2011, Kotter 1997
Coping strategy	Blickhan 2015, Ebner 2020 Fook and Sidhu 2010
Virtual work	Ebner 2020, Thomas 2014 Harrison and Mühlberg 2014
Fairness	Blickhan 2015, Ebner 2020 Khaola and Oni 2020

Source: (Solderits, 2021, p.127)

Since the research questions in this work are very closely linked to the behavior of employees in the crisis and the decision-making process, these behaviors are examined in more detail in the following sub-chapters.

2.1.1. The beginning of COVID-19 - coping strategy

The virus caught Europe completely unprepared. Families had to teach their children from home at short notice and people could not visit family members and friends or only to a limited extent. In the automotive industry in particular, headlines about mass layoffs were piling up in the news, and the impact of psychological pressure was very evident in simple examples such as panic buys of toilet paper.

The COVID-19 virus not only has an enormous impact on the physical health of those infected and their immediate environment, but also causes fear and, thus, possible psychological consequences for people. This mental health impact of the COVID-19 crisis is enormous, although the full extent remains to be understood. In these chapters, the basics of coping strategies as well as interesting examples from scientific work are explained in detail to show possibilities to support employees in the automotive industry in this stressful time. An unknown situation like the Corona virus creates a stressful environment and stress is perceived to an increased extent. However, the individually selected stress management strategies determine the consequences for physical and mental health.

Stress is a subjective state of high tension and strain causes by external or internal fears and/or threads. Emotional coping strategies are measures to cope with this stress, including relaxation, distraction, or redefining a stress response (Kirchler, Pitters and Kastlunger, 2020, pp 13-14).

Lazarus and Folkman (1984) describe stress as an environmental event, which is appraised by the individual in the following process steps: First, viewing the event in terms of its potential harm or challenge to the individual. If the event is not potentially threatening, then the stress response will not occur. If the event has potential for harm, a second assessment process takes place in which the individual assesses whether he or she has the resources to deal with the threat. If the person feels able to deal with the threat effectively, the stress response will not activate. However, if the demands of the situation are judged to be greater than the resources available to deal with them, a stress process is initiated. This includes the emotional experience of stress, including feelings of anxiety or stress, sympathetically mediated arousal (fight or flight response), and some form of stress-associated behavior, such as avoidance or seeking validation.

One of the strategies used to fight the virus was to isolate people by introducing quarantines for infected people or, in the case of high infection rates, to lock down entire countries. Stress resulting from crises and the associated impact on mental health have already been scientifically proven several times. There are already indications in research of long-term effects and behavioral changes, such as post-traumatic stress disorder, but these have not yet been researched in detail. Although there may be a vaccine against the virus, this is by no means any help against the psychological stress.

When it comes to stress, the Austro-Hungarian Hans Selye is a solid cornerstone - he developed the basics of the theory of stress in the 1930s (Selye, 1956). There are at least as many strategies to deal with the stress and psychological strain resulting from the crisis as there are reasons to get sick, and people have quickly learned to put together their own mechanisms to deal with the situation in the best possible way.

Stress “directly” causes a wide variety of diseases, such as heart disease or gastrointestinal diseases. Skin diseases are also often reported, or diseases of the sympathetic nervous system, which can subsequently lead to chronic diseases.

In addition to these direct effects/illnesses caused by stress, the "indirect" illnesses such as the effect of wrong coping strategies are differentiated. The consequences often only affect people much later, but often have a very strong and long-lasting effect.

A typical example of such a wrong coping strategy resulting from increased stress can also be found in the automotive industry - smoking (Berlin at al., 2020) and (Canoğlu, Caliskan and Kartaloğlu, 2021). Above all, crises like the COVID-19 pandemic are very often triggers that make smokers reach for cigarettes more frequently (Lei Guo and Ruixia Yan, 2021). Other scientific references with connection between stress and smoking is the work from, Grigg (2022) and Rossato and Vincenzo (2021) which are directly related to the COVID pandemic. The research, also connected with the COVID-19 pandemic, but in the area of changes in smoking, stress, and sleep duration and smoking cessation, the researchers Bar-Zeev et al. (2021) and Bomelle et al. (2020) and Rossato and Vincenzo (2021) are leading.

However, all research is with the same result, smoking only reduces stress levels for a short time and the stressed employees even experience a phase of increased stress due to the dependence on nicotine between smokes. This means that they "need" another cigarette to counteract any symptoms of addiction and to experience the positive mood change associated with smoking as quickly as possible. Of course, this is a vicious circle and the repeated negative mood swings are, therefore, above average for the smoker. Smoking also causes an increase in stress and is, therefore, in no way a good option of coping with stress. In order to react accordingly and to support employees in the automotive industry in this area, the company in which a survey was carried out in a later chapter of the empirical part, one of the top five automotive supplier industries related to worldwide sales (Kords, 2021), the smoking ban pronounced. If one of the approximately 200,000 employees absolutely wants to smoke, they have to leave the company premises and smoke outside - a clear sign of pro-health in the automotive industry!

Preventive measures and learning "healthy" coping methods, especially in crises, can reduce the effects of stress and the associated health risk. The message that tobacco use does not reduce stress, but increases it, needs to be spread as it can help many people quit smoking, prevent ex-smokers, who have recently quit, from relapsing and help more young people not even start smoking. There are two categories of such unhealthy coping responses related to the example of people who smoke according to Long (2003):

- "Emotion-focused coping", such as smoking a cigarette. This involves attempting to reduce the negative emotional consequences of the stressor, but without addressing the original cause of the stress or behavior.
- "Problem-oriented coping", e.g. smoking cessation. These interventions involve an active attempt to manage and change the source of the stress.

These adverse psychological consequences have prompted scientists and researchers to explore indicators of individual well-being during the crisis, but especially during the lockdown period. They specifically focused on characteristics from positive psychology, such as optimism and humor (Seligman 2006).

In the research paper "Individual differences in uses of humor and their relation to psychological well-being: Development of the Humor Styles Questionnaire", the development and initial validation of the Humor Styles Questionnaire is described. It includes four dimensions relating to individual differences in the use of humor proposed by Martin et al. (2003):

- Affiliative Humor - People who fall into this group often use humor to lighten the mood of others or to ease tension in social situations. Additionally, they have a tendency toward self-deprecating humor, saying amusing things about themselves, and retaining a feeling of self-acceptance.
- Self-reinforcing humor - this dimension entails having a generally lighthearted outlook on life, having a propensity to regularly find comedy in inconsistencies in life, and being able to have a lighthearted attitude even in the face of stress or difficulty. This pertains to comedy that changes perspective and humor used to control or manage emotions.
- Aggressive humor - is sarcasm, jeering, mocking, sneering, "belittling," or disparaging humor. This involves utilizing humor to control people by ostensibly threatening to mock them. In general, it refers to the propensity to convey humor without considering how it can affect others (such as sexist or racist humor) and

includes compulsive humor, which refers to the inability to control the need to create jokes, uttering statements that might offend or alienate people.

- Self-destructive humor, which includes excessive self-injurious humor and tries to make others laugh at one's expense in an effort to win them over or win their favor. This dimension is also understood to include the inclination to use humor as a type of protective denial or to use humor to mask unpleasant emotions or avoid dealing with issues in a healthy way.

It has been researched and documented in academic studies of childcare professionals' responses to stressors that humor is a strategy that pediatric nurses can use to help cope with illness and hospitalization (Dowling, 2002).

Humor as a coping strategy is also used successfully in space travel to cope with stress. The results showed that astronauts used coping humor more often on long-haul flights than on short-haul flights, Russian cosmonauts used less friendly humor than American astronauts, and the use of self-defeating humor increased significantly over their career (Brcic et al., 2018).

The research paper by Reizer, Munk and Frankfurter (2022) examines the impact of optimism and humor styles on well-being during the COVID-19 lockdown and was able to show, through surveys, that both optimism and adaptive humor have a positive and direct impact on well-being.

The findings above from different areas from child nursing to space travel to the survey about the actual COVID pandemic prove the need of positive psychology interventions to improve well-being in times of crisis such as COVID-19 and the use of humor as a successful coping strategy. These results, in turn, underline the already known research papers from the field of positive psychology (Blickhan, 2015) and positive leadership (Ebner, 2020) as well as insights gained in Fook and Sidhu´s (2010) “Relationship between Leadership Style, Job Stress and Coping Strategies”.

A good example of stress management through humor mentioned above can also be found in the automotive industry and is explained by the author in chapter 2.6. illustrated by the ownership tool "The elephant in the room" (a small elephant in the living room, which is supposed to represent a problem and which grows if the elephant - the problem - is not addressed) or humorously named by the development department "shit on the table".

2.1.2. How to change social habits in the pandemic

The rules of conduct introduced by the government out of necessity, such as "keep your distance" and "wear masks" contradict cultural etiquette in many countries and it took a long time before these rules of conduct could be automatically stored in social behavior scripts.

According to the "status quo bias", people tend to stick with their habitual behaviors and instead follow social scripts - that is, plans of recognized and learned behaviors appropriate in specific situations. (Kirchler, Pitters and Kastlunger, 2020, pp. 21-22).

But how can an entire country be motivated to break these long-learned habits to protect itself from the virus and is it possible to influence this with appropriate leadership methods? In addition to the issue of how people implement these changes quickly and reliably, there is also the problem that the implementation of these new behaviors can also fuel fear in the population. Therefore, not only a reliable and fast implementation must be guaranteed, but also the resulting fear must be examined and minimized. Another important factor in such an enormous, globally incomparable pandemic like the COVID-19 crisis is to learn from mistakes (the own, but also from the mistakes of other countries and governments) and to focus on efficient, continuous development of new solutions and standards.

To answer these questions how the automotive industry reacted to it, the author uses well established strategies from change management, the examples by Kotter (1997).

Table 3. Leading Change – 8 steps Kotter

1) Create a sense of urgency
2) Build a guiding coalition
3) Vision, mission, strategy
4) Communicate the vision
5) Empower employees and remove barriers
6) Accomplish short-term wins
7) Consolidate success and build on the change
8) Anchoring new approaches in the culture

Source: Kotter (1997, p. 18)

In the following paragraphs are the social behavior of the COVID-19 pandemic, applied by the automotive standard for leading change - Kotter's 8-poins in the table above.

The first two steps are to “create a sense of urgency” and “build a powerful guiding coalition”, which means underlining how important and inevitable the upcoming change is. This is where the foundation for success is laid. Regarding the COVID virus, the most important basic rules to prevent infection and the resulting actions are - keeping distance, wearing masks and washing hands regularly. The importance of these behaviors has been clearly explained to the employees and supported by scientific studies.

Kotter´s third step, formulate a vision, mission and strategy – the parade discipline in the automotive industry- means a virtual image of the future and conveys in a simple way why it is worthwhile for people to create this future. A good vision simplifies hundreds of individual decisions by clarifying the direction of change and motivating people to take the necessary steps in that direction - even if the first steps are painful. The vision helps to coordinate people in a very efficient way and to make decisions in the given direction. With a clear vision, a clear direction, countless meetings are unnecessary. The only important question is, "am I aligned with the vision" which gives a clear, compelling reason to fight. Alternatives with detailed instructions or work packages are far slower and more expensive and with a clear, unambiguous vision, executives and leaders can find out for themselves what needs to be done without having to constantly coordinate with superiors or board members. They have the freedom to act.

A picture says more than a thousand words, which points to Kotter's fourth stage, to communicate the vision. All available media, such as television, radio, newspapers, but also social media and live events should also be used for communication in order not only to be able to reach people in a wide variety of areas, but also to reach the different age groups (in social media, younger age groups tend to be on the move, newspapers are read by older generations).

Once the communication has started it must be repeated several times as important messages only arrive and are anchored when they are repeated. In some cultures, such as it is well known in Asian location in the automotive industry, it is customary and well-established that important information is said at least twice, so that the other person knows that this is information that is particularly important to the speaker. At that time, signs with masks, keep your distance and washing your hands were hard to miss in the automotive industry.

The automotive industry lives in an ever faster changing VUCA world and must react to these changes. Every change holds an opportunity and whoever recognizes it first or at least recognizes it has the edge. To be able to react quickly and efficiently, people must be empowered and take responsibility (at least for their area). If barriers are not removed at an early stage, according to Kotter´s fifth step, there is a risk of frustration, and all transformation efforts are at risk. The initial, first burst of energy must be used to implement the vision of a change. The biggest mistake is letting this energy go to waste through barriers or frustration caused by resistance.

A good example outside the automotive industry, of how this empowerment applied to millions of people was the procurement of vaccines from the EU Commission. After a few months in the pandemic the German company BioNTech and its US partner Pfizer announced the breakthrough in the development of the vaccine against COVID-19 in November 2020. An extensive project was immediately started by the EU and the procurement of all vaccines for the member states was organized centrally by the EU commission (Fontelles, 2021, p. 77).

If critical voices ask whether the vision, the strategy, the path taken leads in the right direction but nothing convincing can be brought to the table, then the necessary credibility is not generated to maintain the efforts in the long term.

But back to the automotive industry and Kotter's sixth step "accomplish short-term wins:" provides a remedy. Rapid successes use transformation in many ways. First and most important is the visibility that the sacrifices are worthwhile which gives employees the necessary support, an extra drive. An additional, psychologically important point is to sit back for a moment and celebrate small successes. Constant tension over a long period of time is not healthy for people and without a sense of achievement, the motivation to pull together with all your strength in the given direction also dwindles. When a transformation gets out of hand, the reason is often that too little or no importance is attached to a rapid improvement in performance with the corresponding successes.

Success often fails because managers simply do not plan quick success systematically (Kotter, 1997, p.104)

In the phase of Kotter´s seventh step "sustainable acceleration of the change", leadership is invaluable. The guiding coalition must use the momentum of credibility and motivation generated by the short-term successes to tackle and implement further and greater change. Now is also the right time to further develop and promote successful employees and to provide additional employees and capacities for change. At the same time, managers and leaders focus on transparency of vision and on keeping the sense of urgency at the forefront.

To finalize with Kotter´s last step to enable change into culture, a transformation must be anchored in the corporate culture, otherwise it will only remain a temporary change with a short-term effect. Transformation means that the change is mapped and implemented in all systems and processes in the company; this also includes the tools used. As a result of this extensive transformation, KPI (key performance indicators) and target agreements must also be adjusted and, of course, the recruiting process must be adapted to the new requirements and competency models to hire the right candidates.

Similar than in the automotive industry, the changes in the social behavior during the COVID-19 pandemic must be adjusted in such a way that the vision is supported and there are no workarounds or steps backwards - no stone must be left unturned in the company if the changes are to be implemented sustainably.

It will probably take a long time to anchor the new COVID-19 approaches in the culture. Even three years after the outbreak of the virus, it is still changing very quickly and constantly presents the medical field with new challenges. It can be observed that people hardly wear masks or keep their distance. It almost gives the impression that the 6.5 MIO Corona deaths (Radtke, 2022, p. 1) have changed absolutely nothing in the behavior of mankind. The number of vaccinations is also declining (Radtke, 2022. p. 1) and in some countries such as Austria, the government's obligation to vaccinate was initially suspended until it was finally abolished altogether.

If the new ways of working that emerge in a transformation process are not compatible with the central aspects of the existing culture, people will always regress. Changes in a work group, division or company, even after years of change efforts, can evaporate, if the new approaches are not firmly anchored in group norms and values (Kotter, 1997, p. 126).

The problem that the author sees in the COVID-19 pandemic is that, firstly, the virus experts and the governments do not really reach the billions of people in their communication in order to achieve a satisfactory clear-up rate – which is very disappointing, despite the large number of available media. Secondly, there is not the right number of leaders and managers who would, for example, focus on the transformation in a company and, therefore, governments have to rely on people's ownership and that people implement the change as well as anchor the change in their culture on their own.

2.1.3. Communication during the crisis

Especially at the beginning of the crisis, fear dominated the automotive industry, triggered by communication through all available media, with horror reports of tens of thousands of layoffs in the automotive industry, images of seriously ill people, fueled by daily reports and analyses of people who had already died from the virus. The demand for clear specifications and guidelines quickly became the focus and strong leaders with clear communication became important. Social bonds grew very quickly and the people developed an unquestioning obedience.

The threat of something intangible, uncontrollable triggers fear. Acting driven by fear leads to ill-considered decisions and haphazard behavior without logically considering the consequences in advance and, thus, decisions are not made in a considered manner, but in a reactive manner triggered by fear.

In order to perceive a threat as such and to be able to deal with the danger cognitively and to find a solution to the threat, it must not overwhelm the person in such a way that he reacts with fear. The first priority in crisis situations is, therefore, clear communication based on facts in order to take away this fear from people and give them the basis for a rational decision.

A good, but very negative, example of a lack of communication resulted in people storming supermarkets to buy non-perishable food in order to get the danger under control as quickly as possible. This fear-generated and thoughtless reaction even went so far that people put goods in stock, such as toilet paper, completely thoughtlessly and apparently pointlessly.

A clear and unambiguous communication with the confirmation that the job in the automotive industry is not at risk or goods would continue to be delivered with a guarantee would have avoided or at least reduced peoples fear … and in the case of the almost funny example, the hamster purchase and hoarding of toilet paper.

After this first surprise attack by the virus, in a second step and out of the necessity of the crisis, new rules of conduct were issued, which, however, contradicted culturally established behavior. The requirements to counteract the pandemic were wearing masks, keeping distance and washing hands regularly.

However, the implementation of this rule was very hesitant, especially in the EU, not least because there was no uniform communication in accordance with this rule. For example, there was different communication in different federal states in Austria or Germany and, therefore, also different specifications about the new change.

A vision can serve a good purpose even if only a few people understand it. But the true power of a vision unfolds, when most of the people, involved through good and regular communication in the change process, have a common understanding of their goals (Kotter, 1996).

Even intelligent people make recurring mistakes and even big mistakes are not uncommon in this context, since managers usually communicate far too little and/or irregularly. Gaining an understanding of and commitment for a new direction is not an easy task and requires clear and, above all, regular communication.

The introduction of these rules of conduct was not the only change. An equally large and far-reaching change in everyday work was the introduction of short-time work and home office in the automotive industry. Teams in the home office are also called virtual teams since they operate in separate locations. Because isolation is a performance killer, it must be bridged by horizontal communication to support the removal of team members from isolation. In conventional teams, i.e. in presence, horizontal communication is expressed informally, since colleagues meet regularly and exchange ideas in this way. In virtual teams, however, that does not happen and people do not build the relationship that they would build from communicating with each other outside a strictly factual topic.

This exchange not only prevents possible misunderstandings, but also avoids the usual small quarrels and ambiguities. The staff will make a difference between a "stranger" taking the liberty and my "buddy from the next department" needing a favor. A kick-off meeting in a new project, for example, is the first confidence-building measure with a good basis to become “buddies”. Like in a normal friendship, this is not a one-time event, but this new relationship must also be cultivated regularly.

Horizontal communication creates relationships and team members who relate to each other are many times more productive than those who communicate with each other in a factual but unrelated manner (Thomas, 2014, p. 80).

Thomas (2014, pp. 33-47) describes the key challenges facing the manager of virtual team leadership as follows:

- pens identity
- fight isolation
- bridge distances
- assert yourself even without authority

Pens identity are common symbols, contribute to the common identity. In traditional teams, team members meet regularly in the parking lot or in the canteen. Because of these seemingly mundane shared rituals, team identity develops and the sense of belonging increases. In America, for example, it is quite common to distribute baseball caps and t-shirts with the project name or a logo among the team members - trivial but very effective. Small gifts give the teams identity. This can be done with a common logo, for example, or committing to a common vision.

2.1.4. The decision-making process in the course of the crisis

It is necessary to understand how decision makers adapt their behavior to the changing environment in order to be able to predict employees behavior in a constantly changing environment like in the automotive industry.

A decision-making process is "rational" when the chosen action brings the greatest possible benefit to the decision maker, where, in a way, unlimited rationality also requires unlimited cognitive abilities (the abilities to perceive environmental signals). “Bounded rationality" describes a particular method of decision-making. The hypothesis of totally rational rapidly meets its limitations in reference to reality (Simons, 1997).

Rationality is often used in economics as an assumption to explain simplified models but following the research by the two researchers mentioned above, rationality is always limited, at least to the extent that the environmental conditions are known. This implies, furthermore, that at the beginning of a crisis such as the COVID-19 pandemic, decisions are no longer rationally made, since the environmental conditions are impossible to be clearly defined in a crisis. Individuals respond logically in straightforward circumstances, but as the complexity of the decision-making process increases, they mostly turn to heuristics. The assumption of rational conduct is that businesses want to maximize profits, although this is not always a top priority. Frequently, an "acceptable" profit is already enough to see the objective as accomplished.

This fully rational person who knows all the solutions, no matter how difficult and in which field - whether economics, mathematics, geography, biology or any other field of science - does not exist. For this reason, people's decision-making behavior cannot be equated with the ideal of full rationality. But what should scientists now assume in order to give their calculations a basis? Many have no choice but to take this optimized assumption as a basis, knowing full well of the cognitive limitations of behavior through the theory of full rationality.

Conclusions reached through rational considerations can be overridden either by the previously mentioned unknown or changed environmental conditions, or by strong emotional impulses. The COVID-19 crisis in the automotive industry is a perfect example of such a "complex scenario" where individuals are forced to make constrained judgments, according to the bounded or non-rational behavior approach.

The author was able to scientifically prove this assumption in the American Research Journal of Humanities and Social Science (ARJHSS) with the title "The impact of COVID-19 on bounded rationality, understood in the tradition of H.A. Simons" (Solderits, 2022).

A general theory of decision-making must include organizational principles and processes that ensure correct decision-making, as well as processes to ensure effective action. In order to help with the decision-making process related to the COVID-19 crisis, four of the below organizational principles will be referred, based on the behavior of people in the COVID pandemic:

- Choice and behavior
- Fact and value
- The hierarchy
- The relative element

Choice and behavior: described by Simons (1997) as any conscious or unconscious choice that influences the outcome of an action.

This choice can be a result of very complex solution finding - maybe a team of specialists was needed and before the decision was made through several complex analyses, calculations of different tools or the help of A.I. needed to even be able to be into the position to make a decision - a conscious choice.

On the other hand, it could also have been a very quick choice, a reflex action, for example when a child runs onto the road and the driver of a car reflexively puts his foot from the accelerator to the brake to "react to the child". In other words, the child suddenly brings the driver in a crisis and the driver reacts to the new situation so that this crisis does not escalate further. Following this theory of the organizational principal "choice" and the analysis of behavior in the COVID-19 crisis, the crisis is changing people's behavior so much that many decisions are made reflexively or, at least, strongly bounded - especially at the beginning of the crisis, when the element of surprise and the degree of novelty were very high.

Daniel Kahneman, winner of the Nobel Prize in Economics, describes what happens in the brain when people or things are judged in his book "think fast, think slow". In fractions of a second, as in the example of the car driver seeing the child running onto the street (Kahneman, 2019).

An absolutely perfect example of such reflex reactions are the exaggerated, seemingly illogical purchases of toilet paper, which were not only observed at the beginning of the COVID-19 pandemic, but also reoccurred as soon as the infection numbers rose at the beginning of a new wave. Another example is the behavior of people who initially adapted to the crisis, in line with government guidelines such as wearing FFP2 masks, keeping distance and washing hands regularly. Until then, the virus could hardly be fought, there was still no vaccine and thousands of deaths, and people were very afraid and the decision to submit to the government was implemented very quickly and, at least in the first step, without questioning.

In contrast to the driver's reaction to the child is the hoarding of toilet paper or also government-mandated behavior, a reaction out of fear. This behavior is defined through the adaptation strategy and coping strategy. Both examples illustrate how and why the decision is no longer made rationally and logically but the crisis is reacted to in a bounded manner the crisis.

Fact and value are principles that apply to most behavior, especially of individuals who they are goal oriented. For most people, economic gain is not an end in itself, but a means to achieve personal goals such as security, comfort, or prestige (Simons, 1997).

These values have changed drastically with the onset of the COVID-19 pandemic. Above all, security has suffered in many areas, for example in the health sector, as well as the economic and financial areas due to the impact on the labour market and, in some cases, also the state security of many countries because nobody was and is safe from the virus.

This development was fueled by reports from various media, for example, through regular lists of how many people had died from the virus. In addition to such horror reports, the virus naturally also restricted people's comfort, which means that values are changing. People could no longer move freely during lockdown or had to wear FFP2 masks in public transport and schools, but short-time work has also been changing people's values.

Combining Simons' (1997) research on bounded rationality and Kirchler, Pitters and Kastlunger (2020) results on behavior in the pandemic, in this state of changing values due to the crisis, decisions are no longer made rationally, but in an absolutely bounded manner. The decision hierarchy is based in Simons (1997) and Selten (1999) on the concept of expediency. The implementation of the end result is based on the goals of the level further up in the hierarchy, meaning that every behavior and every action is oriented towards the goals “above”, which means it is "purpose-oriented".

The COVID virus shook the alignment of all goals to its foundations and fighting the virus suddenly became the top priority. Decisions are, therefore, no longer made rationally, but driven by the Corona pandemic, according to the changed objectives. Nobody was spared from the virus. At the micro level people and families have had to adapt their personal goals, at the meso level companies and corporations had to change the targets and at the macro level governments up to economic and political mergers like the EU have been forced to change their rules. The government's requirements for short-time work or lockdowns have driven this behavior of the decision hierarchy even further.

Due to this new orientation of the goals at the highest level, the decision-making process is no longer guaranteed across all levels and areas and is, therefore, made rationally in a bounded manner. The relative element is a matter of alternatives. A decision is always a compromise between different alternatives (Simons, 1997).

It is all about finding the best alternative to achieve the set goal, but these alternatives can be limited by various environmental influences. There is no question that the COVID-19 pandemic restricts possible alternatives for decisions enormously or that the consequences of the pandemic, such as short-time work, lockdowns, an increase in unemployment and many other effects, are already restricting everyday life, both privately and in business.

Not only the Corona crisis is having an enormous impact on possible alternatives in decision-making processes, crisis in general limits the alternatives. Besides the COVID-19 crisis there is another current topic which dominates the media - the Ukraine war - which is also having an enormous impact. Nuclear energy, which the EU already classifies as an undesirable energy source, is suddenly being discussed as a welcome "green" alternative to reduced gas supplies from Russia, which generate enormous additional costs, especially in the energy-intensive automotive industry.

Beside those principles for the decision-making process, there is the question if this process can possibly follow some automatism, which is of particular interest for A.I. as a basis to program decision heuristics.

The first questions that Drucker (1967) would probably have asked himself after the outbreak of the COVID-19 pandemic would have been:

- Is this a generic situation or an exception?
- Is this something that will occur frequently?
- Or is the occurrence a unique event that needs to be dealt with as such?

The generic situation always has to be answered by a process or certain existing rule, the exceptional situation can only be handled as such and as it comes (Drucker, 1967, p.137)

Truly unique events are very rare, and the first question to ask is whether it really is a real exception or just a new anomaly. This means that the first action in the decision-making process is always preceded by a review of already available solution approaches, rules, principles or processes.

Drucker (1967) writes that one cannot develop rules for the extraordinary, but he also writes that real exceptions are very rare.

For this reason, after finding a successful solution to the problem, it is obligatory to at least try to integrate this solution into a process or a principle and to offer automated solutions for future problems. Especially in today's world with A.I. based solution heuristics, the possibilities are endless, and the human brain can very often even not imagine a solution before A.I. presents a connection or a classification in a process.

The research "Artificial Intelligence – The Game Changer in the Automotive Industry" including interviews with experts and executives from the automotive industry, where the possibilities of A.I. were shown in order to return to the pre-crisis level as quickly as possible, the author found that artificial intelligence can counteract material shortages caused by a crisis, based on two areas (Solderits, 2022, p. 85):

- to recognize a crisis at an early stage in order not to let it arise in the first place or to keep the effects of it to a minimum
- in a crisis, to provide people with better care in order to be able to provide competent services and, thus, get the crisis under control and end it as quickly as possible

The researcher Kejriwal (2019) from the University of Southern California, specialized in data analysis science, developed the THOR project (Text-enabled Humanitarian Operations in Real-Time) with his team. This is an early warning system for natural disasters, based on news on social media platforms, which can also be adapted very easily and quickly for pandemics such as the COVID-19 crisis. With this system, both points defined by the author as the first priority are fulfilled - an early detection as well as the guarantee of quick help.

Other references for AI support in decision making process is Duan, Edwards and Dwivedi (2019) in the area of big data handling, Hilal et al. (2021) in the health management, Prasad and Choudhary (2021), specialized in multimedia and, for sure, last but not least Daniel Susskind (2018), one of the main head in the area of A.I. and the impact on leadership.

The world is changing so fast as are the states of various crisis, be it a financial crisis, a pandemic, environmental degradation, CO2 emissions, global warming or war in Ukraine. The better these constant changes (VUCA) are managed, the better people will be adjust the economy. This fast, constant adjustment and the associated big data handling in real time is exactly the advantage of A.I. and needs to be better used in the future. In times of data protection, it is now up to governments to unlock this enormous potential of artificial intelligence so that such systems can be used.

2.1.5. The life in the COVID-19 crisis - adaption strategy

The enormous restrictions in the crisis quickly became apparent in all areas of life. The changes meant an adjustment for everyone, especially for families who, in addition to home office, also had children at home and, thus, had to coordinate their job, supervision and, on top of that, school education online. Of course, this adjustment did not succeed immediately, especially at the beginning of the COVID-19 crisis, which increased the stress factor. Even if a relationship was harmonious, such stresses lead to increased levels of aggression and, on the other hand, the risk of loneliness increased for people who lived alone. However, this adaptation succeeded surprisingly quickly - especially with children.

Not only the compulsory schools have switched to distance learning, but also the universities to ensure further education in the pandemic. The rapid introduction of online lessons during the crisis was successful because distance learning has been offered in Europe for a long time since the internet boom. In addition, tools to improve communication, the development of which has been enormously accelerated and optimized by the COVID-19 pandemic, have supported this step significantly. Distance learning was already online in the summer semester of 2020 and this decision turned out to be very important, as the pandemic has now been going on for three years.

A very good example that a crisis always offers opportunities is shown by an example in online education. The government restrictions with the closure of educational institutions such as schools and universities were used to transfer the offer to online areas.

Also the automotive industry changed very quickly and workshops, planned face to face were very quickly switched to online training. One of the top five automotive supplier industries related to worldwide sales (Kords, 2021), had already introduced all online training and the so-called LMS (learning management system) at the beginning of 2021 to ensure the training and development of the employees. The following two examples goes into more detail on how adaptation strategies can be implemented and how weaknesses can be converted into strengths. The most important factor in that two examples and for online information as well as the key in the implementation of the LMS in the automotive industry should already be anticipated - it is trust and confidence in the correctness of the information!

In their research, Quazi et al. (2021) are investigating the introduction of distance learning in the field of education as an alternative during the pandemic and a possible continuation of the offer afterwards. The paper specifically emphasizes the importance of trusting the reliability of the information related to the sources for teaching, as well as the emerging events in order to efficiently implement the online content. It is important to know that the awareness of the situation in the COVID-19 pandemic was derived from public - formal, such as institutions and media and informal, such as observations from the micro level, i.e. those of the individual and the family - information. The researcher used the Technology Acceptance Model (TAM) to assess the adoption of technology in educational institutions.

To collect the data, the research team randomly selected college students and interviewed them based on the developed open-ended questionnaire. A total of 220 pieces of feedback were collected, of which only 150 contained valid responses. The analysis of the survey was carried out in two stages - the measurement and the structural evaluation of the feedback from the survey. The analysis itself, as well as the visualization of the data, was carried out using SPSS. In addition, a type of mood barometer was obtained from textual analysis to include the influence of student mood, using the manual card sorting approach. As a result of this study, online distance learning is the only way to keep social distancing and minimize the spread of the virus on the one hand and to be able to continue education on the other. Awareness of this only option is an important factor and serves as the basis for readiness for distance learning. With this in mind, the researchers assume that these results can be valuable in crises and emergencies and that students and teachers should focus on trusting the information (Quazi et al., 2021).

Another important and absolute actual paper about the importance of trust was published from Sibley at al. (2020) about the “effects of the COVID-19 pandemic and nationwide lockdown on trust, attitudes toward government, and well-being”. It examined institutional trust and health and well-being and found that people in the pandemic/lockdown have higher levels of trust in science, politicians and the police, higher levels of patriotism and higher rates of psychological distress.

Although the result of this studies does not indicate that distance learning will be accepted without the pressure of the only option, the "trust in the correctness of the information in distance learning" is very valuable. As next steps, continuous improvement approaches could be pursued in order to achieve acceptance of distance learning even without a crisis. The corner stone has already been laid with the knowledge gained from the study.

2.1.6. Fairness in the COVID-19 crisis

The consequences of the COVID-19 crisis are causing enormous economic expense and have driven private individuals, companies and governments to the brink of ruin. Still, although the burden on people caused by the pandemic has increased, many employees have been put on short-time work, and many have even lost their jobs.

The declared goal of most governments was and still is to maintain the health system and thus the economy. For this reason, a wide variety of support strategies have been developed to support the system, starting with people, through companies, to institutions such as schools and hospitals. Due to the required very fast implementation of these subsidies, however, the bureaucratic hurdles were sometimes very large and frustration quickly arose and voices of unfair distributions became loud.

Recognition, the expediency, and simple processes to get the state funding are important factors for the fairness of the interventions (Kirchler, Pitters and Kastlunger, 2020, p. 26).

It is human nature to compare oneself to others - does the neighbor earn more, does he drive a bigger car? Of course, this is also the case with grants and individual employees compare themselves with others and judge whether they are treated fairly.

Even with the home office strategy that was implemented very quickly, it is often not understandable why, for example, in the automotive industry employees were allowed to do more home office, while a technician in development who works with machines hardly got a chance to work from home. The frustration grew as the crisis progressed and resulted in many layoffs. It goes without saying that everyone took notice when someone took advantage of a subsidy who should not actually be getting it.

Procedural justice refers to a fair implementation of laws and regulations, with simple rules that are understandable for everyone and a fair treatment of each other as a basis (Kirchler, Pitters and Kastlunger, 2020, p. 27).

Fair and equal treatment for everyone is a major challenge and can delay or even stop global, sustainable development on the way back after a crisis. Since the processes of fair distribution of subsidies are incredibly difficult, especially in a crisis where millions of people are affected, the help of artificial intelligence, which is created to deal with this big data and make quick and optimized decisions, is obvious. The problem with this, however, is that people are still very prejudiced and have a hard time trusting a machine's decisions, and, therefore, do not perceive them as fair. Due to the problem of acceptance of an A.I. with the apparent lack of emotion, more and more researchers are turning to examine perceptions of fairness in artificial intelligence decisions.

Research by Jiang et al. (2022) has scientifically proven that the perception of the fairness of the decision of an A.I. is based on the following cognitive principles:

- fairness over moral intuition
- perceived comprehensibility/simplicity
- fulfillment of the need

In a study, researchers used a mortgage fraud detection tool to examine how the addition of explainable A.I. components can help reduce the problem of adoption. Through an experiment comparing the new tool, supported by artificial intelligence, and actual mortgage applications, they were able to measure the effectiveness and evaluate it through analysis and corresponding evaluation methods (van Zetten, Ramackers and Hoos, 2022).

Our results show that adding explainable AI capabilities results in a statistically significant improvement in trust and usability among everyday users. The explainable AI system that implements global interpretability has been found to significantly increase confidence in the ability to perform the processes designed for compliance and fairness. In particular, identifying biases against demographic groups has been successful in helping to identify them (van Zetten, Ramackers and Hoos, 2022).

2.2. The development of leadership and new perspectives

Leadership has existed since humans have existed. Whether it is the construction of the pyramids, where the slaves implemented the plans of the scholars of ancient Egypt, or the division of labor in ancient Greece and in the monasteries in the Middle Ages (Glotz, 1987, p. 272). Adam Smith was already researching the division of labor in a pin factory in the 18th century in an attempt to increase productivity (Smith, 1928, p. 6). More than 100 years ago stood the economic man which was the approach that all people are equal. The assumption was that the employees generally reject responsibility and act purposefully, which means choosing the option that means the greatest profit. A standard work in that time looked at from a scientific point of view and thus the founder of Taylorism, is Taylor's “The Principles of Scientific Management” (Taylor, 1911).

Some companies had great success with this approach – the first mass production in the automotive industry, the Ford T-model, is a good example. The reason why this corporate philosophy worked so well in the past is clear today. It was about employees on the assembly line following a clear process without deviating from it or contributing your own thoughts.

But as old as Taylor's book (1911) is, so are the negative reviews. Linda Claudia Kohl (2007) wrote a critical analysis of Taylorism. It describes the processes of the automotive industry (the example is from the Opel plant in Rüsselsheim Germany, where daily around 350 mid-range sedans rolled off the assembly line at the time) based on three areas:

- separation of headwork and manual work
- exploitation of workers
- lack of science

The most common criticism at Taylorism relates to the separation of mental and manual work. Above all, according to the critics, the establishment of the work office would result in the complete depletion of the meaning of work. In addition, the separation leads to the degradation and automation of the worker. His initiative and intelligence were rejected and due to the extreme division of labour there was also a refusal of job satisfaction. Due to the constant repetition and minimal demands that are made on the worker and the constant flow of production, the worker would be given far too little freedom of action. According to the critics, in Taylor's teaching the human being had the status of a machine (Hebeisen, 1999, p. 119-121.

2.2.1. Classic leadership according to Weber and Lewin

The leadership philosophies of Max Weber and Kurt Lewin are frequently referred to as "classic leadership philosophies" in the literature. Max Weber looked into the issue of why people are subject to control. Ideal-typical conventional management styles were derived from the types of government he created each of which differs particularly in its claim to leadership. Kurt Lewin investigated how various styles impact social groups. Lewin distinguishes among leadership philosophies based on the level of communication between managers and workers, in contrast to Max Weber's theories on leadership.

Below is an overview with the description of the individual styles, intentionally not by Weber and Lewin, but with the most frequently mentioned advantages and disadvantages, from researchers of their time up to the present time in order to get a broad and diverse feedback:

- Autocratic and patriarchal management style:
  The autocratic and patriarchal leadership style are both characterized by the sole rule of the leader and the employee follows all work instructions of the supervisor in a disciplined manner and without argument. The small difference between these two management styles is that the head of the patriarchal management style (often more experienced and older than the employees) sees himself as a father figure and feels responsible for "his" employees. The opinion of the employees plays no role in this management styles. There is also a strict hierarchy in the company. The manager makes decisions without involving the employees (Laufer, 2005, p. 94).
  Typical representatives of this management style are family-run companies that are passed on within the family. Employees who work in such companies must be aware that the corporate management owns the company and therefore has the say. The competencies are therefore clearly distributed, the planning is efficient and even in crises or when difficult decisions are made, the employees are not particularly challenged when it comes to making decisions. This style - neither autocratic nor patriarchal - is no longer or very rarely used in its original form. Variations of this are when the management initiates projects to awaken the creativity and innovation of the employees and thus motivate them for special tasks.
- Charismatic management style:
  Employees follow the instructions because they see their manager as a role model. With the help of a vision of the manager, the tasks are delegated to employees. The relationship between manager and employee is based on trust. The decisions are made alone, without involving the employees. Nevertheless, they are given the feeling that the decisions are made in their best interest (Baumgarten, 1976, p. 56).
  This leadership style has shown its advantages, especially during the COVID-19 pandemic - the charismatic leader has been able to play off his role model

wonderfully and based on trust, the employees have also followed, motivated by their leader. Despite the sole decision-making authority, the employees are motivated, even in a crisis, because they still have enough freedom in their area to carry out their day-to-day work according to their ideas. A fundamental problem, independent of leadership and the associated leader/employee relationship, is the great influence of the charismatic leader on decisions. This means that vice versa, wrong decisions can also become a high risk for the entire company.

- Bureaucratic management style

  There are rules and regulations for all work processes that must be observed. These must be followed by both employees and managers. An advantage of this management style is that the managers are relieved, and the employees are protected from the arbitrariness of the managers. In addition, the areas of responsibility are understandable for everyone due to fixed structures. If managers are absent for a longer period of time, the vacancies can be quickly filled again thanks to the clear structure. Furthermore, the danger of wrong decisions by the executives decreases since decisions in this style are only possible to a limited extent (Baumgarten, 1976, p. 38).

  Typical teams that are still managed in this management style are authorities or offices. There is absolutely no room for maneuver here and all processes and decisions are strictly specified. Motivation can drop very quickly with this management style, but employees who work in such institutions know what they are "involved in", often do not want to make any decisions at all and are happy to have a nine-to-five job that they do not have in terms of decision-making particularly demanding.

- Authoritarian management style

  The manager gives clear instructions that the employees must carry out. They are given no room for maneuvers and cannot develop further. They are also not included in the decisions. Authoritarian leaders are characterized by a high level of ambition. They always follow the company goals (Laufer, 2005, p. 85).

  Typical examples in which the authoritarian management style is still being used successfully and also makes sense are the police or fire brigade. There it is important that the manager gives clear guidelines for the assignment and that these are implemented exactly by all team members. Of course there is absolutely no creativity or room for maneuver in the course of an operation, but ideas and new, innovative suggestions, especially for continuous improvement, are gladly included in debriefings. In this case, the manager not only bears the responsibility of leading the team, but often the life of his employees also depends on the right decisions - the responsibility can hardly be greater.

- Cooperative management style

  In this management style, employees have a say and are involved in decisions. The relationship between the manager and the employees is based on trust. It can happen that managers pass on tasks from their areas of responsibility to their employees. A benefit of this leadership style is the increase in employee engagement and effectiveness. Tasks can be taken over by employees, so that the managers are relieved. (Laufer, 2005, p. 94).

  With this leadership style, the focus of the manager is to give clear instructions regarding the vision/mission/strategy of the group management so that the corporate goals are not lost sight of when the employees have a say. It is essential to show boundaries and clear areas in which employees are free to make decisions and move freely.

- Laissez-faire management style

  This management style allows employees to work freely. This means that the managers have no influence on them and they can also make all decisions themselves. With this management style, advantages result from the increased motivation and the zest for action that develops from the freedom given to the employees (Laufer, 2005, p. 87).

  The "unstructured" way of working is not always an advantage and so this way of working can lead to demotivation, especially when there are different views and decisions in the team.

2.2.2. Crisis management in the automotive industry

As already detailed in this chapter 2.2. the scientific research of Kurt Lewin (1947) makes a significant contribution to the basis of today's leadership. The researcher not only left his footprint in the area of leadership styles, but also did research in the area of change management.

He is even named the "intellectual father of organizational change" (Schein, 1988, p. 239) and is best known in this area for his three-stage change model:

A successful change includes therefore three aspects: unfreezing (if necessary) the present level L1, moving to the new level L2, and freezing group life on the new level. Since any level is determined by a force field, permanency implies that the new force field is made relatively secure against change (Lewin, 1947, p. 35).

The aim of the study "Forces behind food habits and methods of change", conducted at the State University of Iowa, was to explore why people eat what they eat and, subsequently, the possibility of changing these eating habits. The Bavelas-test was used to collect the data, in which 2,300 school children and, in a further step, housewives (divided into high, medium and low incomes) were interviewed. The experiments (comparing a group method, group decision, with a lecture method and prompting) show that it can be possible to bring about major changes in dietary habits in a short period of time - even in foods that might be expected to show great resistance to change would (Lewin, 1943).

This report is not only an interesting study in terms of change management, but also shows striking parallels to the methodology and procedure of this dissertation, where the author took over Levin´s procedure to examines the reason why employees quit in the automotive industry during the COVID-19 crisis and possible changes of this behavior using selected leadership methods. Further parallels in the approach to Lewin's (1943) procedure for his test series was used in the publication in the author's research field "Leadership influence on employee's behavior in the automotive industry in the Corona crisis" as preparation for this dissertation, where, based on an economic-philosophical investigation of people's behavior in the COVID -19 crisis, the influence of leadership has been proven.

In the journal article “A comparative study of crisis management Toyota v/s General Motors”, dealing with crisis management in the automotive industry, the authors defined crisis management as *the process which involves the way an organization deals with major problems that serve as a threat to it or its stakeholders. It is the way to alter the old and redundant systems that are no longer sustainable. It is required in all the organizations and separate divisions have been created in order to handle the crisis and provide solutions for all unseen problems making the knowledge of crisis management highly vital* (Jindal, Laveena and Aggarwal, 2015, p. 1-2).

The result of the research revealed that every business organization in the auto industry needs effective crisis management as it is very important for the growth of every business (Jindal, Laveena and Aggarwal, 2015, p. 10).

As already mentioned in chapter 2.1.4. cited, the author published the article “Artificial intelligence – The game changer in the automotive industry to counteract material shortage in a crisis” in the Hungarian Journal of Economy & Society. The new scientific results and the findings achieved in that paper can be summarized based on two important areas (Solderits, 2022, p. 85):

- to recognize a crisis at an early stage in order not to let it arise in the first place or to keep the effects of it to a minimum
- in a crisis, to provide people with better care in order to be able to provide competent services and thus get the crisis under control and end it as quickly as possible

Frieske and Stieler (2022) also deal with the topic of material shortages in the COVID-19 crisis. In their paper, they first analyze the causes using a quantitative market analysis and supplement them with strategic measures using the quantitative method in expert interviews in relation to a more stable, resilient supply chain. The aim of the research is to support automotive suppliers in the area of risk management in the strategic supply chain.

Also Burns and Marx (2014) go one step further and recommend "planning for crises" in their white paper. The researchers confirm one of the biggest threats for automotive suppliers in the supply chain disruption caused by the crisis. They examine the reasons why almost 70% of automotive suppliers do not plan for these risks. Even if a correct and very important step is already in that research taking into account with “anticipate the risk of a crisis”, it is still a question of reacting instead of acting.

Whether it's the research to be able to react to a crisis as quickly as possible - here as representative Frieske and Stieler (2022) - or the efforts of Burns and Marx (2014) to make crises as "plannable" as possible, it's always the old crisis management methods to "react" to a crisis. Or in the words from Jindal, Laveena and Aggarwal (2015): *crisis management methods in general have one thing in common - as defined in the word itself - they are crisis-response leadership methods, reacting on crisis.*

In this dissertation, the author sets himself exactly the goal to close that gap, formulated by the hypothesis H3 - “PESSOA leadership” can be a crisis-resilient leadership method for the high-performance culture in the automotive industry.

2.3. Positive leadership

Even if the method of positive leadership has its origins in positive psychology and the PERMA model by Seligman (2006) around the turn of the millennium in 2000, there are earlier findings which also refer to this leadership method as a basis – one example is the Hawthorne study.

The Hawthorne study in the 1930s aimed at optimizing work performance and, thus, improve production figures by varying environmental conditions such as working hours, breaks or even better workplace conditions. Of course, the temporal output of the products could increase with the improvement of the working and environmental conditions, but when trying to optimize them and find a maximum, something illogical and, at first glance, inexplicable to those involved happened - the production figures continued to rise, despite the withdrawal of the improvements (Roethlisberger, Dickson and Wright, 1950).

The results were interpreted in such a way that the atmosphere at work improved through interpersonal relationships (the R for positive relations in the PERMA model from Positive Psychology) and, thus, the human relations movement with the approach of the social man was generated. The effects of interaction and emotions quickly came to the fore in many studies and the benefits were also scientifically backed. Of course, this new approach also required new leadership methods in which the leaders focused on the sensitivities of employees, interpersonal contact, intercultural communication and teamwork (Ebner, 2020).

After the Second World War there were a lot of strikes in the 1950s and the turnover increased significantly. The theory of the self-actualizing man emerged, with the assumption that people strive for meaning in work. During this time, Maslow's (1981) hierarchy of needs and Herzberg's “motivation to work” (1993) were also developed, which are still used in current times as the basis for many theories. Employees demanded their own creative freedom in order to be able to contribute their creativity and were motivated by this. It was the top priority of managers to give employees this freedom and to explain the meaning of their work to them. The assumption was still, since the beginning of Taylorism 50 years before, that all people are equal and find their motivation either in financially, clearly defined goals, self-realization or through social relationships.

However, since the needs of every human being are different, the first deviation from this assumption of general equality occurred in the 1980s. This image of man, considering the complex and varying needs of the people and influenced by their personal environment and goals is called complex man. The motivation of people is very individual and diverse (see chapter 2.5.2. Leadership in the face of diversity). The task of a leader is, therefore, to respond to people, to recognize personal motivation and to promote this in line with their strengths.

In his book "Positive Leadership", the author differentiates another image of man, the virtual man, who is influenced by communication technology and the current constant changes in the VUCA world and is constantly forced to adapt. Especially now in the COVID-19 crisis this definition is becoming even more important, even the author wrote the book before the pandemic (Ebner, 2020, p.43).

The author's point of view, however, is that the image of the virtual man hardly differs from that of the complex man. Today's constant changes could also be assumed as a change in the needs and environment of the complex man and, thus, do not really represent a new image of man. Therefore, there is no need to change the leadership style to motivate employees to change from complex man to virtual man.

Also Ebner describes the changes as marginal and actually the situational leadership of the complex man as an optimized leadership style. However, on this basis he developed positive leadership, with the aim of recognizing, promoting and further developing the individual strengths of the employees. The leader should provide the environmental conditions, the breeding ground for this growth (Ebner, 2020, p.44).

The increasing and constant change in the VUCA world not only causes a change in the requirements of customers and users, but also requires a transformation of work style. A high degree of flexibility, the ability to act quickly and productivity are most important to be able to follow those quick changes.

The agile method focuses on flexible, but efficient cooperation, quick reaction to changes and qualitatively better work results. The typical top-down approach, rigid hierarchies and inflexible processes have to be broken up and new work approaches implemented in order to create the transformation into a modern organization. Agility must be implemented at all levels - the self-organization of all team members, the leadership style of the leader and the collaboration of all.

The software department in the automotive industry has been using agile development methods for years because it has been proven decisive advantage in overcoming uncertainties while at the same time being productive.

Beta and Owczarzak-Skomra (2019) point out the importance of the leader´s focus on the team members and their commitment and of creating a collaborative environment in their article “Agile crisis management” for the University of Science and Technology Poland. Factors for success are concentrating on motivating employees, ensuring mutual trust and allowing freedom of action.

The factors and behaviors described here are typical of positive psychology or the further development of it, positive leadership with the approach of the PERMA model, explained in chapter 2.3.1.

In 1947 Taiichi Ohno (1988) developed the agile KANBAN working method from the old production principle in the automobile industry at Toyota by implementing the pull principle. Members use Kanban boards for visual work progress or use stand-ups (daily short standing meetings to discuss the status and progress of work packages) to make decisions already at working level. Schipper (2019) characterized agile as a work methodology increasing productivity, improving effectiveness and the possibility for team members to get into the "flow".

Leading employees has not only changed significantly from the time of Taylorism to today's VUCA world – there has always be change! But leadership has changed from management of people to leadership of empowered employees. Today's state of the art leadership style is positive, strength-oriented leadership, which developed from positive psychology only 20 years ago, in the turn of the millennium and was also successfully implemented in business.

A very important steps from the old classical leadership approach to agile leadership is positive leadership. It is closely connected to the principles of positive psychology research - both very young research areas that only have their origins around the turn of the millennium. One of the world's most recognized researchers in positive psychology is Martin Seligman, a university professor who was elected president of the American Psychological

Association (APA) in 1997. In his inaugural speech, Seligman addressed the problem that the psychology mainly researches mentally ill people, while healthy people are not considered very directly. If a person does not have a mental illness, is not depressed or mentally disturbed, that does not mean that this person is happy and content with his life. He also called for research and realignment to explore areas such as optimism, happiness, courage and satisfaction - how to positively influence the lives of healthy people and enrich their lives.

The following table lists the references that serve as the basis for the research in the field of positive psychology in connection with leadership in this dissertation, in addition to the main references from Seligman (2011), Ebner (2020) and Blickhan (2015).

Table 4. Positive psychology in leadership

Authors	Reference/Title
Drønnen, M. 2022	Using Positive Psychology for a Better Workplace Culture
Lomas, T. 2019	Is Coaching a Positive Psychology Intervention?
Joseph, S. 2015	Positive Psychology in Practice: Promoting Human Flourishing in Work, Health, Education, and Everyday Life
Kauffman, C., Joseph, S. and Scoular, A. 2015	Leadership Coaching and Positive Psychology
Polansky, B. 2017	Positive Psychology and Leadership
Boniwell, B. & Smit, W.A. 2018	Positive psychology coaching in practice
Rose, N. 2021	Management Coaching and Positive Psychology

Source: author´s research

In his book "Flourish - A visionary new understanding of happiness and well-being" Seligman (2013) recognized and identified three elements very early on during the development of authentic happiness that humans choose for their own sake - positive emotions, engagement and meaning all of which would later become part of his world-famous PERMA model.

The researcher thought that the focus of positive psychology should be "happiness" and the goal is to measure happiness in order to increase life satisfaction. He later realized that the first priority of positive psychology must be well-being and the goal to measure and to increase “flourishing”. In the course of this realization and further development, he not only defined the measurement of how satisfied one is with one's life (in numbers from 0 for terrible, to 10 for ideal), but also completed the theory of well-being, which he defined through five elements - the PERMA Model of positive psychology (Seligman, 2013).

The following paragraph is only a rough summary of Seligman´s book Flourish (2013) with the PERMA model, as the individual elements are discussed in more detail in the next chapter, the extended model by Markus Ebner (2020) - the PERMA-lead model.

“Positive emotion” is the first element in the well-being theory, the origin of happiness and life satisfaction referring to feeling good and experiencing positive feelings regularly. The feeling of happiness is not simply the absence of bad luck, but active work to achieve this state by being more mindful, grateful and appreciative of oneself and others.

In the *“Engagement”*, strength orientation plays an important role in bringing in one's strengths and being able to develop further. Engagement and taking ownership is the inner drive, the engine, of happiness and is achieved by engaging in activities that are challenging but not overwhelming.

“Relationship” means the relationship within the team, the interactions with other people and having positive experiences with them. It is not just about being able to rely on others, but also about getting involved and being there for one´s family or team at work.

“Meaning” is of great importance and expresses assigning meaning to one's action, experiencing meaning and fulfillment. It is important to know what purpose, what connection to the big picture the action has. When people experience meaningfulness, they are automatically intrinsically motivated.

“Accomplishment”, the last element means setting realistic, concrete goals and achieving them. Each goal is an automatic feedback on self-confidence and provides additional motivation. If the goals are larger and complex, they should be broken down into smaller milestones in order not to lose perseverance.

The goal of positive psychology in the "happiness-theory" is to increase the amount of happiness. In contrast, the goal of positive psychology in the "well-being theory" is to increase flourishing. F. Huppert and T. So, a team of researchers from the University of Cambridge, with whom Seligman works, define flourishing in the context to the European Union in the spirit of the well-being theory: *An individual must have all the core features and three of the six additional features* in the overview in table 5. below (Seligman, 2013).

Table 5. What is well-being – the core and additional features

Core features	Additional features
Positive emotions	Self-esteem
Engagement/Interest	Optimism
Meaning/Purpose	Resilience
	Vitality
	Self-determination
	Positive relations

Source: Seligman (2013, p. 27)

In a survey, composed of the above core and additional features, of more than 2.000 adults from each nation out of the EU, Denmark leads related to flourishing with 33% and Russia is at the end with about 6% (Seligman, 2013, pp. 26-29).

This study has led to the “Everest-goal” of positive psychology in well-being theory: Start asking what makes us really happy, measure, analyse and based on the results, increase flourishing where it is most needed and where the most impact will be.

2.3.1. The PERMA lead model

As in psychology, leadership research was initially about recognizing deficits and eliminating these supposed weaknesses. At that time nobody was interested in the strengths of the employees and, of course, the management work did not focus on how these strengths could be optimally used to get the employee in the optimal flow.

The approaches of positive psychology, strongly pushed from Seligman (2006) as he became the president of the American Psychology Association (APA) in 1998, have prevailed in many sciences. This also has a strong influence on research, leadership and development of employees, with the PERMA lead model in the table below.

Table 6. PERMA lead model - positive psychology for leadership

PERMA model	Responsibilities for the leader
Positive emotions	Enable positive emotions
Engagement	Promote individual engagement
Relationship	Create sustainable relationship
Meaning	Convey meaning in work
Accomplishment	Make accomplishment visible

Source: Ebner (2020, p. 70)

The PERMA lead model for manager and leader, developed based on the PERMA model, to not only guide, but develop employees to the next level for the agile workstyle, using the positive psychology approach, explained in detail with also some examples for better understanding in the following sub chapters 2.3.2. to 2.3.6.

2.3.2. Positive emotions in the PERMA lead model

The "P" in the first element of the PERMA lead model stands for positive emotions and means that leaders should ensure positive emotions. In this chapter, it is important to examine the influence that emotions have on work. In order to answer this question, it is important to know what emotions there are and what effects they have.

The task of the leader is to further develop individuals and the entire team based on the positive emotions and the strengths of the individual. With the appropriate management style it is possible to promote the performance of the individual and the cooperation within the team and, thus, to influence it very positively.

Eckman (1988) defined the basic emotions, of course depending on all dimensions of diversity as joy, surprise, anger, fear, sadness and disgust. Starting from this basis, Fredrickson (2011) defined six facts in her research “The power of good feelings” (translated from German to English, since the author's book is only available in German) that lead to a positive basic attitude:

Table 7. Positive emotions

Positive emotions	Description
joy	JOY arises when unexpected happiness occurs. Joy also develops the desire to play or get involved. Examples of this are a surprise or good news.
gratitude	GRATITUDE arises when people recognize another person as the source of their unexpected happiness. It creates the motivation to go new, innovative ways and to be kind.
serenity/satisfaction	SERENITY and SATISFACTION arise when people feel their present circumstances are absolutely valued, right, or satisfying. People feel serenity when they feel comfortable and at one with the situation. Calmness creates a desire to enjoy the current circumstances.
interest	INTEREST arises in situations that are considered safe but offer something new. People feel interest when they encounter something that is mysterious or challenging but not overwhelming. Interest sparks a desire to explore, delve deeper, and learn.
hope	HOPE usually arises in difficult life situations, the outcome of which is uncertain. People have hope when they see at least a chance for things to get better. Hope sparks motivation to mobilize one's own abilities and strengths to positively influence things or situations.
pride	PRIDE arises when people have a fair share of something that is considered valuable in their social context. Achieving a goal or a good result would be examples of pride.

Source: Blickhan (2015, p. 72)

Of course, not every day can be joyful and bad news or events cannot and should not be talked about in a good way. The theory from chapter 2.6. helps here - "The elephant in the room" or "Best practice" in which problems are easily addressed and acknowledged. It is not about judging; It is about listening. It is important to learn from mistakes so as not to make them again. Or, in the opposite case, let others learn from best practice, especially if they are in other locations - lessons learned.

The following summary are ideas for exploiting positive emotions for leadership (Ebner, 2020, pp. 135-137):

- take your time for small talk - the term social distancing is actually wrong. It is about keeping your distance and it is precisely then that it makes sense to be socially close and to seek dialogue
- individual social room - for personal retreat or to take a rest or talk with colleagues
- motivation tip of the week - make success and successful employees visible
- after-work event (fun and effective during restricted mobility in the COVID-19 pandemic; can be also online, where the team can be invited to an online after-work-beer)
- forward external praise - also the management level need to know when something went well or the team had success - visibility
- appreciate expertise of employee - actively ask for expert advice to get initial assessments. It makes every employee proud when their advice is needed and valued
- separate positive and neg. feedback - Negative elements influence the positive. Success do not evoke so much joy if they are mentioned in one sentence
- accept free time of employee - every employee is individual, so every person needs their time for themselves. The reasons for this are manifold and must be accepted
- open house day for family - employees are proud of their work and they want to show it to their loved ones

The examples above cannot always be attributed to the single element “positive emotions” and often overlap with others. Still, when multiple intrinsically motivated areas are affected it is an added benefit.

2.3.3. Engagement in the PERMA lead model

The second element in the PERMA lead model is the "E" for engagement and means for the leader´s responsibility to promote and use individual commitment according to personal strengths and, thus, give the employee the chance to flourish. The advantage of this is that employees whose leaders give them the opportunity to use their strengths at work, are happier, resulting in increased customer satisfaction and more turnover. However, there are many surveys that confirm that very few employees feel they are using their strengths.

A technician probably loves his research work to discover new things, to be able to live out innovative solutions and to be able to develop new, interesting products. Nevertheless, things such as documentation or norms and standards must also be observed, which require a lot of paperwork, which may not be so much the technician's strength. Or the planning and organization of the budget are certainly not the top strengths and favorite activities of a technician, but they should be done.

The second factor, and an important one, is definitely the fact that most people do not choose their careers based on their strengths. An example would be the lawyer who has incredible artistic talent, but whose parents wanted her to go to university and choose a "respectable profession". In a study, Ebner researched which criteria young people use to choose their profession and interviewed 600 people who were currently undergoing training. The result was a dream job, a secure job and career opportunities with similar importance in the first places (Ebner, 2020, pp.146-147).

The author of this dissertation is even convinced that most people do not even know their strengths, let alone have ever thought about exploring them - more about that in the following chapter "strength-based leadership".

The third and final factor is the point at which the leaders can apply their leverage. In many companies, the development of employees is weakness-oriented and the staff is, therefore, given training courses, seminars or coaching and mentoring to compensate for these weaknesses. Ebner sees the problem that, despite the intensive seminars that often go into great detail, no strengths are identified or developed further. Even if high potentials are identified, their weaknesses are usually worked on and what is still missing, for example, to get an executive role (Ebner, 2020, p. 147).

The solution would be so close and should focus on finding and promoting the individual strengths of the employees in order to then find the optimal position/role for them. As if that were not enough, this strength must be promoted and the development of the employee must be coordinated with it. At the same time, the spiral of positive leadership keeps turning upwards - first and foremost the motivated employee who can contribute his or her strengths, the company in which the performance of the employee and, consequently, that of the team increases, and, last but not least, the customer, who sees the consequences in the quality of the products.

The following summary are ideas, based on engagement for leaders to work with the employees (Ebner, 2020, pp. 192-193):

- find out and use strengths (see strength based leadership in the next chapter)
- enable horizontal development - expert career based on the strength
- promote diversity – the value added in a diverse team is creativity and innovation
- show best practice – good (and also bad) examples have to be shared, especially in a global corporation with many worldwide locations
- trial and error is ok – see example of failure culture in chapter 2.6.
- ask employees for ideas (different strengths, combined with diversity give more, creative and innovative solutions)
- enable people, pro-activity and give responsibility – empowerment, ownership

The examples above cannot always be attributed to the single element "engagement" and often overlap with others. Still, when multiple intrinsically motivated areas are affected it is an added benefit.

Engagement and strength-based action requires that employees take ownership and that they are empowered, which means that they have a clearly defined scope for decision-making regarding where they are allowed to move. This freedom leads to a self-developed and expanded work design, which, in turn, leads to flow and further intrinsic motivation.

2.3.4. Relationship in the PERMA lead model

Most people are very familiar with the influence of work relationships, but unfortunately more in a negative sense. Examples could be the colleague who spoils any desire to work together through his unmotivated manner or the assistant who will not take any action without receiving something in return for their efforts. It is all the more gratifying and motivating when one has found the ideal partner in the next department with whom one can work perfectly because of mutual understanding.

The wish to form close relationships with like-minded people can already be found in our closest relatives, the apes. The neuroscientist Sapolski (2004) wrote in his research "Why Zebras don´t get ulcers" about the importance of this relationship. After observing monkeys in Africa, he noticed that some monkeys - more often those who had formed social connections - were better able to cope with stress than others. He recognized social connections as a key factor in stress reduction and was able to draw parallels with positive psychology research: The importance of relationships for happiness.

Good examples of social connections are clubs that express their togetherness through clothing, similar to wearing police, rescue or fire brigade uniforms. Colleagues in the police can rely on each other, even if they are in a large-scale operation and are seeing each other for the first time, they will work together in the best possible way.

Kotter (1997) also uses this effect of a common logo and names logos as a sign of togetherness in the eight points of his “Leading Change” in the first point Vision/Mission/Strategy (see also Chapter 2.1.2. How to change of social habits in the pandemic).

Even as a child, it is suggested that one should not reach for the hot stovetop, otherwise one will burn oneself - usually in connection with the raised index finger of the parents when they admonish their children. Parents often use the index finger to suggest to the children "pay attention, what is said now is important". Very often this behavior is learned and adopted by the children very quickly, even before they can walk or speak. This is a good example of the term "social learning" within the people with whom we build relationship.

The following summary are ideas for practicing relationship for leadership (Ebner, 2020, pp. 231-232):

- cross-divisional team meetings – best in combination with different culture/countries
- budget for team events – there is no better investment than a team event of colleagues who will work together in future (e.g. project kick-off to bring the team together)

- social relax rooms to boost brain storming
- mentoring – to bring employees and leaders to the next level, guided by a mentor
- show and honor best practice – make people and success visible
- open conversation culture – The elephant in the room, Best Practice
- joint lunch or morning coffee
- introduction round for new colleagues with office tour
- family day - employees are proud of their work and they want to show it to their loved ones

The examples above cannot always be attributed to the single element “relationship” and often overlap with others. Still, when multiple intrinsically motivated areas are affected it is an added benefit.

2.3.5. Meaning in the PERMA lead model

Meaning in the PERMA lead model is described in one phrase "giving the work meaning". The many helpers in the COVID pandemic were a good example of doing something meaningful, of getting involved, independently driven by inner motivation. Whether it is the many helpers with the COVID vaccination who help (mostly free of charge) with the COVID test, fill out forms and direct people to the right queues or just the neighbor who asks very nicely whether he can buy something from the supermarket during the lockdown, or the heroes in the pandemic who care for patients in the hospital in the intensive care units, all of them have been doing superhuman things there around the clock since the beginning of the 2020 pandemic.

Even before the pandemic, there had been a trend in the labor market that was probably accelerated by COVID-19 - people want to do something meaningful at work, to contribute something to the big picture. Researchers see this trend as the movement from materialistic to post-materialistic values.

The paper from Cartwright and Holmes (2006) titled "The meaning of work: The challenge of regaining employee engagement and reducing cynicism" addresses the rebalancing and organizational need to recognize the meaning and emotional aspects of work as demands in the workplace have increased enormously. Building and further developing trust is the responsibility of leadership. Bad leadership leads to stress and mental health suffers. Leaders have to act as role models and get involved visibly. A good example and essential in the reorganization of companies is keeping promised agreements in order to restore the trust of employees. Management's actions must also be transparent and accountable, and employees' needs must be heard. The focus on developing a transparent and trusting relationship between leader and employee is called "authentic leadership". Leaders need to instill hope in employees after crises like the COVID-19 pandemic and give them the opportunity to recover, build resilience and actively support each individual in their search for meaning. Employees seek jobs with a satisfying work-life balance, with job security, increased social support and family-friendly policies. Researchers recognized that tremendous potential for engagement can be unlocked when leaders can explain the meaning of the work to the employees; especially in a crisis like the COVID-19 pandemic (Cartwright and Holmes, 2006, pp. 199-208).

To trace it back to Seligman's well-being theory, this chapter is about "meaning", related to happiness, to eudemonic happiness (translated, this means to develop one's potential) or, to put it simply, to value happiness according to values that seem important to one personally. This means that the goal for people who are happy with their values is the experience of meaningfulness - in private life as well as at work. It can be tremendously rewarding as a leader to support the development of an employee. The reason for this is that the employee "entrusted" to the leader is personally important to the leader and, therefore, belongs to the personal value system of the leader.

Therefore, in order to experience this happiness, it is important to do it for its own sake, because it is personally important and not because of the money or because it advances the leader in his career, for example.

Ebner (2020) describes several ways in which employees can find meaning in their work:

- the person himself is the cause - the person distinguishes whether the work is a necessity or sees it as a calling. As a result, the importance attached to work in comparison to family, leisure time or even religion emerges.
- other people are the cause - leader or colleagues have a role model function and motivate. Leaders can create a lot of meaning here, create visions of the company and a corporate identity and pass them on to the employees

- the work itself is the cause - for example the mission in the company: it may make a difference for an accountant whether he does his job in a for-profit automobile company or in an environmental protection organization, even if his job is the same.
- spirituality is the cause - in many countries religion, work life and private life are seen as a whole. A study in the United Arab Emirates, for example, showed that meaning can be experienced in this culture if religious moral concepts can also be lived at the workplace.

Schnell, Höge and Pollet (2013) defined four factors needed for work to be experienced as meaningful:

- "The fit" of the role in the company and the personality, the goals and one's own attitude, the life's work of the employee
- "The goal orientation" with the values, norms and visions of the company.
- "The importance" of the work that the employee carries out. What impact does the activity have on other people or on the environment? What is the employee's contribution?
- "The attachment" to the organization in which the employee is located and the sense of belonging as part of a community.

These factors are related to each other and should all be present, as far as possible, since affiliation alone does not create meaning, or even just one significant activity does not fully fulfill the employee. At work, the importance and potential predictors of what of 206 people were measured and analyzed. 46% of the predictors for work-role, importance of work tasks, socio-moral climate and organizational self-transcendence orientation contribute to the diversity of meaning at work (Schnell, Höge and Pollet, 2013).

The following ideas for practice meaning to work for leadership, out of the daily work from the author in automotive industry:

- leaders explain why a work-package needs to be done
- leaders talk about the sense
- „why“- category in intranet with short explanations of various aspects related to the company
- show vision and strategy

- inform employees about changes (re-organization, new products, discontinued products)
- design options (mobile office)

Especially during a crisis like the COVID-19 pandemic within uncertain times it is important to communicate, inform and explain why the management make decisions and what is behind those decisions. In a crisis a leader can do a lot and giving meaning turns to giving hope for the employee. If he is motivated and fight for a target, every single employee can contribute to the success of the company.

For the leader, in relation to "meaning", the first priority is to pass on the meaningfulness - the reason why - of the activity, the role and the vision of the company to the employee and the team. Combined with strength-oriented leadership, the fit of the role in the company and the personality are important factors and it is the responsibility of the leader to find out together with the employee where they fits in.

Employees in the automotive industry do not directly see the impact of the products they develop or that they create in a factory. The leader and manager, however, has better access to sales figures, projects, customer relationships and can communicate the impact to employees through internal communication. So it is always meaningful and motivating for the employee when he knows, for example, if a large project with a controller for autonomous driving was won or one of the largest car manufacturers in the world continues to count on the cyber security that the employee develops and, thus, safety is further increased on the road.

2.3.6. Accomplishment in the PERMA lead model

Behind the last letter A like "accomplishment" in the PERMA lead model is not just the term "to finish something, to finish something that has started", but also that one consciously perceives this achievement of the set goal. Conscious perception means, for example, interrupting the daily, entrenched and almost automatically functioning work processes in order to consciously appreciate something one has fought for and has finally achieved. This can take different forms - whether the team celebrates together or enjoys an after-work beer together, or the leader convenes a short stand-up meeting, where he congratulates everyone involved and shakes hands warmly. Accomplishment can take countless forms, what is important is the conscious perception of having achieved something.

There are several psychological, scientifically backed studies that show how important it is to perceive what has been achieved through one's own power, the feeling of having influenced something and having successfully completed it. This behavior is called "self-efficacy" in psychology and is the basis for people to continue to strive for goals (Ebner, 2020, p. 265).

The following ideas for practice the accomplishment (Ebner, 2020, pp. 302-304):

- personal development targets in addition to company target
- visualize success on pin wall
- monthly lunch with report of success
- show success in the company intranet
- monthly department email with hero of the month
- active and timely feedback from leaders

The examples above cannot always be attributed to the single element "accomplishment" and often overlap with others. Still, when multiple intrinsically motivated areas are affected it is an added benefit.

In order not only to show ways, possibilities and examples of how positive psychology is implemented though the PERMA model, but also to avoid falling into traps that are related to meaning, it is important to address the topic of "learned helplessness". Years before Seligman took office as President of the American Psychological Association, which is the largest psychological organization in the world with 133,000 (as of September 2022) members, he had already done experiments related to traumatic shock.

Seligman published an experiment titled "Failure to escape traumatic shock" in the Journal of Experimental Psychology in 1967, where he researched learned helplessness in an experiment with dogs by subjecting two groups of dogs to electric shocks. One group of dogs was able to stop the electric shock by pressing a plate, the other group of dogs were not given the opportunity to avoid the shock and were forced to endure it (this is called conditioning). The first group of dogs learned very quickly to press the plate and, thereby, escape the electric shocks, the other group also quickly learned that they could not escape and tried to deal with the feeling of helplessness as best as possible. After this experiment, the researchers started the so-called escape/avoidance experiment with a box with two black compartments separated by a light barrier as separation. This time, the electric shocks were administered through the floor and the electric shocks were ended by simply escaping inside the box to the other side by crossing the light barrier. The group of dogs that had learned in the first experiment that they could escape the shocks quickly figured out how to escape by simply switching to the other side of the box. The conditioned dogs, given no chance to escape in the first experiment, did not even try to escape in the second experiment and endured the shocks—this behavior is called learned helplessness (Seligman and Maier, 1967).

There have been countless experiments on the behavior of learned helplessness, all of which have led to the conclusion that it has a major impact on future actions when individuals experience that their actions have no influence on goal achievement. Whether they are literally "poor dogs" as in the Seligman and Maier experiment (an experiment that is certainly controversial today) or employees in an automobile company who will never know the accomplishment of their actions without the appropriate leadership skills of their superiors - the effects are the same: They will learn to live with their situation and will not be motivated to change anything about it. Ownership or empowerment programs, as well as motivational techniques, will bounce off these employees because they are of the opinion that their actions have no effect, neither on the success of the company nor on themselves.

Even after 55 years, writing about animal testing is still uncomfortable and sad for the author. But that is precisely why he wants to at least learn from what happened and show how important it is to identify opportunities and perspectives. Especially now, in the pandemic or in the Ukraine war, it is important to avoid learned helplessness and to support one another.

2.4. Empowerment is the basis for decision making in a VUCA world

The basis of decision making on employee level is empowerment, because only empowered employees are able to live ownership and make decisions already at working level.

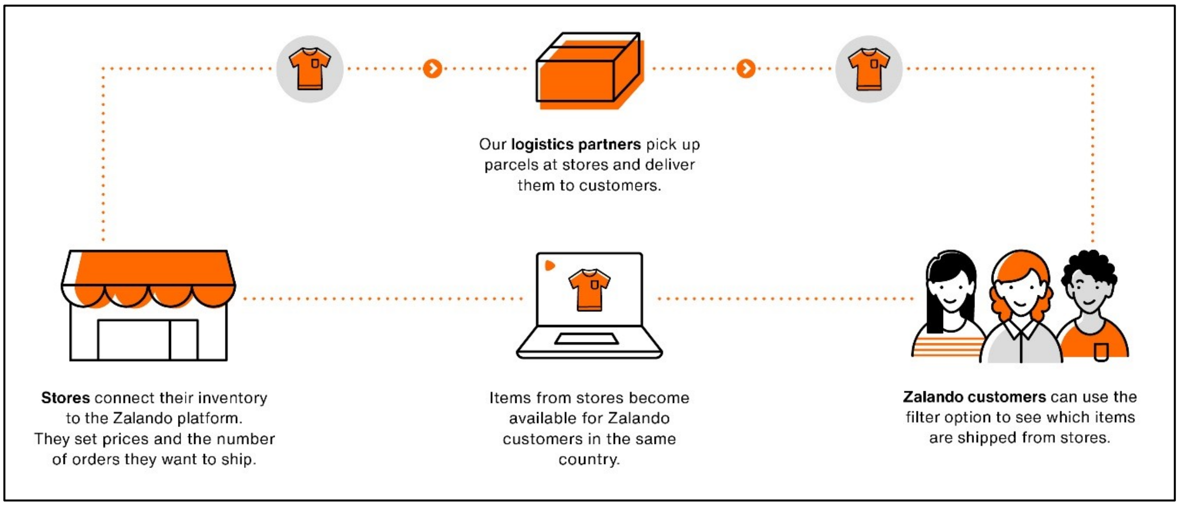
Erstad (1997) explains empowerment, described by many as a "fashionable management term", as a change strategy to improve the individual's and the entire organization's ability to act. Bachmair, Metz and Zacher (2022) go one step further and describe empowerment even as giving others freedom, influence and power.

Before going into detail regarding the foundation, the implementation and leadership methods for empowered teams, a short story of the development from shopping in paper catalogues to the modern e-commerce, which describes perfectly what empowerment can do. The generations back to the 80´s still knew paper catalogues that were sent to the households so that the family could see the latest fashion (usually there was a summer and a winter catalogue) and order by phone or send an order by post. The generation in the years that followed, already had the first online catalogue and online shops, where ordering paperless and, above all, at any time of the day or night on the computer was possible (Bachmair, Metz and Zacher, 2022).

This system has continued to develop until today and the old fashioned paper catalogue was followed by "e-commerce". This online trading no longer offers just a product, but the entire service including online fitting via APP (e.g. how glasses fit to the face), the entire logistics - with shipping and included packaging for return - up to the entire payment process (with automatic pay back in case the customer returns the goods).

A perfect example of this e-commerce development with the business model "connected retail" where also the automotive industry can take a lessons learned is the company Zalando. Online trade and retail have been connected in the fashion sector for years.

Figure 1. Zalando connected retail



Source: Zalando Corporate (2020, https://www.multiply.nl/blog/checklist-voor-zalando-connected-retail-aansluiting/)

Connected retail is a Zalando business model that enables retailers to offer their products on Zalando's online platform and, thus, serve an expanded and much larger customer range. Connected retail includes more than 7000 retail stores that sell their goods to millions of Zalando customers (Zalando corporate, 2022).

What represents a better, simpler and connected shopping experience for the customer means enormous repercussions for the complete supply chain involved. The markets are no longer stable and it is no longer a question of short-term fluctuations, but of a constantly changing VUCA world and the automotive industry must also position themselves to make decisions dynamically and in an agile fashion.

Another example of the efficiency and growth-promoting influences of empowered employees is the study by 3M automotive, where employees are encouraged to bring in new product ideas. If the ideas are approved by management, the employees who brought the idea can recruit colleagues - even from other departments. This strategy generates start-ups within the company culture and teams get raises and promotions based on success. If they fail, there is no punishment or other negative consequences. The freedom of these empowered employees enabled the company to offer over 60,000 products as early as 1988 and 32% of the $10.6 billion in sales that year came from such agile teams (Tseo and Ramos, 1995).

Behnke at al. (1993) published already more than 20 years ago “The evolution of employee empowerment”. The researchers examined the introduction of empowered self-directed work teams, hypothesizing that they would drive continuous improvement processes. The focus is on increasing output by reducing cycle time and reducing costs and increasing the associated customer satisfaction.

To empower employees and make them able to take ownership describes a way of working that is optimized and tailored to today's constantly changing times. Empowerment is the basis for employees to take ownership and gives the teams more freedom to make decisions at the working level, which improves the speed of decision-making processes enormously. The basis and, thus, the prerequisite for being able to implement ownership are empowered employees, the corresponding skills and know-how, as well as the areas defined by management in which the employees are allowed to move freely. The employees have direct customer contact, so they recognize changes faster and can react agilely. In the ideal case they can even act instead of reacting before the changes come and, thus, secure the customer the "added value" that everyone is talking about and, thus, the competitive advantage. Employees who work agilely need an agile mindset, an open attitude towards new things as well as agile methods and tools that help to work faster and more flexibly.

2.4.1. Establish empowerment

Before a company starts to empower its employees, it is essential to check at which level the team is. Bachmair, Metz and Zacher (2022) use the following definition in their book "Empowerment for teams, agile and self-organized - how teams become even more successful":

Typical manager guided teams are project teams. The project managers set the goals and delegate the work package to the team, what means little freedom for own decisions, hardly any individual responsibility and little or no courage and safety to speak up, as well as no room for experiments. The employees as project members focus on the implementation of the requirements from the project manager.

Empowered teams have a high degree of freedom and they agree on the goals together with the management. The team is responsible for the distribution of tasks, meetings and regular monitoring of the work status. The basis for these teams is full trust and ownership with the assumption that the team itself is best at structuring the collaboration and making decisions. The responsibility of the manager, or rather the leader in this case, lies in coaching and mentoring, as well as in the further development of the individual team members. The leader must provide the environment for the team to be able to optimally use and implement the degree of freedom of empowerment.

Autonomous teams, live the highest degree of empowerment and they are able to live ownership – this is also the target for the PESSOA experiment in the empirical study in chapter 3. There are no traditional managers guiding the team, the teams independently negotiate the goals with the company management and the distribution of tasks is chosen online by the team members themselves using agile methods. Decisions are already made in the team at the working level and are, therefore, highly efficient. Empowered teams are very often used in start-up companies or in the development of innovative products such as in the automotive industry in the field of autonomous driving e.g. development of high performance computers. The teams have to work closely with the customer and react quickly to changes as customer orientation is the top priority in these cases. In these teams, in addition to their technical know-how, the employees also need social and methodological skills in the area of ownership in order to be successful.

After reviewing these three empowerment groups, the leader's first task, together with the team, is to assess how the team works today and how they want to develop their work behavior for tomorrow. In this determination of the status quo, it is important to understand what needs to be worked on and what the goal of the group is. In order to implement this goal - the vision - accordingly, it is just as important to record how to work together and how a fruitful relationship and trust will be built. As is so often the case in good teamwork and a trusting cooperation, open and two-way communication is the prerequisite for success. A good example would be the exercises from the chapter ownership with were the positive failure culture is described in detail, to address uncomfortable issues - the employees as well as the manager need to know that a change, a transformation means hard work.

For the preparation, the basis of this change towards an empowered team, the same basic principles that Kotter already specified (1997) in his eight stages "Leading Change", can be applied. They provide a good red thread for the implementation in the next chapter.

In addition to this preparation, it is essential that the leader and the team review "What it takes to live ownership" and calibrate themselves. What is the status in the team and where does it want to go? It is important for the leader to know the needs of the team and vice versa and to provide the team the conditions to be able to implement empowerment?

2.4.2. Implementation of empowerment

The well-known principle of Kotter's 8-step "leading change" (1997) can be used for planning and implementation of the empowerment for high performance teams in the automotive industry. In the case of "empowerment" this means creating an urgency, building a leadership team and developing the vision and mission. A very important point that must be made not only once but regularly is the communication of the change. In this regular communication, it makes sense to also report short-term successes, which are extremely important for motivation. The communication and motivation for change must be implemented until it is no longer a change but is firmly anchored in the corporate culture - "empowerment" must become the culture of the company.

Rubin et al. (2016) use the theory of "empowerment" to examine power differences in educational research and explain the implementation of empowerment culture in development. From the author's experience through several reorganizations and major changes in one of the top five automotive supplier industries related to worldwide sales (Kords, 2021), as well as confirmed in the interview from executives in that company in chapter 3.2., point three "develop a mission and purpose" represents one of the greatest challenge for most teams.

Mission and purpose are crucial for successful cooperation in empowered teams, they give the team direction and goal orientation. If the team has to make difficult decisions, the first question must be automatically: “What is important for the achievement of the mission?” Since in empowered teams the responsibility is transferred to the entire team, the team, and the leader, are responsible for developing the mission and vision together. This automatically creates a sense of community, transparency and, above all, the team members jointly bear this new responsibility for making decisions.

The following five points should be a guideline and provide support for finding the vision and purpose to have a good start for the future, empowered team:

- List the five most important stakeholders who have a great interest in the success of the future empowered team. This can be the board of directors or executives, but also other departments of the company.
- Each of the five stakeholders needs to be interviewed about their expectations of the team, which must be measurable and clearly understandable.
- List the company's five most important customers, could be of course the company's current customers but also other internal departments such as the quality department or the typical interface between development and production in the automotive industry.
- The customers’ expectations must be ensured and documented through surveys and evaluations.
- The last point, after successfully securing all stakeholders and customers and their expectations, is a brainstorming session where all employees of the future,

empowered team make suggestions for the vision together with the managers. The question for the mission is, "What is the mission to meet stakeholder and customer expectations?" The equally important question related to the purpose is, "If the mission will be successfully fulfilled, what value is created for stakeholders and customers?"

After the vision and purpose are clear, the next step is to clarify and document the roles and responsibilities in the team. This step is essential for an agile and volatile environment such as the automotive industry, otherwise the overview is lost very quickly and the working relationship and the newly established social relationship in the empowered team are also unnecessarily stressed. The clarity and certainty that everyone in the team knows their tasks and responsibilities, including the limits within which they are allowed to move, is a prerequisite for the optimal functioning of this major change. It is important to move away from the old, traditional way of writing a job description. Job descriptions, especially in the automotive industry, are very technical with a precisely defined task.

When defining this task, Richard Harrison's "Collected paper" (1967) is a good guideline on how tasks can be found, assigned and distributed in an empowered and agile team. Harrison is one of the founders of the professional discipline known as organizational development. Harrison wrote the collected papers in Washington DC in 1967 as a freelance consultant researching the depth of intervention and relevance to business issues, inspired by two team development experiences.

The first example concerns administrators of a school district in Southern California, the USCLA, where Harrison substituted for a colleague in the second part of a training session. It quickly became apparent that the group was very nervous and uncomfortable fearing that the emotional rollercoaster from the first workshop would be repeated. Harrison shared his expectations of being as clear and open as possible about their work problems and identifying the behaviors and conditions that help or hinder them in doing their job - what Harrison calls "choosing the depth of organizational intervention." After the group had tested these guidelines, they calmed down and worked together very harmoniously and constructively for the rest of the workshop (Harrison, 1967, p. 1).

The second example emerged through collaboration with mental health experts at the University of Puerto Rico. This group was already used to being able to talk freely about interpersonal behavior. Harrison tried an experiment to see if he could get the group to fundamentally change the way they work together and asked them to chart each other's responsibilities - what is expected, who decides and who is informed, similar to a RASI chart (responsible, approval, support, informed). As a next step, he had the group write down the task responsibilities they wanted to change, and Harrison also asked them to offer something in return for their request. As in the first example, this group also worked together creatively and motivated until the end of the workshop and went home with a satisfactory result (Harrison, 1967, p. 2).

Harrison's conclusion was that the team calmed down because he recognized and respected their concept and they felt the organizational legitimacy to talk about the work and how it is done. This changed behavior led to issues at work - good or bad - being openly expressed and addressed. Out of those two experiences the lesson learned is that calming the fears of challenged people and focusing energy on the actual task works very well (Harrison, 1967).

Harrison's technique of role negotiation precisely takes these influences of power, competition and constraints into account. A strategy is followed whereby negotiations with people change their role within the company - not only the job itself, but also the area of responsibility, agency, the reporting process and the expectations on both sides.

With this technique it is important to specify your expectations precisely and to bring them to the group openly and truthfully. The requirement will only be accepted as an official approach to change if it is understood by everyone in the group. The prerequisite for this is, of course, the willingness of all team members to change something together, and no demands without consideration.

As with most confrontations, it is not easy to talk openly about grievances, problems and fears of employees among colleagues in the workplace and it is not surprising that there is great mistrust at the beginning and also fear of destroying the relationship of the group. It is precisely these problems why the leader must focus on solutions and ways in which the problems can be communicated openly in the team without giving rise to emotional discussions and blame. The assumption of these role negotiations is the social behavior of people who generally take the effort and energy to reach fair solutions without conflict for the team. The basis of this behavior is to raise awareness that expectations of others also follow expectations of oneself - a give and take.

People are very often influenced by social behavior to find out how they can influence other people in order to get their demands met. An enormous amount of energy is used for this, often more than would actually be required to achieve a mutually satisfactory solution. However, this behavior changes when colleagues are aware of each other's wishes and problems and it can also be dealt with much better, for example with suggestions for something in return. In addition, there is a good chance that this consideration is really something that the negotiating partner really needs and not just a treat to get what you want.

If the requirements are clearly defined, the entire team knows where it stands and where it wants to go, and the boundaries within which everyone moves are clearly defined, security, trust and fairness in the team are ensured (compliance with the processes and guidelines of the company provided), all the pre-conditions are set and the roles delete are clear, the new, empowered team can start its work.

2.5. Strength orientation and diversity

In order to be able to pursue the modern methods of ownership and, with the help of positive leadership, to give the employees more responsibility in which they are empowered, a development approach is always important - strength orientation and consideration for the individuality (diversity) of each employee. The times in which employees tried to "improve" by attending training sessions or a workshop to eliminate their weaknesses and when managers still believed that all people were equal and should be treated equally, instead of developing each individual according to his or her personal needs and diversity are long gone. The following two sub-chapters deal, firstly, with strength-oriented leadership and how strengths of employees and leaders can be found in the first place and the possibilities of using them in a targeted manner. The second sub-chapter goes into detail about the different areas of diversity, employees' differences and how the leaders deal with leadership in the face of diversity.

2.5.1. Strengths-based leadership

Working on one's weaknesses and eliminating them instead of targeting one's strengths is a common misconception when it comes to improving work performance.

Buckingham and Clifton (2002) analyzed a psychologically sad result in a survey of 200,000 employees from almost 40 different companies: Only about 20% of the employees stated that they can use their strengths every day. Even more devastating was the finding that this score worsens the longer the employee has been with the company or as the employee climbs the corporate ladder.

The size of the survey from Buckingham and Clifton (2002) with 200.000 employees is interestingly about the same size of the company, where the author of this dissertation is working and performing the survey in chapter 3.1. The fact that employees are dissatisfied with this situation is reflected, among other things, in the reasons why employees quit, accelerated by the COVID-19 pandemic and can be seen in the author's study and one of the hypotheses I - III in this work.

Beginning around the turn of the millennium there was some research mainly in the area of positive development, investigating what constitutes good character and how this can be measured for analysis. In order to define and classify character strengths, behavior is not only decisive in certain situations, but character is a positively defined strength that one either has or does not have. Character is typical of a person and should also be described as such. Character does not change suddenly, but can change over time. And of course character is also influenced, but not predetermined, by diversity. The psychologists Peterson and Seligman were leaders in this field and, from their extensive research in the years 2001 to 2005, the classification of the 24 character traits, which is still valid.

In principle, every person can acquire any strength of character and develop it further or "lose" it by dedicating and focusing more on other strengths. So-called signature strengths develop from the strengths of character. These are strengths with which a person particularly identifies. Signature strengths are very easy to identify because they are the strengths that define a person as they make up a large part of their self-image because they are part of a person's identity.

If the signature strengths are used, then this person is seen as authentic and special. He uses these strengths for his own sake and is, therefore, intrinsically motivated. The person is very motivated and full of energy, since these strengths constitute his fundamental character (Niemic, 2017).

Table 8. The 24 strengths of character with their 6 virtues

Virtue and strength	Definition
Wisdom and knowledge	Creativity
	Curiosity
	Open-mindedness
	Love of learning
	Perspective
Courage	Authenticity
	Bravery
	Persistence
	Zest
Humanity	Kindness
	Love
	Social intelligence
Justice	Fairness
	Leadership
	Teamwork
Temperance	Forgiveness
	Modesty
	Prudence
	Self-regulation
Transcendence	Appreciation of beauty and excellence
	Gratitude
	Hope
	Humor
	Religiousness

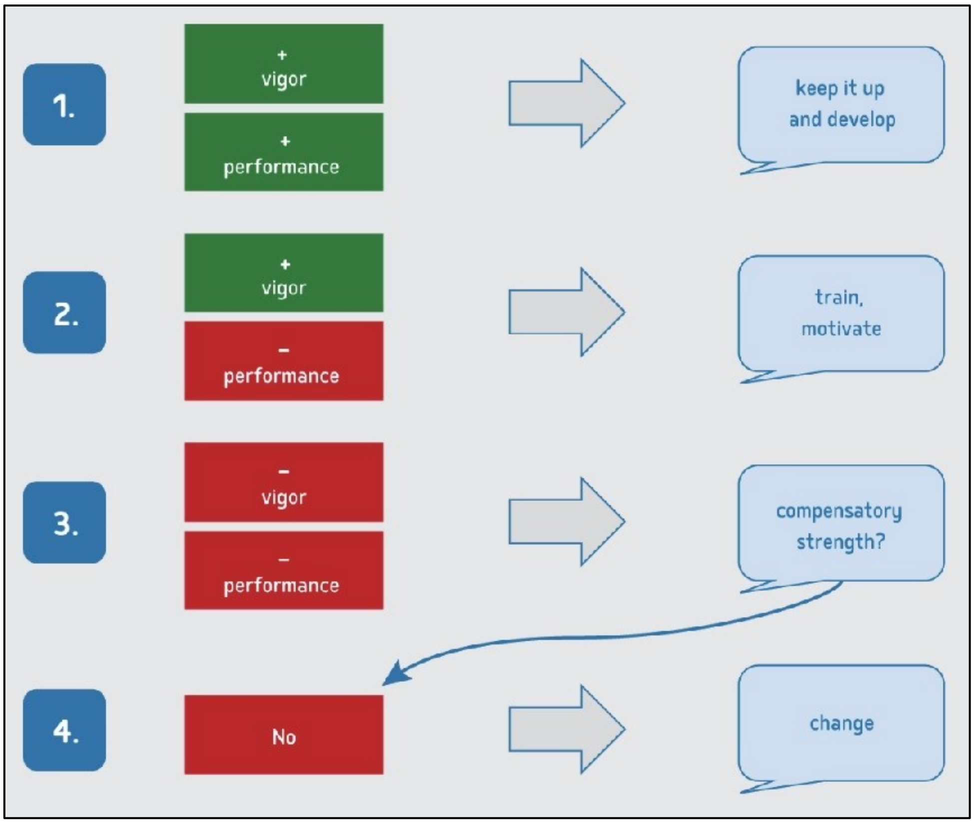
Source: Peterson and Seligman (2004, p. 412)

Finding one´s own character and signature strengths is very easy. Based on the table above, participants simply select five to eight strengths that best suit them personally and describe them best - these are the character strengths. In the next step, the test participant asks himself the question, “How would it be if I could not use these strengths for the next two weeks?” Most people react to it intensely and feel as if something had been taken away from them, as if they are limited in what they can do.

It is controversial who first "invented" this test of signature strengths, although the implementation is actually only logical as the strengths that someone does not want to do without are the most important strengths that make him special.

Managers and leaders in the automotive industry find themselves in the situation of deciding whether an employee is up to the task of their role or at least can satisfactorily develop their strengths with the help of various measures such as coaching, or whether it is better to part with them. To support this decision, the Viennese Professor Markus Ebner (2020) developed the "strength-based decision tree" - see the figure below, with the explanation of the four combinations.

Figure 2. Strength-based decision tree



Source: Ebner (2020, p. 194)

Combination 1: The employee has the appropriate strength for his role and shows good performance. In this case, it is the leader's responsibility to tell the employee which means giving positive feedback. In addition to the further development of this employee, it is important to increase the requirements at the same time so that the job remains exciting (Ebner, 2020, p. 194).

If the tasks are too easy to complete, the employee is not only bored, but also feels that they are not challenged enough. It is not uncommon for such employees to lose motivation because they feel that their knowledge and experience are out of place in this role. A very good possibility, and enormously popular in positive psychology and positive leadership, are "Everest Goals", which are very big challenges that can only be met with enormous effort. It demands everything from the employee, but it is enormously satisfying and intrinsically motivating.

Combination 2: The employee has the appropriate strength for his role, but his performance is not satisfactory. In this situation, the leader must find out the reason for the poor performance as quickly as possible. Reasons, as described in the previous paragraph, can be boredom due to unsatisfactory goal setting or a lack of challenge. Long-term work overload, as has often been the case during the COVID pandemic, or a lack of self-confidence in actually having the required strength for the role to be performed, could also be the cause (Ebner, 2020, p.195).

Combination 3: The employee does not have the right strength for his role and, on top of that, the performance is not sufficient. This would be a case of separating from the employee. If a separation is possible, the employee must be explained in detail why and where the problems lie. If a separation is not possible, it is best to look for a role that corresponds to the employee´s strengths, see combination 4. This is a task for the leader (Ebner, 2020, p. 195)

In the event of a separation, a discussion is extremely important in order to protect the employee from further wrongly chosen roles and to tell him clearly that these are not his strengths or that it makes little sense to work on these weaknesses. On the contrary, he must be told, even if the employee stays with the company, that he is not in the right role and that he should do a test of his strengths of character and signature strengths (preferably with the support of the leader) and then reorient itself according to the strengths.

Combination 4: No compensation strength is found. In this case it is really necessary to part with the employee. If this is not possible as described above, a detailed discussion is necessary to explain to the employee why he will not be happy in this role (Ebner, 2020, p. 195).

This employee will often make mistakes; He will not be intrinsically motivated and will probably never even have the chance to get into the "flow". If possible, it is essential to find a different position within the company, if this is not possible, it is recommended to encourage the employee to leave the company himself.

As the basis for the new PESSOA leadership method, strength-oriented leadership is after ownership and empowerment of employees the way to “acting instead of reacting”. Once the boundaries and responsibilities, as well as the decision-making areas at the working level have been clarified, the next step for the employees is to work with the leader to optimally use their strengths. If the strengths are not known or not clear, the leader must provide the relevant information and analysis so that this can be clarified and applied as quickly as possible. Of course, it can then happen that the new, empowered role no longer suits some employees and decisions have to be made according to the strength-based decision tree.

2.5.2. Leadership in the face of diversity

The general understanding of the strengths and, thus, the advantages of a diverse team, especially in development, are the different ways of thinking and varying approaches of people of different cultures, gender, age, ethnicity, physical ability and sexual orientation, as well as further external and organizational dimensions come with it.

Diverse teams have been common in the automotive industry for years, since the globally networking corporations automatically mean that different individuals work together.

With the term "leadership in the face of diversity", this chapter deals with the implementation of the leadership role, which requirements the leader must have in order to lead such teams, which approaches and methods are available and which leadership methods are particularly suitable for this. Furthermore, of course, the requirements of the VUCA world must also be addressed and the leadership style must also be geared towards leading an agile, high-performance team whose environment, customers and products change very quickly.

Figure 3. The four layers of the diversity model

Source: Gardenswartz and Rowe (2003, https://www.gardenswartzrowe.com/why-g-r)

In his article "Managers and Leaders: Are They Different?" in the Harvard Business Review, Abraham Zaleznik (1977) made a clear statement: *Business leaders have much more in common with artists than they do with managers.* The Harvard-Professor in the field of organizational psychodynamics and the psychodynamics of leadership noted the difference between leader and manager in the fact that managers are focused on process, stability and control - in summary, problems should be solved quickly, the understanding or deeper one research into the root cause is not the focus. Leaders, on the other hand, want to explore the problems, understand the causes behind them and are happy to tolerate that solutions take longer. In an updated version of the Harvard Business Review in 2004, the author pointed out that an organization needs both groups to be successful. It requires the manager who develops and follows plans and who considers the important processes of the automotive industry in order to comply with the given standards and norms. But also needs the leader, who points out problems, develops employees and leads agile, empowered teams in complex projects. Both must focus on the vision of the company and communicate this to the employees on a regular basis (Zaleznik, 2004).

Crisis management is an integral part of managers' and leaders' responsibilities in a company. In today's VUCA world, people live in constant crisis mode and run operations almost exclusively in "survival mode".

According to a publication by Zvarych and Tysh (2020), the effectiveness of activities in times of crisis is directly related to vitality - the timeliness and completeness of the necessary measures. The success of the company is directly related to the level of development and the skills of the management, which steer the team through the crisis.

A research series was carried out by methodically determining several crisis theories, organization theories and state-of-the-art strategies of crisis management. The researchers' goal was to develop optimized crisis management measures for Ukraine's economy in the COVID-19 pandemic. The result of the paper showed not only the importance of choosing a crisis management system that is optimized and appropriate for the crisis, but also the earliest possible implementation of the measures (which, in turn, emphasizes the importance of early detection such as Kejriwal's THOR project). In the course of the research, it was also found that measures and strategies from previous crises could be adapted to the COVID-19 crisis and also had an effect there (Zvarych and Tysh, 2020).

2.6. Ownership as the result of practicing empowerment

Although the concept of ownership has its roots in quality, it is becoming a more crucial and essential idea in organizational growth. Employees who practice ownership behave as if they are the business's owners. If they see a problem, they feel accountable for contributing to its solution and for driving the change.

Ownership as a part of agile working must be integrated across the whole organization to be effective and successful. The objective is to foster a culture of ownership, alter attitudes, and ingrain the new culture so that each employee is proud of their "contribution." Ownership is advantageous for both the business and the individual since it encourages accountability and the desire to make a difference. Additionally, ownership allows the worker the ability to "flourish," which is further explained in the next chapter.

The automotive industry exists in a VUCA world where continuous changes are even accelerating compared to other industries, as evidenced by COVID-19, the conflict in Ukraine, with all the resulting problems, such as a shortage of components in the automotive industry, the general energy crisis and the resulting explosion in inflation,. With all the crises, one could forget the problems of environmental pollution, global refugee problems, and corrupt politicians in almost every country in the world, which were omnipresent prior to the COVID-19 pandemic and the Ukraine war.

Experts already foresee that these crises will occur more often and that the time between them will become shorter and shorter. Maintaining composure in the face of these uncertainties is challenging for both people and organizations.

For this reason, an organization where people takes responsibility for their job, for their learning, and for their contribution in the context of the big picture is more important than ever, particularly in the highly competitive and quickly evolving automotive sector.

The empowering of the organization's personnel to take on this additional duty is the obligation of the leaders.

2.6.1. Establish ownership

What is being shown is that taking responsibility requires both individual effort and a supportive environment - the balance: Employees take responsibility and the leader gives them the environment to do so (empowerment).

If individuals start acting independently without simultaneously coordinating and providing instructions, chaos will result. Employees must contribute their own perspectives, accept responsibility while working with others, and see beyond their own constraints. Last but not least, every employee must have the confidence to speak out, which necessitates overcoming fear and having faith in the ability of leaders to assist and support.

The overview in the table below are the three balancing principles in which the employee and the leader from the PESSOA experiment, described in detail in the empirical study in chapter 3.2. must stand in order to be able to live ownership. Only if these are in harmony and the leader gives the employee the conditions to take ownership and the employee is fully empowered will the employee also be encouraged and motivated.

The following are three examples from a wide variety of areas, such as a cooperative as a special business form, a special ethics system based on Islamic ethics and last but not least the special form of employee participation, the employee stock option plan (ESOP). These examples impressively show that empowerment has enormous advantages regardless of the business form, ethics or company philosophy.

Michie, Oughton and Bennion (2022) interesting and for the basis of ownership in this paper crucial research from Great Britain about the connections between ownership, motivation and productivity methodology used is a literature review, interviews with managers and employees from ten companies in England, and surveys of Confederation of Workers' Cooperatives (ICOM) member companies and their employees and focus groups with employees from seven of the ten companies they interviewed on site. The conclusion of the study is that employee ownership with high levels of employee participation leads to positive performance. Ownership combined with employee empowerment to participate in decisions is the key to the success of the company. The researchers show that ownership indirectly increases employee performance by influencing employee (and, by extension, management) attitudes and behavior. Employee attitudes towards work and their companies are critical to employee loyalty and behavior towards customers - the goal is for employees to act as if it were their company.

An article in the Academy of Accounting and Financial Studies Journal (Javed, 2018), published for the Sultan Idris Education University examines the impact of ownership involving the employee in organizational decision-making to increase business performance and productivity on a psychological basis.

The methodology is a study based on samples, as well as extensive literature research and the results show *that involving employees in the decision-making process gives them a sense of psychological ownership and aligns their interests with the organization. Alignment of goals will reduce organizational operating costs, improve the quality of organizational decision-making, and reduce agency costs. Therefore, overall organizational productivity improves as a result of these milestones* (Javed, 2018, p. 1).

Park, Kruse and James (2004) did not focus on the company's productivity, efficiency and other performance data, as is usually the case when it comes to the topic of ownership. Instead, the question arose, “Does employee ownership enhance firm survival?” – which is also the title of the paper which they wrote for the Emerald Journal. In this study, they examined information from all stock listed companies in the period from 1988 to 2001 and compared the connection between ownership and the existence and survival of the group using the Weibull survival model.

Results show that higher resilience and, thus, survival is associated with increased employment stability, which indirectly results from the ownership. The following overview comes from a training from one of the top five companies of the automotive supply industry in terms of global sales (Kords, 2021), summarized in a simplified way and modified according to the requirements, to be able to implement for the PESSOA experiment in the empirical part in Chapter 3.2.

Table 9. What it takes to live ownership

What it takes	Employee responsibility	Leadership responsibility
EMPOWERMENT	The freedom, but also expectations to make decisions on working level.	Vision, mission, strategy. Clear boundary and rule, but also expectations.
ACCOUNTABILITY	Taking the initiative and the commitment but also owning the consequence.	Force one mindset and collaboration (The servant as a leader)
SAFETY	Take the risk and speak up with trial and error.	Give the safety and trust to make the team feel safe.

Source: author's design

Freedom for own ideas vs. teamwork: The employee must have the freedom to bring in their own ideas and make decisions, but still not be a loner and work together in a team. The leader, on the other hand, is responsible for empowering the employee in order to be able to bring these ideas into the team. The leader provides the framework with clearly defined boundaries within which the employee can move freely. In addition, the leader must ensure that every employee knows the company's vision and acts accordingly.

Individual responsibility vs. team responsibility: All employees not only have to commit themselves to the vision of the company, but also to their work - to feel responsible for their actions. The employee should take the initiative, feel responsible for their actions and also accept their consequences. The leader provides the mindset for the vision of the company, offers the basis for teamwork and offers the environmental conditions so that the employees have the best prerequisites for being able to take on this responsibility and to share it in the team.

Braveness to take risk vs. security in the team: Employees need to have the courage to speak up. The small "elephant in the room" needs to be spoken about before it becomes a big problem. Only through the individual courage and braveness of each employee can further mistakes be avoided or best practices shared. This is very important, especially in the global automotive industry, so that the same mistake is not made repeatedly just because the different departments not to communicate well. The employee should have the courage to experiment and take risks because this is the only way to break new ground and solve problems. The leader is responsible for giving the team the confidence and security to do these things. The employee must not be afraid to report his failure to the leader or to admit mistakes. This is the only way others can learn from them and the leader must give the team this security.

2.6.2. Implementation of ownership

As already mentioned, it is the task of the leader to enable "his" employees to take ownership. This is not a one-time thing and done with one action, but an ongoing process and requires perseverance. In addition, the leader is well advised to regularly ask about the status of these balancing principles, for example in the course of appraisal interviews, in order to check where the employee is at the moment. The action or homework for the leader is then to take this feedback and turn the employee's wish into an action plan to bring them back into balance, empower them and encourage them to take ownership. This is the only way to react in the rapidly changing VUCA world and to satisfy the customer requirements regarding the product. Ownership is the key for an agile workstyle.

In order to be able to live the topic of ownership, it is necessary to be able to address problems at any time and also to share best practices (of course also negative examples) with colleagues. There are two very good tools that are widely used in change management and have worked well for years:

First is a very common method in the automotive industry “The elephant in the room”. For this method there are many names, funny one´s like “Shit on the table” or what the author prefer “The elephant in the room” – however, the basis for all methods is the same, it is a conflict management tool to instruct staff to address any problems that can impede quality before they become too big.

Employees in any organization either learn or decide not to bring up challenging topics because they may have political ramifications or because they see them as hazardous. If problems are not verbally addressed, the problems become the "elephant in the room," which is a significant issue even though the elephant is little and still has space to grow. People try to ignore the issue in order to go around and avoid it, yet everyone is aware that it occupies a lot of physical and mental space. The phrase "Say Hello to Ellie" (in this case Ellie is the name of the elephant) encourages everyone in a company to recognize and communicate with this elephant in a kind and helpful way, which is the foundation of living ownership.

The second is “Best practice”, which is a method to discuss personal highlights as well as errors and mistakes made by the whole business in order to build habits that support a culture that is focused on quality. Accepting responsibility, speaking out, sharing, learning from errors, and, most importantly, learning from one another are the fundamental behaviors. It is important to work toward creating an environment where people can talk honestly and without fear about making mistakes. In order for colleagues to benefit from knowledge and experience and comprehend that errors can only be prevented if they are aware that they occur, best practices should be used as an example.

To optimize and get maximum efficiency, best practices need to be shared within the same expert fields, without detours via other departments where, for example, a hardware technician is not interested in how his software colleague programmed a test routine and cannot do much with this best practice. Or vice versa the software colleague is certainly not interested in how the hardware colleague calculates an amplifier circuit. Therefore, in large corporations, as is common in the automotive industry, it is also helpful if expert communities are formed where these best practices are then shared. This division into the various expert fields ensures that the examples, both positive and negative, arrive exactly where they are needed and can also be implemented accordingly.

2.7. Agile leadership

The basis for the agile leadership style is described perfectly in Robert Greenleaf's "The servant as a leader" (1970). This servant has the task of creating the environmental conditions for the team so that the employees can do their work optimally.

This includes "empowerment" as a basis for making decisions at the working level, as well as "ownership" as the result of practicing empowerment and the optimization of teams through "strength-oriented leadership".

2.7.1. The servant of empowered teams

Employees, as well as managers and people who have not yet had any contact with empowerment, often ask themselves whether empowered teams still need a manager at all? Traditionally, these teams no longer need a manager to tell them what to do, but other requirements and behaviors are required of the leader of such teams. This means that the role will change here, as well as of the entire team.

An important point related to the last chapter "Implementation of empowerment" and the associated great responsibility of the team, on top of the structural definition of the empowered team, are the necessary psychological skills. In addition to determining the limits in which the team is allowed to move freely, which decisions they can make or which power they can use, it is the leader's task to give the team psychological strength along the way. The team will ask itself, "Do we dare to use this newly won decision-making authority and can we deal with the consequences of failure?" For this reason, it will make sense to list and communicate the essential tasks in order to make the decision-making authority transparent for everybody. The following questions must be answered:

- Which competencies are important for the team to be able to make decisions?
- What individual needs do the team members have in order to feel secure when making decisions?

It is advisable to check this status regularly, for example at the start of the year and at the end of the year as well as in the mid-year review, in order to realize and react any needs of the employee and the team early enough. In order to ensure competencies, it will be necessary to define training and education based on the delegated tasks. Furthermore, the strategic context or budget situation of the company will also be important for making certain decisions.

This is where the "new leadership" of the team´s manager, who provides these opportunities and information, comes into play. The experience of the manager and leader is also required for the second point of individual needs. Leaders and managers have worked with the team for a long time and know their employees’ strengths and weaknesses and can offer great support for the development of each individual as well as the development of the whole team to the next level.

The leader´s responsibility is to provide the team with the environmental conditions to secure the set goals, the agreements with stakeholders and customers as well as the mutually agreed cooperation in the team with all the rules and boundaries. His task is to ensure the agreed freedom for the employees to act within the company regulations as well as the working rooms, materials and tools needed to do optimized work. Another equally important task of the leader is being the interface between the team and the board members and CEO. To do this, it is necessary to maintain an information exchange with regular two-way communication, strategy development with the team and with managers from other departments, and negotiations with other departments.

As early as 1970, Robert Greenleaf wrote the first of four essays in which he describes the combination of the role of "The Servant as Leader". Greenleaf found the basis for his thoughts in the book by Herman Hesse, "Journey to the East", which is about a group of travelers. The main character of the story is Leo the Servant, who, while only doing the menial tasks, was not appreciated for the importance and priority of his role for the group until he suddenly disappeared. From that moment on, the problems within the travelers became so great that the trip even had to be cancelled. It was only after years that Leo was accidentally found again and accepted into the group. And this time the group recognized Leo as the head and the guiding spirit, a great and noble leader.

Since most of Herman Hesse's novels were autobiographical, Greenleaf interprets the work as a turning from Hesse's troubled life to the serenity he achieved as he grew older: *The great leader is seen first as a servant, and this simple fact is the key to his greatness . Leo was actually the leader all along, but he was a servant at first because that's what he was, deep* *down. Leadership was given to a man who was a servant by nature. His servant nature was the true man, not lent, not accepted, and not to be taken away* (Greenleaf, 2008, p. 3).

Greenleaf sees the difference between service and leadership in the responsibility with which a servant always sees the fulfillment of the needs of his group as the first priority (Greenleaf, 2008).

Taking the basic ideas of Kotter's "Leading Change" (1996), the question of Greenleaf's servant vision would be, "Are the people being served developing themself?" Or, in relation to ownership, "Is the environment of autonomy and alignment in balance? Can the individuals in the group live out their individual accountability without disrupting the shared accountability of the group? And does each individual employee have the safety for speaking up, taking risks and experimenting?" Ensuring this is the responsibility of a leader for empowered teams. Based on the assumption that leader and servant are the same role – it is the servant's task to ensure this. This is the basis for empowerment, which is, as a result, essential for employees to take ownership.

As a comparison, Greenleaf quotes the words of the Italian philosopher, diplomat, chronicler, writer and poet Niccolò Machiavelli: *"Thus it happens in matters of state; for knowing afar off (which it is only given a prudent man to do) the evils that are brewing, they are easily cured. But when, for want of such knowledge, they are allowed to grow so that everyone can recognize them, there is no longer any remedy to be found"* (Greenleaf, 2008, p. 38).

There is no better description and translation to the present day than chapter 2.6. of this research "The elephant in the room" - have the courage to speak up and address the problems before they are too big like a giant elephant who is very difficult or even impossible to get out of the room.

Machiavelli's words - *for knowing afar off which it is only given a prudent man to do* (Greenleaf, 2008, p. 38) - can be translated in the VUCA world in a way that information technology for decision heuristics is nowadays enormously supported by artificial intelligence.

At this point the author of this paper refers to his presentation at the international doctoral conference 2021 of the University of Sopron on "The impact or artificial intelligence on leadership in the corona crisis" (Solderits, 2021) as well as his publication in the Hungarian

Journal of Economy & Society "Artificial Intelligence - The game changer in the automotive industry to counteract material shortages in a crisis" (Solderits, 2021) and his publication in the American Research Journal of Humanities Social Science "Leadership can reduce the impact of COVID-19 on the logistics system in the automotive industry" (Solderits, 2022).

Greenleaf asked experts for feedback about his essay in 1970 and one of the most interesting pieces of feedback, which fits in very well with today's VUCA world, came from the American educator, author, businessman, and keynote speaker Stephen Richards Covey, and was published in 2008 in a new, revised edition of Greenleaf "The servant as leader".

Covey outlined the change at that time based on two movements. Firstly, the enormous globalization of markets and technologies and, additionally promoted and accelerated by this, secondly, the timeless, universal principles such as servant leadership in combination with today's very common term of work-life balance or, even more modernly, work-life coherence. As early as the 1970's, Covey was convinced that these principles would only become more important to produce more for less and in less time. Covey stated that the only way lies in the empowerment of each individual employee and the leaders undergo a transformation into servants and coaches (Greenleaf, 2008, pp. 86-87).

2.7.2. The servant for strength based teams who take ownership

The advantages of strength-oriented leadership have already been proven in countless scientific works and publications, so the author only refers to the references mentioned in this dissertation, such as the entire chapter "Making Strength Productive" from the book "The Effective Executive" by P. Drucker, which he published in 1967 (Drucker, 1967, pp.80-110).

Another reference on which his entire study is based would be Seligman's PERMA model in his book "Flourish" (Seligman, 2011) and Ebner's further development "Positive Leadership", based on Seligman's PERMA model, in which he wrote in the chapter "E for engagement: Bringing in one's strengths and getting into a flow" emphasizes the importance of strengths-based leadership (Ebner, 2020, pp. 145-201).

Last but not least, the book "Positive Psychology" by D. Blickhan (2015) also refers to the important chapter "Personal Strengths", where strengths and character strengths can be found out and classified through a test, how strengths can be used correctly and, thus, employees by satisfying their basic needs and being able to motivate them to have a say (Blickhan, 2015, pp.101-171).

Strength-based servant (leadership) must take advantage of each person's unique abilities to provide workers the freedom to operate freely, creatively, and entrepreneurially while still offering a clear course in difficult times. Only if employees strengths correlate with a task, they will also seize the opportunity and take on the sense of responsibility that is shaped by ownership if he recognizes problems. Because of his distinct strengths, they will be convinced and, therefore, also motivated to be able to solve the problem - because that's exactly what they are good at.

Another advantage of the strength-oriented management of employees who take ownership through the empowerment by the leader is that if someone recognizes their strength, they are happy to take on the corresponding work, which they can do faster, better and more efficiently with the highest quality.

An example would be the development in the automotive industry. When it comes to developing software, the software department certainly feels responsible for their part as well as he hardware for the assembly of the printed circuit board and the system people for testing the product. The respective area will acknowledge ownership, take on the task as well as responsibility for it. Exactly the same thing happens within a team, where, for example, in the system area, some colleagues are more specialized in cyber security testing, others are better at creating test scripts.

An agile way of working, as in the PESSOA experiment, promotes ownership in that the empowered employee chooses his or her own tasks and can, therefore, also play to their strengths in a quantitative way and, thus , has the opportunity to get into the flow.

2.8. PESSOA leadership

This chapter is a summary of the literature research from the last chapters 2.3. to 2.7. in order to visualize the connection between the method "PESSOA leadership" and the qualitative methodology, later in the empirical study. PESSOA is the acronym from the Portuguese word for *"human"*, emphasizing the importance of people and relationships in this new leadership approach. Table 10. below lists the six pillars that make up the PESSOA approach, as well as the most important references according to each pillar:

Table 10. The six pillars of PESSOA leadership and the associated references

The 6 pillars of PESSOA leadership	Scientific references referring to the 6 pillars
Positive leadership	Seligman 2011, Ebner 2020, Blickhan 2015, Fook and Sidhu 2010, Brcic et al. 2018, Cartwright and Holmes 2006, de Vries, Bakker-Pieper and Oostenveld 2009, Dowling 2002, Fredrickson 2013, Greenleaf 2008, Kotter 1996, Zaleznik 2004, Zvarych and Tysh 2020
Empowerment	Bachmair, Metz and Zacher 2022, Behnke at al. 1993, Kotter 1996, Selten 1999, Simons 1997, Thomas 2014, Tseo, G. and Ramos 1995, Zaleznik 2004, Zvarych and Tysh 2020
Strength-based leadership	Blickhan 2015, Drucker 1967, Greenleaf 2008, Kayode, Mojeed and Fatai 2014, Niemic 2017, Zvarych and Tysh 2020
Strength-based workstyle	Blickhan 2015, Greenleaf 2008, Harrison 1967, Javed 2018, Kayode, Mojeed and Fatai 2014, Michie, Oughton and Bennion 2022, Selten 1999, Simons 1997
Ownership	Greenleaf 2008, Harrison and Mühlberg 2014, Harrison 1967, Javed 2018, Kayode, Mojeed and Fatai 2014, Michie, Oughton and Bennion 2022, Park, Kruse and James 2004, Tseo and Ramos 1995, Zaleznik 2004
Agile work style	Beta and Owczarzak-Skomra 2019, Greenleaf 2008, Harrison 1967, Kayode, Mojeed and Fatai 2014, Michie, Oughton and Bennion 2022, Park, Kruse and James 2004

Source: author’s analysis

3. Empirical study

In this part of the dissertation, the empirical part begins - your own research - to gain new insights and statements, as well as to answer the research questions Q1 and Q2 and to test the hypotheses H1-H3. The author uses the entire available bandwidth and does one quantitative research and two qualitative research methods.

The quantitative research in the form of a survey covers a period of three years with data from a total of 400 respondents and the two qualitative research in the form of an experiment of a whole department of 27 engineers over a period of two years, as well as expert interviews to confirm the validity and the success of the experiment. The procedure and the exact process is explained in detail in the following chapter Methodology.

3.1. Methodology

The empirical study of this dissertation is divided into two parts according to the methodology used:

- a quantitative method in the form of a survey, in chapter 3.2.
- a qualitative method in form of an experiment and expert interviews in chapter 3.3.

The first part, the quantitative research, is developed to answer the first research question:

- Q1: Why do employees from high-performance culture in the automotive industry quit their job during the COVID-10 pandemic and these reasons remain the same during the crisis (comparison of the first year 2020 with the years 2021 and 2022)?

The author begins with the survey design, the detailed description of how the questionnaire used is structured, how the survey was carried out and how it was ensured that everyone who was contacted really did the survey and provided feedback, as well as the documentation process and the evaluation with a detailed analysis of the survey with the IBM tool SPSS and the use of Microsoft Excel for the diagram design. This will be the main part of chapter 3.1. seeking to test the first hypothesis:

- H1: Money is not the main reason why employees from the high-performance culture in the automotive industry are leaving the company in the first year of the COVID-19 crisis in 2020.

Once the reasons for the resigning of employees in the automotive industry has been clarified for 2020 with H1, the second part of the research question Q1 is interesting: “Is the reason why employees in the COVID-19 crisis resign the same as in 2020 over the entire course of the crisis or does the reason change?”

From a psychosocial point of view, it can certainly be the case that in major crises such as the COVID-19 crisis, people initially resign without much consideration due to bounded rational reasons or for rationally incomprehensible reasons. Against this background, the second research question is formulated, which will also be part of the survey, to test this hypothesis:

- H2: The longer the COVID-19 crisis lasts, the more money becomes the reason why employees from the high performance culture in the automotive industry leave the company.

This first part of the empirical study with the research question Q1 and the hypotheses H1 and H2 forms the basis for the second part of the empirical, the qualitative research, in which the author conducts an experiment and interviews to test his newly invented leadership approach - PESSOA Leadership.

There are endless studies on leadership and crisis management, but what about the situation caused by a crisis like the COVID-19 pandemic that has been going on for years, fueled by war in Ukraine, the energy crisis and enormously high two-digit inflation. Of course the almost "normal" problems, such as global warming due to climate change or global waves of refugees, we have had for years will also not disappear. In such a VUCA world, can the old, conventionally used leadership methods still be used? The author of this dissertation believe that the old, traditional leadership methods need adaption, since change has become the new normal and the speed as well the distance between the changes also increases enormously.

With this fact and the knowledge gained from the quantitative research answering the research question Q1 with the hypotheses H1 and H2, leads to the second part of the empirical study, to the qualitative research in chapter 3.3., to answer the research question:

- Q2: Which crisis-resistant management methods need to be used in this VUCA world and the resulting constant and rapid changes for high-performance cultures in the automotive industry for the COVID-19 endemic?

Thus, the author formulates research question hypothesis:

- H3: "PESSOA leadership" can be a crisis-resilient leadership method for the high-performance culture in the automotive industry.

The above questions with the hypothesis are answered in detail in the qualitative research part with two methods - an experiment and interviews with experts.

"PESSOA leadership" is the definition of the author of the leadership method, developed in this research paper, based on an agile mindset and working methods that enable employees to make decisions at working level and to take ownership of their behavior and actions and, thus enable, a crisis resilient leadership method to the constant changes in the automotive industry. The detailed description for PESSOA will follow in parallel with the answer to the research question II with hypothesis III, to make it clear what the acronym PESSOA mean with the background where it comes from.

3.2. Quantitative research

There are many scientific research papers showing the result that money is not the main reason why people leave a company, but is this also valid in a crisis? And if it is not valid in a crisis, what is the main reason why people leave a company? Previous research by the author as well as the literature research and open questions in this paper have led to hypothesis I

- H1: Money is not the main reason why employees from the high-performance culture in the automotive industry are leaving the company in the first year of the COVID-19 crisis in 2020.

Since the COVID-19 pandemic has already lasted for almost three years at the time of this research, another valid question also arises, "Has the reason why employees leave the company changed during the course of the crisis or has it remained the same?"

The author of this dissertation has done research and written publications in the field of "decision making" and "artificial intelligence (A.I.). He claims that at the beginning of the crisis, employees where surprised by the pandemic and its impact and made bounded rational decisions, but in the course of the crisis this behavior changed, and rational elements were then included in the decision to quit the job. From this conclusion, the author has created hypothesis II

- H2: The longer the COVID-19 crisis lasts, the more money becomes the reason why employees from the high-performance culture leave the company in the automotive industry.

The above questions with the hypotheses are answered in detail in this chapter and scientifically proven through analyses of a survey conducted at a globally acting company with nearly 2000 employees. The following sub-chapters detail the methodology of this research.

3.2.1. Survey design and questionnaire

In order to be able to answer the question regarding the reasons why people leave a company, the author used a survey. The development, execution and evaluation of the survey served to obtain information from selected groups of people on the defined subject area and to interpret the gathered result.

In order to get precise and analyzable data, it is desirable to have as many employees as possible to ask why they decided to leave the company. The author, therefore, employed a quantitative research approach. The results of the survey are, therefore, unambiguously measurable variables, which are clearly presented in evaluations and diagrams. Since the ratio of sample and population is one of the most important facts, no compromises were made in this work and a full survey was done.

This means 100% of the population - all employees who decided to leave the company during the COVID-19 crisis - were surveyed and the data analyzed in that dissertation!

In this chapters the research design with the detailed description of the sample, how the questionnaire was done, the statistical analysis and interpretation with state-of-the-art analysis-tools are presented.

The survey is conducted in one of the top five companies of the automotive supply industry in terms of global sales (Kords, 2021), started in January 2020 and is still ongoing in 2023.

The department operates in 18 locations worldwide with the numbers of employees and share of female and male summarized in the above table. The task of this department is the planning, development and construction of test equipment in order to be able to carry out tests accompanying development (prototype tests) as well as tests in the qualification laboratory (environmental tests).

Table 11. Overview of leavings 2020 to 2022 with female/male share

Year in COVID-19 crisis	female	male	sum	Share (female/male)
2020 – first year	n=377	n=1368	n=1745	22/78 %
2021 – second year	n=432	n=1447	n=1879	23/77 %
2022 – third year	n=477	n=1508	n=1985	24/76 %

Source: author’s analysis

What is visible in the overview above, beside the leavings in the years 2020 to 2022, is also of major interest for further analysis - it is that the female/male shares are in the same range of 23/77 with only a marginal deviation of 1-2% for the years 2020-2022.

An equally important reason to ask all affected employees instead of random samples in order to be able to conduct a detailed and precise analysis and, thus, interpretation of the results is to get an answer that is as precise and correct as possible.

For this reason and also for data protection reasons, the survey was not carried out online, as it is possible very quickly and easily, but by the supervisor of the employee concerned. All supervisors were trained in this regard and the background to this survey was described in detail so that it was clear why the survey was being carried out and how important an honest and open answer or selection of the reason for termination was for the company and its continuous improvement process.

During the survey, each leader went through the individual answers and their meaning together with his or her employees in order to clearly determine the selection. The classification of the reason for termination was only then jointly documented when interviewees had confirmed that they understood all possible answers and that their answer could be clearly assigned.

The survey was designed with closed questions - with non-overlapping and all-encompassing, answers - so that the given answers can be clearly analyzed.

In addition to the main question, the reason for the termination, information questions were also asked, as closed questions. The main question "reason to leave", the area where they worked, as well as the leaving date were closed questions, the name of the leaving employee was, of course, an open question, with an overview in the table below.

Table 12. Survey questionnaire, reason why employees leave the company

Question	Answer to choose
What is the reason, you are leaving the company	Money Leadership Maternity Personal reason Other reason
Name of the employee who are leaving the company	First name Family name
Name of the supervisor who is documenting the answer	First name Family name
Gender of employee who are leaving the company	Female Male Inter
Area of workplace of the employee who leave the company	EU Asia NAFTA
Date of leaving	Month of leaving, year of leaving

Source: author´s design

In the following listing the detailed descriptions, the same the supervisor received to go through with the employees, regarding the reason for leaving the company with detailed descriptions about the meaning are presented.

- Money: Is a very common reason why employees leave the company. The supervisor must be clear and unequivocal with the employees that if they give the reason, they feel that the payment is not commensurate with the reward of their role.
- Leadership: In this possible answer column, the author summarized the feedback from the leaving employee as "leadership" if he gave the answer that he experienced little or no personal development or is leaving the company for reasons of (poor) management - both refer to the responsibility of leadership. A typical answer could be that the employee sees no opportunity for personal development or does not receive a development plan from their manager. Another reason can be named directly as management and relates to the behavior of the immediate supervisor or the management or strategy of the company.
- Maternity: The employees chose this answer option if they went on parental leave. This answer is very clear and is used when the employee leaves the company for a specific, agreed period of time. A typical example of parental leave is, when a baby is born where the employee interrupts work for a precisely defined period of time, agreed with the company upfront - this can be the mother or the father. A sabbatical is very similar to parental leave, with one major difference - it is unpaid special leave. Normally, a sabbatical lasts between one month and one year and, like parental leave, is clarified with the company in advance. In case of a sabbatical, there is also the fact that the employer and the employee work towards the special leave. In an example of a 1-month sabbatical, this means that the employee only gets 50% salary for 100% work a month beforehand and then goes on a sabbatical for a month, where he gets the "saved" remaining 50% salary for 0% work . What this division and the saving for the sabbatical looks like is an individual matter of agreement between the employee and the employer since there are no specifications for such cases. Because only nine employees out of about 2000 took a sabbatical, the author decided not to take that reason into consideration in order not to have too many variables, especially if they do not contribute to the big picture. It is important to mention that the employee does not leave the company but returns to the company after a mutually

defined period of time. However, it is important not to leave out this reason, since the decision to use a crisis to start a family at exactly this point in time, can be the basis of further studies.

- Personal reasons: Are, for example, to take care of the family (very often in the economic area APAC) or if the employee/his family moves. Basically it is always about the fact that the existing contract between the employer and the employee can no longer be maintained due to his personal reasons.
- Other reason: The selection of this area is intended for the employee as a "way out" if he does not want to or cannot state the actual, true reason for leaving the company. Of course, the choice of this justification is a high risk, which makes the analysis of the study enormously difficult, so the supervisor is instructed to consult the employee again and ask for possible background information.

In order to close this chapter with the aim of the survey, it is important to document clearly and only with a single reason why the employee leaves the company. The responsibility for putting this into practice lies with the supervisor of the employee. This is the only way to analyse the survey with the best possible accuracy, draw appropriate conclusions and answer the research question and test the hypotheses.

3.2.2. Quantitative statistics and analysis

The aim of this chapter is to answer the research questions and test the resulting hypotheses. For this reason, the chapter is divided into two very similar statistical analyses of the survey.

The first part relates to the reasons why employees from the high-performance culture in the automotive industry left the company at the beginning of the COVID crisis, i.e. in the first year between January and December 2020.

The second part in this chapter analyses the second year of the COVID pandemic from January to December 2021 as well as January to December 2022 and the changes in the behavior compared throughout the different years.

Before going into the details of the analysis, an important fact should not be forgotten. In the automotive sector, especially in high-performance cultures in the development department where the survey was done, it is a technical sector, this means there are much more male than female employees working, as shown in the overview below.

Every employee, this means *100% of the leavings respond and gave the feedback in the survey about the reason why they leave*, the overview is in the table below:

Table 13. Leaving the company 2020 to 2022 – all employees, female and male

Gender	Leaving in 2020	Leaving in 2021	Leaving in 2022
all employees	n=98	n=154	n=137
male	n=63	n=111	n=105
female	n=35	n=43	n=32

Source: author's analysis

The gender share is the reason why, although there are sufficient samples for the two hypotheses I and II, too little data is available for a detailed gender investigation, especially in the area of females, to achieve the necessary statistical significance here as well. Therefore, although this area is examined and analyzed, it is not included in the hypotheses and only the trend is shown. The author used the tool SPSS by IBM and Microsoft Excel for the analysis and visualization.

As already noted in the last chapter. the female/male share with an average of 23/77 was in the same range and during the COVID-19 years 2020 to 2022, with only a marginal deviation of 1%. This means the comparison female and male through this research can be done without the added complexity of significant variation in the gender share.

The growth of the global department from 1745 employees in 2020 to 1879 (+7.7%) in 2021 and 1985 (+5.6) in 2022 is clearly visible. If the number of employees in the automotive industry normally goes down, this is a special change in this department, also caused by the corona pandemic, but in a positive direction!

In order to be able to explain this mystery exactly, previous research done by the author provides information on the impact of the crisis on the shortage of materials, especially in the automotive sector, and possible support for finding a solution through artificial intelligence. Interviews from this research confirm that the material shortage has a particular impact on certain departments, especially in development in the automotive industry, in that components that are no longer available or that are difficult to obtain are purchased from a second source (Solderits, 2022).

However, these component changes must also be tested. The department in which the survey was done and is still taking place is active in this area, which also explains the growth during the COVID pandemic. Since the department had to increase the capacities to counteract the additional stress caused by the material shortage and its consequences of additional validations of re-designs and to fulfil the work output.

According to the author's publication researching the reason and decision to quite the job in the first year of the Covid 19 crisis, the top three reasons to quit in 2020 are very closely related:

Table 14. Ranking of the reasons why employees left the company in 2020

Reason to leave	Leavings in number	Leavings in percent
Maternity	n=29	29,6 %
Leadership	n=28	28,6 %
Money	n=25	25,5 %
Personal	n=13	13,5 %
Other reason	n=3	3,1 %

Source: author's analysis

The upper limit for the probability of error p-value in the SPSS is set with the standard significance level of 95% probability (means α=5%). The result of the statistics calculation from the table above gives $p \leq 0,001$, which is smaller than α (even $\leq$ than α=1%). This means the true odds ratio of the overall population is within range of 99% and the result is therefore statistically highly significant.

The next interesting step is to check gender, to see whether there is a difference between males and/or females can be found, summarized in the following table. Interesting to see is, that for the individuals the deviation of the main reason why they leave, compared to money is much bigger. For females number one reason is maternity with 21.4% compared to money in second place with just 8.2%, which is more than the half. For males the main reason to leave the company is leadership with 26.5%, followed by money with 17.3%, also a big difference with about 10%.

Table 15. Comparison leavings during COVID-19 in 2020 – female vs. male

Reason to leave	Number of employees		Percentage		
	female	male	female	male	sum
Maternity	n=21	n=8	21.4%	8.2%	29.6%
Leadership	n=2	n=26	2.0%	26.5%	28.6%
Money	n=8	n=17	8.2%	17.3%	25.5%
Personal	n=3	n=10	3.1%	10.2%	13.3%
Other reason	n=1	n=2	1.0%	2.0%	3.1%

Source: author's analysis

Anyhow, the data for the differences in the gender are only a trend because the calculated probability $p > 0{,}005$, which means with the standard significance level set to 95% ($\alpha = 5\%$) that the result is not significant. That the result would possibly not be significant can also be estimated in the overview of all leavings in table 13. above, because the number of female n=35, which is lower than the well-known rule of thumb for representative samples of n=50.

The following section focuses on the analysis of the second COVID-19 year from January to December in 2021 with the aim of analyzing possible changes when a crisis lasts longer.

Table 16. Reasons employees left the company during COVID-19 in 2021

Reason to leave	Leavings in number	Leavings in percent
Money	n=54	35,1 %
Personal	n=48	31,2 %
Leadership	n=35	22,7 %
Maternity	n=15	9,7 %
Other reason	n=2	1,3 %

Source: author's analysis

Because the data for 2020 with n=98 was already highly significant, the author chose for the data in 2021 with n=154 a probability level of 99% ($\alpha = 1\%$ in SPSS). Also for the leavings in 2021 the result is within 99% and therefore highly significant.

Based on the data it is very clear, that already in 2021 money with 35,1% is the main reason why employees left the company, followed quite close by personal reason 31,2% and Leadership with 22,7%.

Table 17. Comparison leavings during COVID-19 in 2021 – female vs. male

Reason to leave	Number of employees		Percentage		
	female	Male	female	male	sum
Money	n=8	n=46	5.2 %	29.9 %	35.1 %
Personal	n=12	n=36	7.8 %	23.4 %	31.2 %
Leadership	n=9	n=26	5.8 %	16.9 %	22.7 %
Maternity	n=13	n=2	8.4 %	1.3 %	9.7 %
Other reason	n=1	n=1	0.6 %	0.6 %	1.3 %

Source: author's analysis

The above table show the share between female and male. For female, money is just on third place, behind maternity and personal reason. For males money is by far the reason number one, followed by personal and leadership. Because the significancy in the year 2020 was not given, the author does not follow up any comparison and use that result as a trend only and for possible further research.

Focused on the data from January to December in 2022 with the aim of analyzing whether the already visible trend of 2021 will continue in 2022 is shown in the table below:

Table 18. Reasons employees left the company during COVID-19 in 2022

Reason to leave	Leavings in number	Leavings in percent
Money	n=67	48,9 %
Leadership	n=28	20,4 %
Personal	n=28	20,4 %
Maternity	n=10	7,4 %
Other reason	n=4	2,9 %

Source: author's analysis

Again, also for the data in 2022 p ≤ as the chosen α = 1% in SPSS for a significancy of 99%, which means, the result is highly significant.

The result in the third COVID-19 year is very clear and the trend from 2021 even increase, money is the main reason in 2022 with nearly 50%, this means every second employee left the company because of money!

To be able to see a trend if this is also valid for the individual group of females and males, the following table and diagram present the result of the analysis of gender:

Table 19. Comparison leavings during COVID-19 in 2022 – female vs. male

Reason to quit	Number of employees		Percentage		
	female	male	female	male	sum
Money	n=11	n=56	8.0 %	40.9 %	48.9 %
Leadership	n=5	n=23	3.6 %	16.8 %	20.4 %
Personal	n=9	n=19	6.6 %	13.8 %	20.4 %
Maternity	n=7	n=3	5.1 %	2.3 %	7.4 %
Other reason	n=0	n=4	0.0 %	2.9 %	2.9 %

Source: author’s analysis

Again the note, that because of no statistical significancy for the gender in 2020, also the data in 2022 are not used for a comparison. However, the author's idea is satisfied and a clear trend for further investigations in the field of gender is clearly recognizable:

For men money is by far the top reason with 40,9% followed by leadership with 16,8%, which is less than half of the importance of money.

For females money is also the main reason with 8,0%, but the distance to the second reason, which is personal reason with 6,6%, as well as maternity with 5,1% is closer, compared to men´s data.

3.3. Qualitative research

Before the second part of the empirical study the qualitative method can be started, the author would like to expressly emphasize the important connection between the hypotheses H1 and H2 with the research question Q2 and the hypothesis H3.

In order to make this connection clear, it is necessary to go back to the background of this dissertation, where the author asked himself at the beginning of the COVID-19 crisis: “How much is this crisis affecting his employees and he as a leader take measures to positively influence the behavior of his employees?” Through the research question Q1 and the corresponding survey in chapter 3.2. the influence of leadership becomes clear after the analysis, listed in the table 20 below.

Table 20. Overview why employees left during COVID-19 because of leadership

COVID - year	Percent of leavings, because of leadership
2020	28,6%
2021	22,7%
2022	20,4%

Source: author’s design

With the numbers in table above, the connection is now clear, that leadership is with 20%-30% a great leverage to lead the company successfully in times of crises. Therefore, the focus in this chapter is on leadership and how leadership can support these factors of success and the to support the hypothesis:

- H3: “PESSOA leadership” can be a crisis-resilient leadership method for the high-performance culture in the automotive industry.

The methodology in this chapter is not only the experiment, but also a qualitative method based on several expert interviews with the executives who carried out the experiment, as well as with other department heads who did not take part in the experiment, but cooperate with this group. In this way, the efficiency and effectiveness of the experiment can be assessed and the feedback regarding a possible influence on other locations can then convert to a more agile way of working as well.

The first part of the qualitative research is the PESSOA experiment in chapter 3.2.1. to prove the efficiency of the new founded leadership approach and to support hypothesis H3. The experiment was carried out in one of the top 5 companies automotive industry in terms of global sales (Kords, 2021) in a development team in Romania. The team consists of a total of 27 employees, divided into 3 teams, led by 3 leaders.

This team in the Romanian location also works together with 6 locations and a total of 80 employees in Europe and around 110 in the USA and Asia who work in the traditional way.

All leaders were trained in the agile working methods of a KANBAN board, how to use the strength, positive leadership methods, empowerment and ownership – all six pillars of the new PESSOA leadership approach - and the background and goal of this experiment were described in detail.

The experiment was also discussed in detail with the team leaders in order to focus not only on increasing efficiency and motivation in the team, but also on the possible impact on cooperation with members of traditional working methods in other global locations.

The period of observation of this experiment corresponds to 2 years, in detail the period of the introduction of the agile working method lasted from January 2021 to December 2022. Since the experiment has proven to be successful, this working method will be continued, but the end of the observation for this research was December 2022 as the data can be easily and practically compared with the results of why employees left the company.

The second part of the qualitative research, the expert interviews was performed in the same team in Romania, in one of the top 5 companies automotive industry in terms of global sales (Kords, 2021).

The team consists of a total of 27 employees, divided into 3 teams, led by 3 leaders with a supervisor who is responsible for Europe and the next level who is responsible for the global business area. The details of the interviewed experts, will be found in the chapter 3.2.2. as well as the questionnaire with the content-based transcript which are logically related to the methods of PESSOA leadership is in the appendices.

3.2.1. The PESSOA experiment

The first part of this chapter, and one of the most crucial steps to confirm the hypothesis H3 is the PESSOA experiment. The experiment, based on the six pillars of the PESSOA approach (summary in chapter 2.8.), was carried out in the automotive industry and to distribute the work a KANBAN board where employees can choose the work themselves was used.

The hypothesis H3, as well as the experiment, is based on the following six important pillars of the leadership method, researched and newly invented by the author here in this dissertation called "PESSOA leadership":

- **P**ositive leadership
- **E**mpowerment
- **S**trength-based leadership
- **S**trength-based workstyle
- **O**wnership
- **A**gile work style

All employees and leaders who take part in the experiment are familiar with the PESSOA leadership approaches - they had received training in the areas of ownership, as well as strength-based workstyle and agile workstyles. Additionally, the supervisors of the employees were also trained and to focus on positive leadership and strength-based leadership. In this experiment, not only the previous scientific investigations of the effects of empowerment and ownership be supported, but also a group-wise conversion of agile work should be supported.

One of the biggest challenges at the beginning of the crisis in early 2020 was the sudden decision on safety restrictions, which governments in many countries implemented. But companies also adapted very quickly and, above all, the global automotive industry with its many years of experience in international cooperation optimized both areas, hardware and software, in no time at all.

For example, a slot was agreed during the first lock-down for employees in each department, where they could come into the company to take home equipment from their workplace - screens, charging stations, keyboards, even the ergonomic office chairs could be taken home. And on the software side, too, a lot happened very quickly - the SharePoint servers that had already been available were optimized with an improved graphic user interface (GUI) and introduced across the group.

An example of this is TEAMS, a chat-based, central work hub to support efficient communication and collaboration, based on existing Microsoft technology. In addition to functions for chats, calls and meetings, TEAMS offers access to services such as the well-known SharePoint Online or the Microsoft Planner with KANBAN function. If the well-known SharePoint, as well as the telephone and chat function within TEAMS, was used very quickly, KANBAN was a very new way of working and in the first two years 2020 and 2021.

Since the introduction of the KANBAN production system developed by Taiichi Ohno (2014) in 1947 at Toyota, this control method based on the pull principle has been used in many branches of industry worldwide. Of course, mostly used in factories and productions as the study by Geiger, Hering & Kummer (2020) or Hauser & Herrmann (2016) shows or generally explained by Simschek and Kaiser (2021). But also in IT to achieve continuous improvements (Leopold and Kaltenecker, 2013) and in change management (Leopold and Kaltenecker, 2015), up to applications at flight level (Kusay-Merkle (2021).

Hence the employees in the automotive industry, with a few exceptions in software departments, did not see any advantage for the development area. It took two years, but word of the advantage of the agile way of working with KANBAN boards spread and initial attempts to implement this in other departments were started at the beginning of 2022.

A KANBAN board is a tool used in agile project management to optimize the workflow and, thereby, increase efficiency. It can help agile teams to structure their daily work packages with the help of cards, columns and continuous improvement in Kanban boards and, thus, achieve sustainable improvements in processes step by step. Advantages of this method are:

- Increased visibility and productivity
- Greater flexibility
- Improved teamwork and collaboration
- Less waste
- Improved predictability
- Consistency with corporate values

Expert opinions differ on the application of agile management methods - some say that agile working methods can only be implemented meaningfully if the entire company adopts this management system.

An examples from the author, an executive in the automotive industry, make the thoughts clear: If an employee of an agile team decides that he needs training and then has to apply for this training including the trip with flight and hotel at the management, needs the signatures of the team leader, the group leader and even the CEO before the application even goes to the purchasing, then that is not agile. If the purchasing department then checks the application and possibly requires a second offer from a competitor in order to also satisfy the compliance rules, then, in the worst case, the registration for the training can already be too late in this way this simple process becomes very complicated by involving many different department and employees.

On the other hand, experience in the software area shows that in some corporations the software department has been working in an agile way for years, some even for decades, but the rest of the company is conventional, and they can be very efficient.

In this experiment, in a first step, not only the increase in efficiency through KANBAN boards should be supported, but it should be shown that empowerment and ownership can be lived by allowing the employees to freely choose the work from the created KANBAN board(instead of the conventional method of distribution by the supervisor.

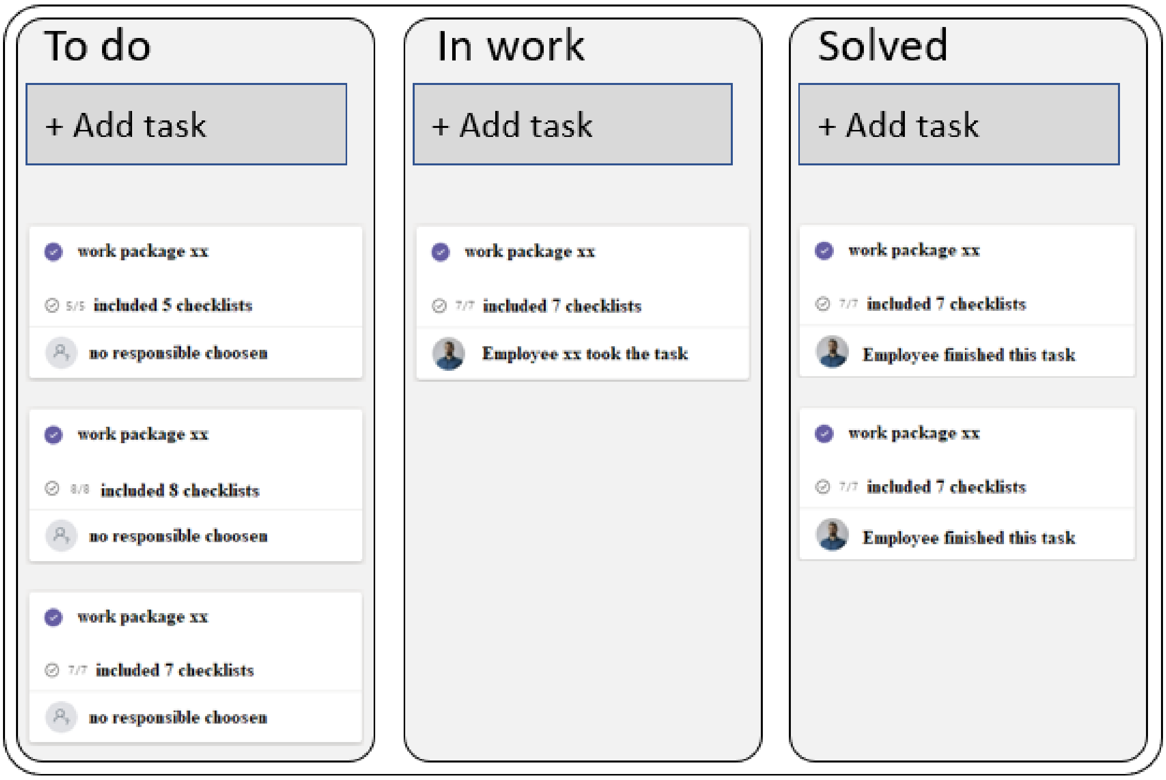
In a second step, it should be examined whether this system of work distribution using the KANBAN board also works in individual teams and departments, without other departments of the entire location being converted into an "agile" manner. If this test is successful individual departments can then gradually convert to a more agile way of working as well.

The first use of the KANBAN process was with cards - very well presented in the paper by Ortiz (2016) and developed together with the IT industry into today's state of the art IT tools such as the KANBAN boards from the book "Great big agile" (Dalton, 2016) or "The use of KANBAN boards (Geiger, Hering und Kummer, 2020) and Cox (2021) explained.

The design of the PESSOA experiment includes a KANBAN board, which is very simple and the standard design by Microsoft TEAMS. In figure 4. an example of a KANBAN board, used in the experiment in Romania, with just three different areas of the work progress can be seen:

- To do – these are all new tasks which have not been started yet
- In work –these are the tasks employees have already chosen and started working on
- Solved –these are the tasks which are already finished

Figure 4. Basic TEAMS KANBAN board design, used in the experiment



Source: author´s design

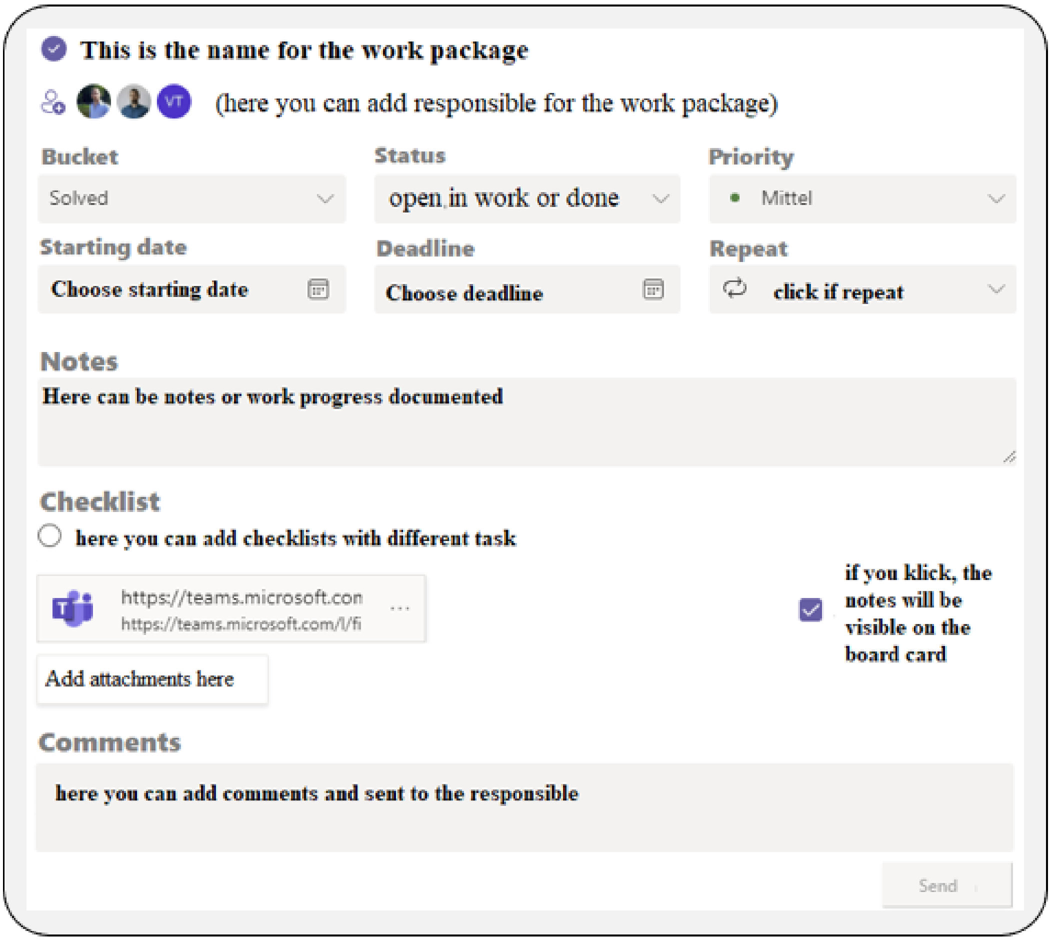
In this very simple, but effective board an overview of the following aspects is visible:

- the name of the work package
- the responsible person for this work package (automatically connected with the email address)
- optionally the possibility for additional checklists (in case the work package consists of several individual packages)

Going into detail and into the board by a mouse click, more information can be filled into each single board, and the employees as well as the leader can filter later for the status and analysis of the work.

In figure 5. below an example of such a work package out of the KANBAN board is presented.

Figure 5. Example of a work package out of the KANBAN with option description



Source: author´s design

The following, possible information and variants are possible for filtering:

- Bucket: this is where the work progress is decided – to do, in work or solved
- Status: in this field the status is differentiated between - open, in work or done (a typical example would be if the work package consists of several individual items that are processed by several employees - bucket "in work", but checklist " done")
- Priority: the priority of the work package can be selected here, between urgent, important, medium and low
- Starting date: when the work package was submitted to the KANBAN board
- Deadline: is the default when the package has to be done
- Repeat: here the user has the possibility to repeat the package (e.g. for recurring)
- Notes: detailed descriptions can be stored here
- Checklist: here the work package can be subdivided into further so-called checklists

- Attachments: can be integrated to refer to the result or a presentation, for example
- Comments: if an employee or the manager writes a comment here, an email with this content is automatically sent to the person responsible for this work package

3.2.2. Expert interviews

For the expert interview in this dissertation, the qualitative content analysis used, in which the systematic processing of existing material from an experiment and thus to confirm the hypothesis H3. The data collection takes place via the PESSOA experiment from chapter 3.2.1., as well as the six pillars of the PESSOA leadership model from the literature review in chapter 2.8. centered and conducted interviews. This approach initiates an increased level of knowledge and focuses on the perspective of the interview partners (Mayring, 2016).

The expert interview is conducted in order to obtain information on the success of the PESSOA experiment from the participating supervisors (executive, group leader and team leader). The guideline for the interviews consists of a short opening part, where the author goes into the experience of the interviewee and explains the meaning and benefit of the interview to the other person in order to prepare them for the interview as quickly and optimally as possible.

In the main part of the survey, questions are asked about the PESSOA experiment, especially about the six pillars, which is why the questions were divided into the categories:

- Positive leadership
- Empowerment
- Strength-based leadership
- Strength-based workstyle
- Ownership
- Agile working style

The end part of the interview focuses on the efficiency of the PESSOA experiment, so the question was asked accordingly.

The following table 21. is for orientation of the interview partners and how they are involved in the experiment. All employees in the mid column are from the high performance culture in the automotive industry, this means they are all engineers or experts, working in the development department. Anyhow, in this case the participation in the PESSOA experiment is more important than a specific award as an expert, since it is primarily those involved who can confirm the success of the experiment as well as rate the efficiency increase.

Table 21. Overview of the interview partners with top down hierarchy

Position of the interview partner	Responsibility for headcount	Direct involved or cooperation-partner of the PESSOA experiment
Global lead	240 engineers	Cooperation-partner
Area lead EMEA	105 engineers	Direct involved in the experiment with his team
Area lead EU3	28 engineers	Cooperation-partner
Romanian group lead	27 engineers	Direct involved in the experiment with his team
German group lead	12 engineers	Cooperation-partner
Romanian team lead	13 engineers	Direct involved in the experiment with his team
Romanian team lead	7 engineers	Direct involved in the experiment with his team

Source: author's design

The form of the analysis is the summary content analysis, in which the examined interview material is reduced to a short text on the essential content (Mayring, 2016).

In this case, the evaluation method is relatively simple since it is the evaluation of the PESSOA experiment and is therefore based on the structured procedure of qualitative collection of the collected data, based on the six pillars of the PESSOA approach. In a further step, factual statements by the interview partner that are not conducive to the topic are removed in order to obtain a purely content-based database carried out in the last step. The entire interpretation of the transcript is available in the appendix of this work.

3.2.3. Qualitative statistics and analysis

This chapter is the qualitative assessment of the results, to measure the success and the influence on the efficiency of experts and executives who participated in the experiment and worked together with the Romanian location.

Since the experiment was a complete success, the author would like to publish a part of the original transcript (without any interpretation) from the Romanian group lead, in charge of the experiment directly as the analysis and evaluation of the success of the experiment:

Interestingly, it didn't take long for the empowered employees who take ownership to get used to the new way of working, to search for the work packages themselves, that I put on the KANBAN board, to process them in a team and, after they were completed, to set the appropriate status. Of course, it was a relief for me, because I could display the status of our work visually at any time at the push of a button and report to other departments in the company. However, I could also observe a remarkable increase in motivation among the employees, who were now able to choose the work themselves, according to their strengths, the urgency or their daily condition (something more difficult or rather simple work packages) were suddenly possible. My team was able to take three additional projects within our development area, which is an unbelievable 20% increase in efficiency for the current projects. I did not notice any influence on the locations in Germany or France with which we cooperate, but I would like to note that our new, agile way of working allowed us to relieve that locations and thus get through part of the difficult time of the shortage of components the replacement of other available components and the corresponding re-design of the hardware for our customers (Romanian group leader, interview December 16, 2022).

Another interview that the author would like to publish directly from the transcript in this work is from a cooperation partner, who was not part of the experiment, but work together with the team in Romania:

Although my employees in Germany were not involved in the experiment, we were able to hand over a very important project with complicated smart access control included cyber security to Romania, since the colleagues had free capacity thanks to the experiment (Group lead Germany, interview January 10, 2023).

I am responsible for three locations in Europe and my groups were not part of the experiment. What I could observe was that this Romanian development department could not only take on additional projects while others were overloaded, but also offer additional support for other locations. A good example is that we were able to solve an escalation in my area of responsibility in France together, since the group leader from Romania was able *to send me two specialists, working for two weeks with my engineers* (Area lead EU3, interview January 10, 2023).

An overview of the interviews in form of a "content analysis" according Mayring (2016), focused only the essential content of the six PESSOA pillars and the efficiency, is attached in the appendices at the end of this work. For a better overview and readability of the analysis of the interview about the experiment, the most important points are summarized in Table 22 below.

Table 22. Analysis of the quantitative statistics

Success factors of the interview	**Detailed description**
Efficiency increase 20%	The Romanian development department could increase the efficiency by 20% and support other locations on top
Transparency	Quick and easy status update at the touch of a button within the KANBAN board (for employees as well as leaders)
Motivation/Flow	Extraordinary increase in the motivation of employees who were empowered and experienced "taking ownership"
Increase of teamwork	Since the employees choose the work themselves and make the progress and finalization independently, there was a "WE" feeling in the group and they supported each other.
Accelerated know-how increase	Based on the mentoring principle and the transparent agile workstyle with the KANBAN board, as well as the high degree of independence in decision-making freedom (empowerment and ownership)
Focus on employee development	Since the empowered employees already make decisions at the work level and the agile way of working is very transparent, the leader can concentrate on the essentials, "serving and developing the employees".

Source: author's design

No precise statement can be made as to where of the six pillars of the PESSOA approach the biggest increase in efficiency comes from - the increased sense of responsibility following the ownership training, the empowerment of employees by the leader or from the agile way of working. However, the interviewed experts and managers gave unanimously and unequivocally in response to this question, that they are convinced, that all three factors must work very closely together.

Without the appropriate training in the area of ownership and the activation of empowerment to be able to make their own decisions at work level, the employees will not be able to use agile working methods correctly. Conversely, it was observed that without the new agile methods, the empowered employees would take ownership, but not be able to implement them with this efficiency. It did not seem important which of these methods it is, SCRUM, KANBAN, Unified Process, Agile-Enterprise or other tools and methods available on the market, the key factor is that the empowered employees take ownership, work in an agile way and make decisions already at the working level.

I see empowered employees who live ownership and use agile tools to make decisions in the company as the only way through our continuous changing VUCA world in the automotive industry (Group leader, interview December 16, 2022).

Drucker already emphasized the importance of quick decisions at working level in 1967 (Drucker, 1967 , pp. 126-159). At this time, more than 50 years ago, the agile tools and the entire environment of data processing, as well as the basis - computers and laptops -which are available now to support this kind of work style and make Drucker's "Effective Executive" even more effective were not available to be able to implement this workstyle. Today, decisions can be made already at the working level and the executives have their heads free to focus on company vision, mission and strategies.

4. Overall summary and conclusion

There is a wide range of human behavior and employee reactions to a crisis, especially when a crisis lasts as long and has such an enormous impact on the entire global healthcare system and economy as the COVID-19 crisis. This concluding chapter provides an overview of the research problems and research questions with full answers to all three hypotheses, as well as the limitations of this dissertation and possible additional insights for future research.

Due to the large-scale, global survey in one area of the automotive industry with 2000 employees and a total of almost 400 participants in the survey, the data and analyses are very reliable (confirmed with high significancy from the SPSS calculation) and can, therefore, also be used to test with hypotheses H1 and H2 very well and comprehensively.

The experiment in qualitative research also has a high effectiveness of the statement, since the observation was chosen over a period of two years with a group of 27 engineers and additionally confirmed by expert interviews.

Since such a comprehensive survey and the experiment with the interview generates a lot of data, but new questions arise with every research, this chapter closes with suggestions for further research with sub-chapter 4.4. Additional findings and future results.

4.1. Results with answers to the research questions and hypotheses

The intention of the author is to offer a continuous "red thread" in his dissertation, which is the reason why the three hypotheses interlock and even build on each other. In this chapter the three hypotheses with the corresponding results are compressed and answered in detail, based on the empirical study.

The background of this dissertation is a fundamental question that the author, an executive in the automotive industry, asked himself at the beginning of the COVID-19 pandemic, “How much is this crisis affecting his employees and he as a leader take measures to positively influence the behavior of his employees?”

To investigate this question, it is important to research the reasons why employees leave the company, hence the research question was formulated:

- Q1 - Why do employees from high-performance culture in the automotive industry quit their job during the COVID-10 pandemic and these reasons remain the same during the crisis (comparison of the first year 2020 with the years 2021 and 2022)?

Out of this research question, the author formulated the hypothesis:

- H1 - Money is not the main reason why employees from the high-performance culture in the automotive industry are leaving the company in the first year of the COVID-19 crisis in 2020.

Following table 14., and point out the top three reasons why employees left the company in 2020, the result is below in table 20.:

Table 23. Top three reasons why employees leave the company in 2020

Reason	**Percent of leavings**
Maternity	29,6%
Leadership	28,6%
Money	25,5%

Source: author's design

With this result, the hypothesis H1 is fully supported: Money is not the main reason why employees from the high performance culture in the automotive industry left the company in in the first year of the COVID-19 crisis in 2020.

Based on the results out of hypothesis I from the first year of the crisis in 2020, further questions and assumptions arose regarding the further course of the COVID-19 pandemic in the following years 2021 and 2022 and hypothesis was developed:

- H2 - The longer the COVID-19 crisis lasts, the more money becomes the reason why employees from the high-performance culture leave the company in the automotive industry.

Following table 16., and point out the top three reasons employees left the company during COVID-19 in 2021, the result is below in table 24.:

Table 24. Top three reasons why employees leave the company in 2021

Reason	Percent of leavings
Money	35,1%
Personal reason	31,2%
Leadership	22,7%

Source: author's design

With that results, the hypothesis H2 is supported already in 2021: The longer the COVID-19 crisis lasts, the more money becomes the reason why employees from the high-performance culture leave the company in the automotive industry.

Because the survey is still ongoing (there are data for 2022) as well as the exact formulation of hypothesis H2 is "the longer the COVID-19 crisis lasts" also the data from 2022 are analyzed and the comparison to the previous years is done.

Following the top three reasons in the table 18. with the reason why employees left the company during COVID-19 in 2022, summarized the impressive result in the table 25. below:

Table 25. Top three reasons why employees leave the company in 2022

Reason	Percent of leavings
Money	48,9%
Leadership	20,4%
Personal reason	20,4%

Source: author's design

The analysis from 2022 shows a very clear picture, money is with nearly 50% by far the main reason, followed by leadership and personal reason with both 20%, which is less than the half of the people who quit because of money.

The trend, starting in 2021 goes on also in 2022 and the results of both years fully support the hypothesis H2: The longer the COVID-19 crisis lasts, the more money

becomes the reason why employees from the high-performance culture leave the company in the automotive industry.

The upper limit for the probability of error p-value in the SPSS set with the standard significance level of 95% probability (means α=5%). The result of the statistics calculation for both hypotheses H1 and H2 gives a $p \leq 0{,}001$, which is even smaller than α=1% which means the true odds ratio of the overall population is within range of 99% and the result is therefore statistically highly significant.

The testing of hypothesis H3 consists of a wide variety of methodologies. On the one hand a detailed literature research to cover all methods of the PESSOA approach, starting in chapter 2.3. with positive leadership via empowerment, strength-orientation and ownership, till the agile workstyle in chapter 2.7., with the summary of the PESSOA approach at the end of the literature research.

On the other hand, the author did an experiment in a development department in Romania included a team with 27 engineers, lasting for 2 years and to prove the success of the experiment, interviews of experts and a detailed analysis regarding the evaluation of the experiment as well as efficiency increase was done.

The answer about a possible efficiency increase can be given very fast, following the first line in the table 22. – the development group in Romania was able to increase the efficiency by 20%, confirmed by experts through interviews.

To come back and recall the research question the author asked himself at the beginning of the crisis:

- Q2 - Which crisis-resistant management methods need to be used in this VUCA world and the resulting constant and rapid changes for high-performance cultures in the automotive industry for the COVID-19 endemic?

The analysis of the quantitative statistics in table 22. and the knowledge from the hypotheses H1 and H2, which are closely connected and build the basis to the research question Q2, and the hypothesis H3, the author comes to the following conclusion:

Because PESSOA leadership was tested by an experiment with 27 engineers in a time frame of 2 years during the pandemic, confirmed from seven executives and experts from the automotive industry, the author rates the hypothesis:

- **H3: "PESSOA leadership" can be a crisis-resilient leadership method for the high-performance culture in the automotive industry.**

as supported (instead of fully supported) and recommends further research, followed by analysis of more empirical data.

For a better overview and compressed information are all research questions and hypotheses with the result is in the table below:

Table 26. Research question and hypotheses conclusion

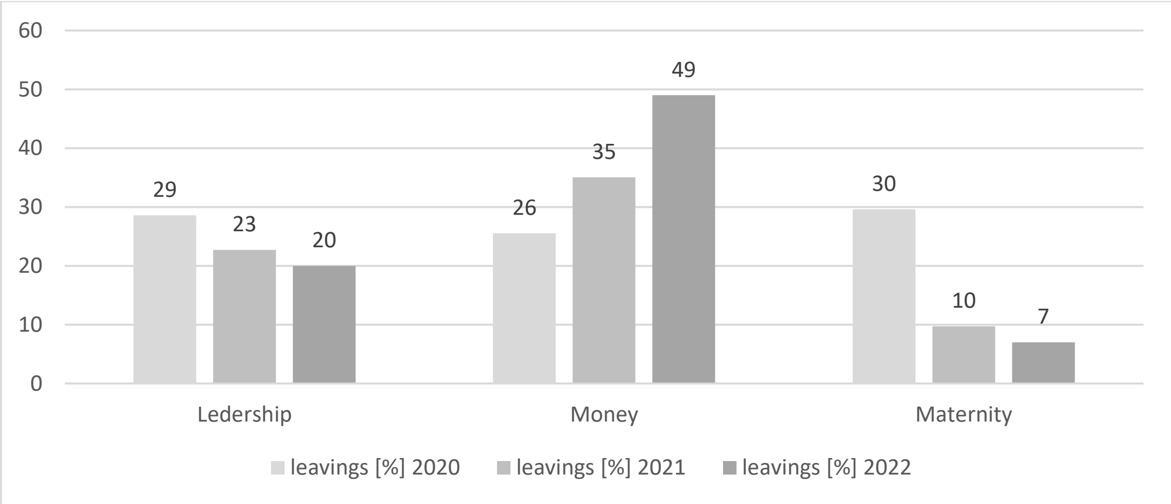
Research questions	Hypothesis	Hypothesis accepted or denied
Q1: Why employees from high-performance cultures in the automotive industry quit during the COVID-19 pandemic and whether this reason changes over the duration of the pandemic?	H1: Money is not the main reason why employees from the high-performance culture in the automotive industry are leaving the company in the first year of the COVID-19 crisis in 2020.	H1 accepted and fully supported
	H2: The longer the COVID-19 crisis lasts, the more money becomes the reason why employees from the high-performance culture leave the company in the automotive industry	H2 accepted and fully supported
Q2: What leadership method can be crisis-resilient for the high-performance culture in the automotive industry"?	H3: PESSOA leadership can be a crisis-resilient leadership method for the high-performance culture in the automotive industry.	H3 accepted and supported

Source: author's result

4.2. New scientific results and findings

A large-scale, three-year study from the first part of the empirical study with the participation of 400 employees from the high-performance culture in the automotive industry shows that leadership is always in the top three reasons why employees leave. For a compressed overview is the history of the top three reasons employees left for the years 2020 to 2022 in figure 9. below.

Figure 9. Top three reasons employees left the company from 2020 to 2022



Source: author’s analysis

The overview also shows a clear trend why employees leave the company over the history of the COVID-19 pandemic:

- leadership decrease
- money increase
- maternity decrease

The author concludes that this behavior of the employees does not suggest that leadership has suddenly improved within short time or that there are no more children why those reasons decrease. It is much more a clear indication, that after three years of pandemic and the war that has been raging in Ukraine since February 2022, people are afraid of their existence. This is also supported by the fact, that in 2022 every second person is leaving because of money.

This background is even worse, because it means that the employees, although they are not satisfied with the leadership, "endure" the situation, or that almost no employee "dares" to go to maternity anymore.

However, with a range of 20% to 30% is leadership a large lever to improve the situation in the automotive industry - directly not to quit the company because of leadership reasons, but also indirectly to feel safe and trust the company to get through the crisis successfully and they do not need to be afraid of their existence.

Based on this result, the first new scientific finding is that: Leadership has the greatest impact on employees in the high-performance culture in the automotive industry in the COVID-19 crisis - directly so that employees do not quit because of bad leadership, or indirectly to have the security and confidence to get through a crisis successfully. These scientific findings can be used to derive "recommendations for action based on leadership methods" for the automotive industry in order to be successful in the constantly changing VUCA world through crisis-resilient leadership.

Since this approach was already visible at the beginning of the crisis from the first data collection in 2020 (29% quit because of leadership), the research question Q2 and the hypothesis H3 were formulated in this dissertation in addition to research question Q1 with hypotheses H1 and H2 and the author goes one step further:

Based on the research question Q2 and the hypothesis H3 as well as the results from the study, the author developed a new, crisis-resilient leadership method - PESSOA leadership, which is the second scientific contribution, the novelty from this dissertation.

After the success story of the experiment in Romania, this department has maintained the PESSOA leadership method as a standard. Since summer 2022 the worldwide organization, to which the Romanian group belongs, started PESSOA leadership - with all the pillars ownership and empowerment, as well as the agile working methods - in 18 locations worldwide to a total of over 2000 employees (status February 2023) using a detailed ramp-up plan.

The success of the new PESSOA leadership method has already been confirmed by several locations.

At its core, the PESSOA leadership style values the strengths and potential of individuals and teams and aims to create a work environment that empowers them to reach their full potential. This is achieved through the use of positive leadership practices, such as recognizing and reinforcing good work, and empowering individuals to take ownership of their work and make decisions. The strength-based approach focuses on building on individual and team strengths, rather than solely addressing weaknesses. This not only helps to boost confidence and motivation, but also leads to better performance and results. The agility aspect of the PESSOA style recognizes the need for adaptability and flexibility in today's rapidly changing work environment.

This new leadership method has already been used by the author and confirmed in an experiment and interviews with experts in the empirical part of this dissertation – the advantages are shown again as follows (details in table 22. In chapter 3.2.2.):

- 20% efficiency increase
- Increase of transparency
- Increase of Motivation and the possibility to get into the "flow" (pos. psychology)
- Increase of teamwork
- Accelerated know-how increase
- Focus on employee development

The PESSOA leadership style also promotes an open and collaborative work culture, encouraging effective communication, teamwork, and mutual support. This results in higher levels of job satisfaction, reduced turnover, and increased productivity.

Overall, the PESSOA leadership style offers a unique and effective approach to leadership that prioritizes people, their strengths and potential, and creates a supportive and empowering work environment.

- **Positive leadership:** based on the PERMA model, there are positive emotions for motivation and getting into the flow, engagement to focus 100% on the task, relationship with trust, giving meaning to the work and to the big picture, accomplishing tasks and celebrating success (details in chapter 2.3.)
- **Empowerment:** is the basis for employees to make decision already at working level and to be able to take ownership – all that in combination is required for a successful agile work style (details in chapter 2.4.)

- **Strength-based leadership:** knowing the own strengths and getting the chance to use them, in combination with empowerment, is the basis for an employee to take ownership and work in an agile way (details in chapter 2.5.)

Transitioning to the topic strength orientation, from this point on, the PESSOA leadership method changes from the leader to the employees (marked in grey color in the following figure 7).

Based on the leadership style previously described and provided by the leader as a servant to the employees, the employees are now able to implement the following methods:

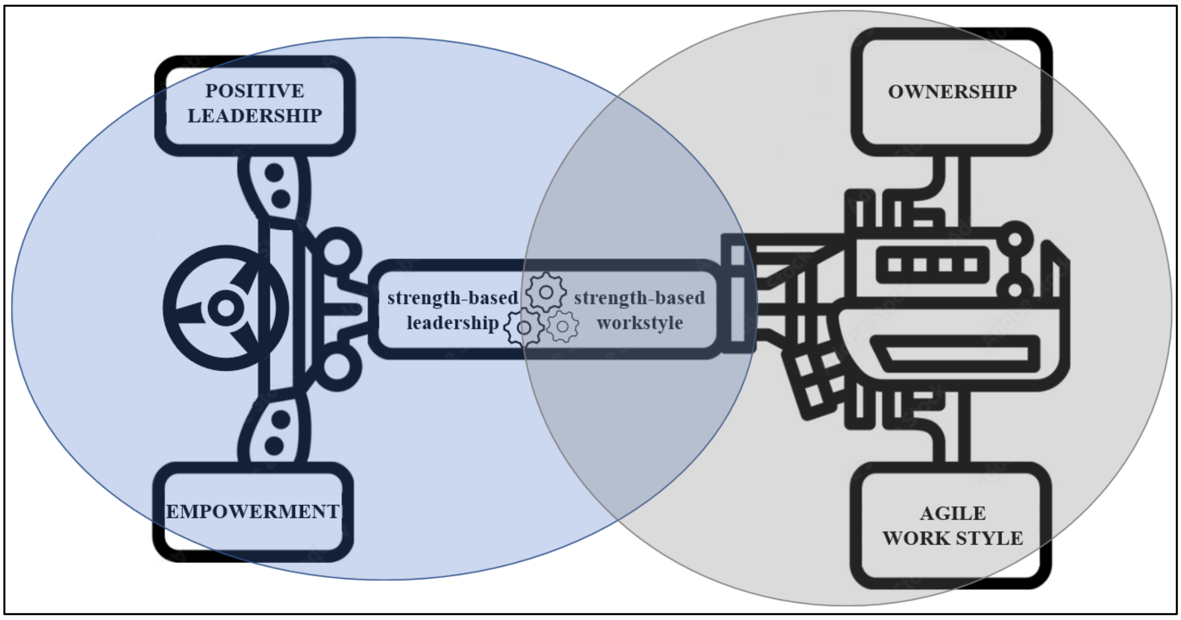
- **Strength based workstyle**
- **Ownership**
- **Agile work style**

If the employee has trust, is empowered, he will be automatically take ownership and is ready to use his strengths and to take tasks on by himself according to his strengths (pull principle) in the agile working methods. In this way, the employee delivers the optimal performance – quickly, with good quality and he also has the opportunity to get into the flow, because he can play to his strengths, is proud because he has taken on responsibility (ownership) and can achieve quick wins within his team by agile work.

Of course it is the responsibility of the leader as the servant to support the team not only with the management methods described in the first part of the first three pillars, but also to support the employees to find individual strengths, to workshops for ownership and general concepts to find and implement the topic of ownership and also to provide the tools and methods for agile work.

For a better understanding, especial for the application in the automotive world, the author developed the PESSOA car, to show how the six pillars that gave PESSOA leadership its name interact and are connected in a visual and simplified way.

Figure 7. The PESSOA car – including the 6 values for PESSOA leadership



Source; author's design

The left side with the steering wheel is the leadership part (marked in blue) with positive leadership and empowerment to "steer" the employees. The author wants to show that the leader sets the direction with the steering wheel and the two tires on the steering axle: The vision, mission and strategy of the company, broken down from the central board members to the business units to the individual departments, so that each area contributes to the success of the company.

The middle part with strengths orientation is the part where strengths-oriented leadership from the leader meshes with the strengths-oriented way of working of the employees - the gear (here the areas for the leader and the employee overlap and also the colors blue and grey). This area, where both components, steering and engine, form a unit, is so important in the automotive industry that the moment of combination of drive train and engine in production is also called "the marriage".

On the right side of the illustrations (marked with grey color) the engine that moves the whole car and can thus reach all targets is shown - this part represents the employees. Ownership and agile working methods are located here, with just one target - to go forward together.

4.3. Limitations of this dissertation

Limitations are also not neglected as these could potentially limit the evaluation of hypotheses and possible further research. The limitations of this dissertation are obvious and primarily related to the survey environment. The author has divided the limitations into two major areas:

- limited to the high-performance culture in the automotive industry
- survey results were done and is therefore limited to the COVID-19 crisis
- the analysis of the gender is just a trend, because there are not enough data available for a statistic relevance of the females

The author cannot rule out a connection with the Ukraine war, in addition to the COVID-19 crisis, but since the company in which the survey was carried out neither has a location nor employees in Ukraine, nor in Russia, possible effects, if any, are only very small.

Another limitation, or rather a prerequisite, is related to PESSOA leadership in hypothesis H3. The survey of this dissertation as well as the PESSOA experiences and research of this leadership style were in the field of high-performance culture in the automotive industry.

The application is by no means limited to only the automotive branch, but the author did not confirm the application and research in other fields.

Apart from the limitations above, the author can confirm that the data of this dissertation is very reliable and valuable, because:

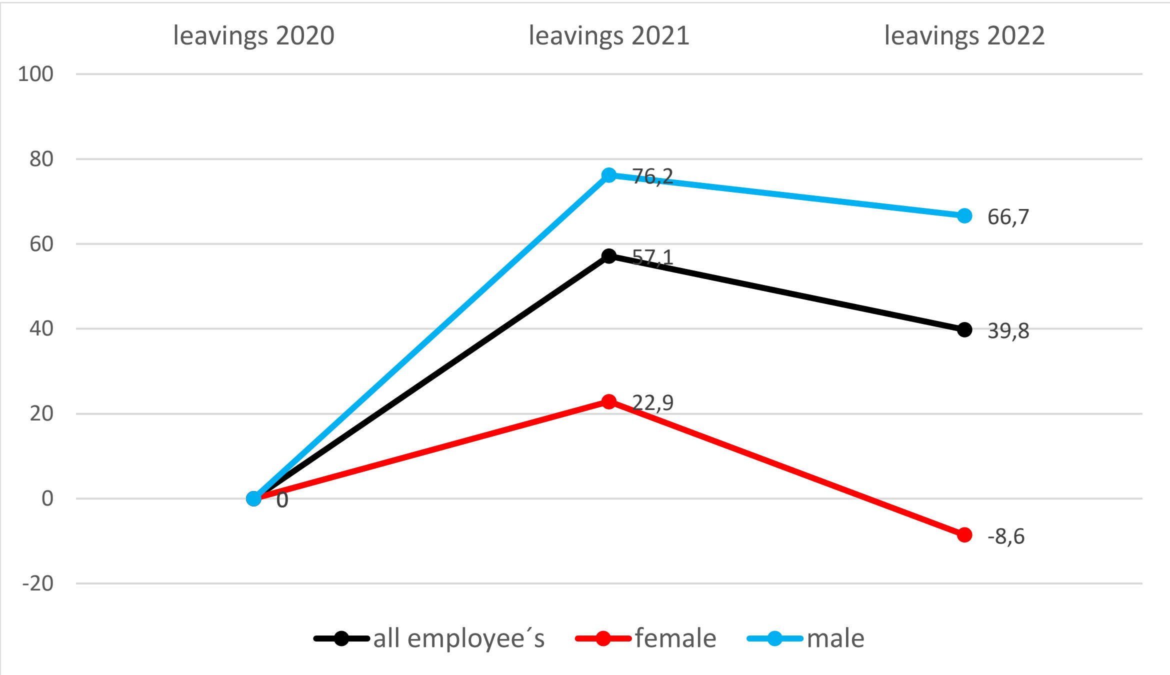
- the data comes from one of the largest automotive supplier companies in the world from a business area of 2000 employees with data from nearly 400 employees and the results very reliable
- the data was obtained through a survey executed by trained supervisors thus ensuring the reliability of the data
- to the quantitative method of the survey, qualitative methods such as interviews were added to go even deeper into the detailed answers to support and accept the analyses

4.4. Additional findings and future research

The summary of additional findings and possible future research, based on these findings is presented in this chapter. This includes findings of the different analyses conducted when testing the three hypotheses, as well as findings from literature research, interviews and all factors the author thinks could be interesting to follow up in future research. The additional knowledge gained in the course of the doctoral thesis is listed and checked for its use and basis for future research. First of all, the obvious results from the analyses of the survey are discussed and the available data is checked for possible further usability. In the second step, other, additional insights that could be gained from the various applied methodologies, such as literature research or interviews with experts, are also discussed in more detail and the use for further research verified.

The same principle was also applied in figure 8., but based on the terminations in 2020, with the years 2021 and 2022 always being related to the first year, 2020. In detail, this means that in 2021 57% more employees resigned compared to the first COVID-19 year 2020. In 2022, on the other hand, about 40% more employees resigned than in the first year 2020. This means in other words, that from 2021 to 2022 the decrease in leavings only went back by about 20%.

Figure 8. Deviation of leavings to 2020 – all employees, female and male



Source: author's analysis

The same trend that in the second COVID-19 year 2021, compared to the first year in 2020, the leavings increased and then decreased again in the third year 2022 can also be seen in the comparison of each individual group of males and females.

Interesting to see is that in the third year 2022, compared to the first year 2020, the amount of females even increased in the company by about 10%.

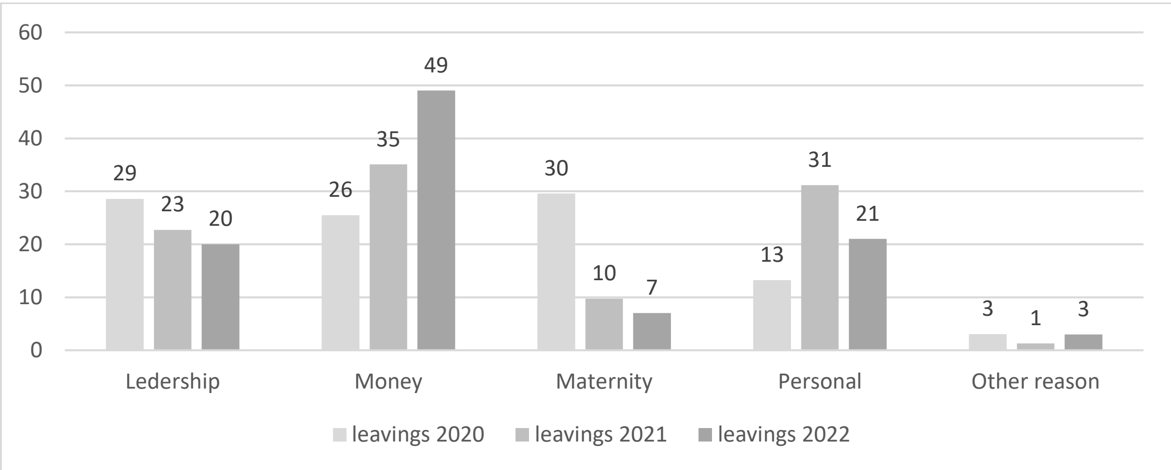
Also, in general, the longer the crisis lasted, the male leavings decreased only by around 10%, but the female leavings decreased by about 30%. So it seems when crises last longer, women appear to be more cautious and more likely to consider resigning than men.

Questions for further research could be:

- What is the reason why a relatively large number of people leave the company at the beginning of a crisis, but if the crisis lasts longer, these leavings decrease sharply?
- Are males more willing to take risks than women, as there are more men than women leaving the company (also in case the crisis last longer)?
- Do women quit less the longer a crisis lasts and could the reasons be related to supporting the family in crises?

The following diagram shows the leavings from 2020 to 2022 with the individual reasons behind them for all employees (female and male in one group).

Figure 9. Comparison of the reasons employees left the company from 2020 to 2022



Source: author’s analysis

Of course, the main conclusion of this dissertation is interesting and very obvious in that in the course of a longer crisis, the main reasons of leadership for men quitting their job as well as maternity for women become less dominant and money increasingly becomes the main reason why both genders leave.

However, what is also very clearly visible is that the significance of maternity as a reason to leave the company decreased by a factor of three the longer a crisis lasts (for male, there was nearly nobody who left for maternity in the third year in 2022). From these observations the author can ask the following questions for future research based on the data from the survey:

- Do females no longer dare to go on maternity leave if a crisis lasts longer because they fear for their families?
- What strategies are there to support mothers to go on maternity leave even in longer crises in order to take care of the family?

The behavior when employees give "other reasons" as a reason for leaving the company is also interesting. In the second year the importance of this reason increased by a factor of 2.5 and in the third year 2022 it decreased by around 30%.

From these facts the following hypotheses for further scientific research could be derived:

- In a crisis, people initially stick together, but if it lasts longer, every person pays more attention to themselves
- A health crisis can be used to quit the company and take care of the family, but if the crisis lasts a long time, then the fear of existence takes over.

In the table below, are the reasons for the years 2020 to 2022, shown for female and male.

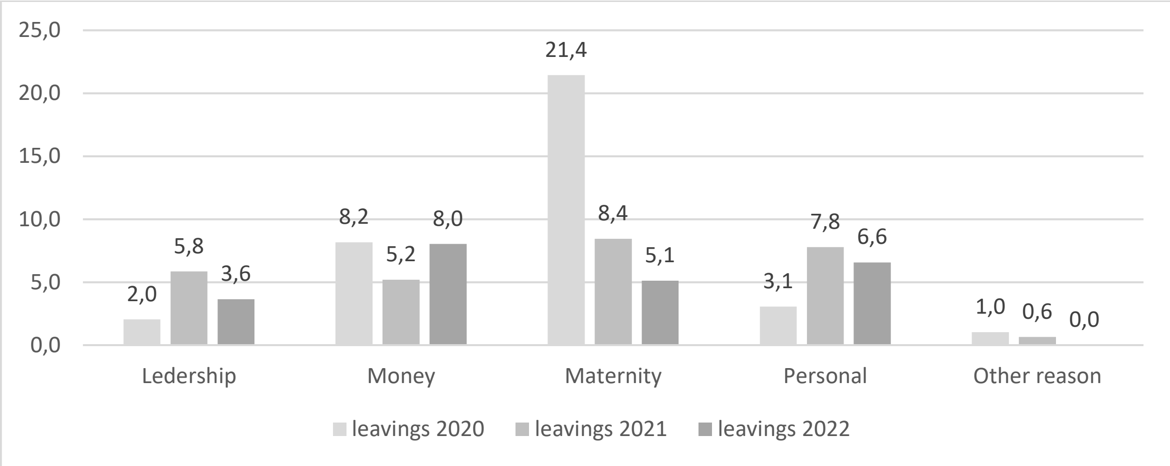
Table 27. Reasons employees left the company from 2020 to 2022 – female vs. male

Reason to quit	2020 [%]			2021 [%]			20022 [%]		
	female	male	sum	female	male	sum	female	male	sum
Leadership	2	26.5	28.6	5.8	16.9	22.7	3.6	16.8	20.4
Money	8.2	17.3	25.5	5.2	29.9	35.1	8.0	40.9	48.9
Maternity	21.4	8.2	29.6	8.4	1.3	9.7	5.1	2.2	7.3
Personal	3.1	10.2	13.3	7.8	23.4	31.2	6.6	13.9	20.5
Other reason	1.0	2.0	3.1	0.6	0.6	1.3	0.0	2.9	2.9

Source: author's analysis

Even if the table with the many numbers is confusing, the author does not want to leave it out, since the data may be helpful for further research in this area.

Figure 10. Reasons females left the company from 2020 to 2022



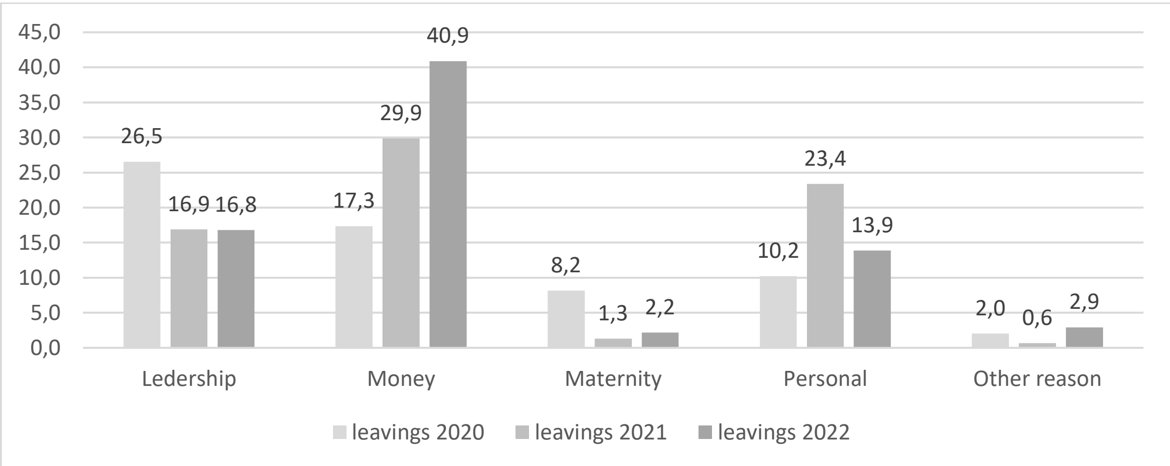
Source: author's analysis

The following conclusions can be drawn from the data and the corresponding visualization of the reasons why females leave:

- Women use the beginning of a crisis to go on maternity leave, but if a crisis lasts longer, fears of not being able to provide for the family prevail and they go back to work more often.

A bit different it is for males in the following diagram below, where there are two reasons why males leave the company are dominating – the money and leadership.

Figure 11. Reasons males left the company from 2020 to 2022



Source: author's analysis

Also very interesting to see is the fact that at the beginning of a crisis about 10% of males left for maternity reasons, but this changes dramatically if a crisis take longer as with 1% in 2021 and 2% in 2022 nearly no males stayed home anymore for taking care for the children. This seems to be a luxury for a family during a crisis.

Considering the large percentage why men quit related to leadership, money and personal, then the question almost inevitably arises, "Are the reasons why men quit in crises, short and long, related to carelessness towards the family and only concerned with men´s own benefit or do money and personal reasons cover family-related motivations?

The author keep in the following diagrams the axis is over the reasons

- Leadership
- Money
- Maternity
- Personal reason
- Other reason

why employees in the automotive industry quit the job during the COVID-19 crisis always the same. The idea behind is to see from first view, with female and male divided and with always the same scale, which reason have more impact, which minor.

Figure 12. Leaving the company because of "leadership" – female vs. male

Source: author's analysis

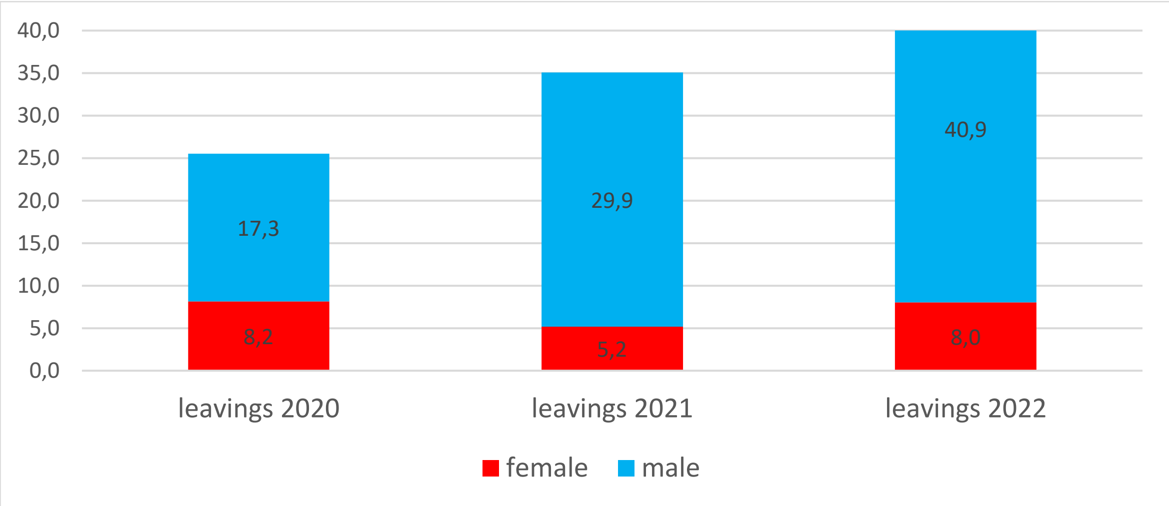
Without a doubt, leadership, especially in a crisis transformed into crisis management, is very important for the success of a company and especially in the current VUCA world crisis management has become the normal leadership method.

According to figure 12. above, the main reason men quit in the first year is because of leadership. The frequency decreased, but during the COVID-19 crisis from 2020 to 2022 it is an important reason why males left.

This was also a reason for women to quit, but they seem to have a little more patience than men and, in contrast to men, who initially identified more and then less and less leadership as a reason to go, women tended to increasingly give leadership as a reason to leave the company the longer a crisis lasted.

Anyhow, is it an important reason for males over the course of the complete COVID-19 pandemic while it seems that for woman there are other reasons which are much more important for their behavior and how they decide in a crisis.

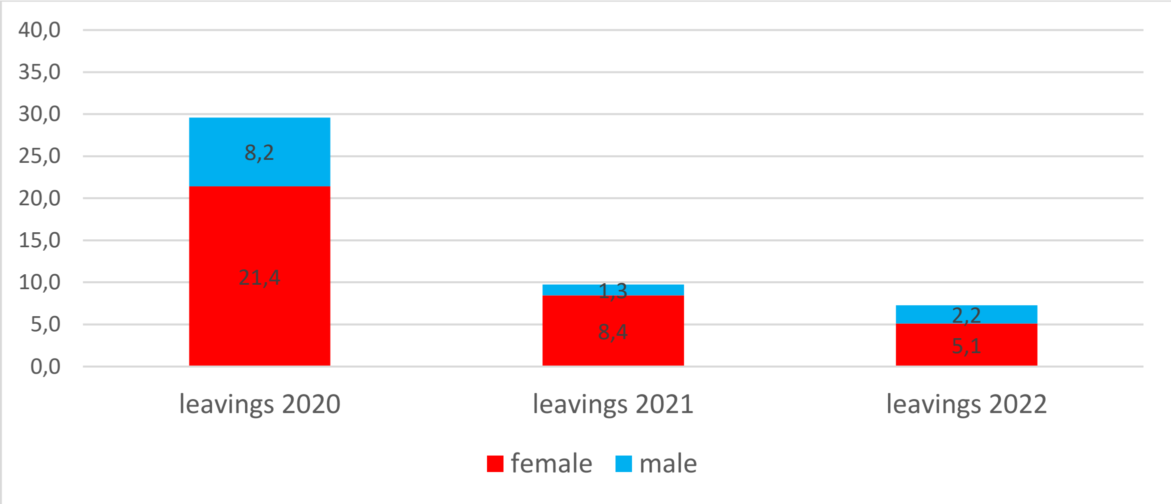
Figure 13. Leaving the company because of "money" – female vs. male



Source: author's analysis

Here the reason money is given as decisive when employees leave the company. For men, this was an important reason and gained more and more weight in the course of a long crisis, culminating in the analysis of 2022, where almost every second man left the company because of money. Again, woman were more stable although five of ten percent of woman gave this reason why they left the company.

Figure 14. Leaving the company because of "maternity" – female vs. male



Source: author's analysis

As already expected, maternity leave is one of the main reasons why females left the company. In the first COVID-19 year 2020 even every fifth woman left the company for this reason. The longer the crisis lasted, the fewer women took maternity leave, but still in the range of ten percent in 2021 and five percent in 2022.

The behavior of men is also very revealing. While in 2020 about one in ten men left the company because of this, in 2021 and 2022 it was hardly a reason for men.

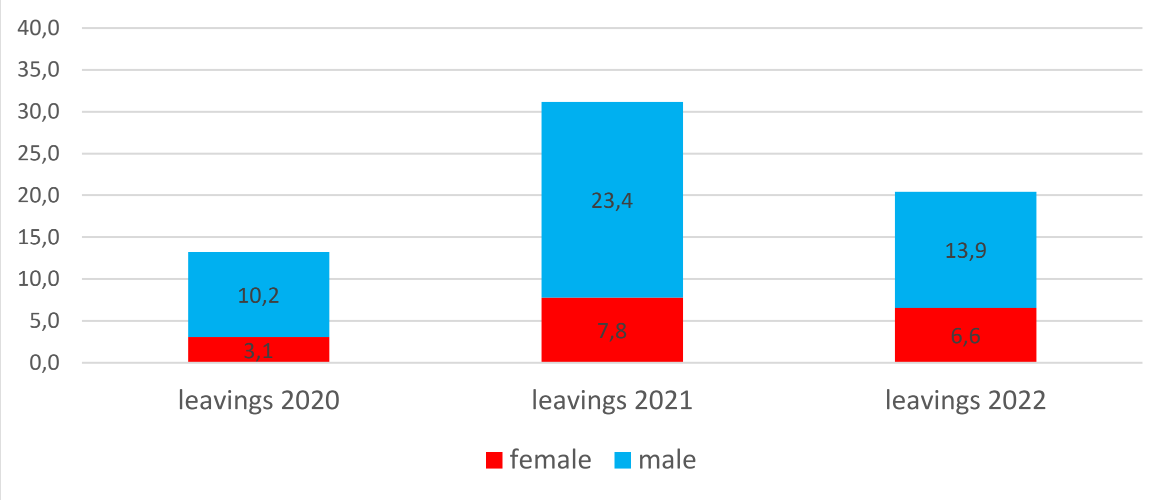
As already mentioned in previous analyses, further research in this area would be very interesting to investigate the hypothesis:

- Employees fear for their family's existence in the event of a longer-lasting crisis and, therefore, make less use of maternity leave.

The following figure reflects the behavior of the employees, divided into female and male who quit for "personal reason".

At first glance it can be seen that the percentage related to this reason increased sharply from 2020 to 2021, doubling for men and almost tripling for women. This reason seemed to gain popularity the longer the crisis lasted.

Figure 15. Leaving the company because of "personal reason" – female vs. male



Source: author's analysis

Since "personal reason" is a somewhat more ramified term, the author went one step further and interviewed the responsible supervisors who conducted the employee survey together with the employees and asked them in detail about the reasons when employees chose "personal reason". With this addition to the qualitative analysis based on the interview, the quantitative results from the survey can be analyzed even better and in a more result-oriented fashion.

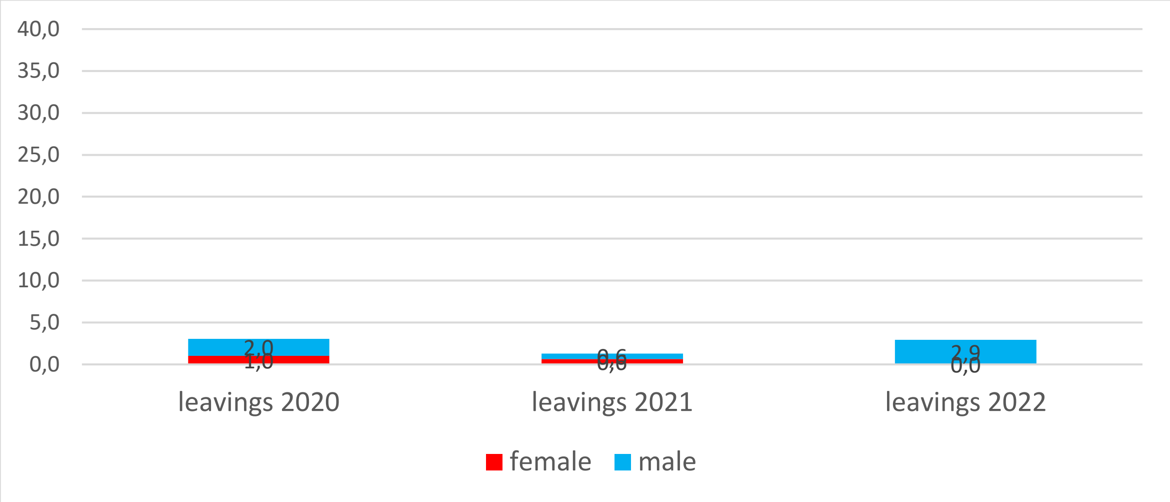
The interviews were divided into the three economic areas of Asia, EU and NAFTA, since the responsible supervisors are located there, which turned out to be very valuable in the course of the interviews. While the Asians gave the main justification for "personal reason" that they take care of their family, it was more of a reason for the Europeans to move to another city and for the Americans mainly to get further education.

Here, too, further research based on this data would be very interesting to investigate the behavior of different cultures in a longer-lasting crisis. One research question could be:

- What culture-related reasons do employees have to quit in a crisis?

The following figure shows the analysis when employees "other reason". This reason is intended as a way out if employees do not want to state the real reason. Since this of course falsifies the analysis, the supervisors were asked to explain the importance of answering the survey as truthfully as possible.

Figure 16. Leaving the company because of "other reason" – female vs. male



Source: author's analysis

It seems that there was very good cooperation here and of a total of 389 employees who left the company between 2020 and 2022, only nine employees exercised their rights and did not give the reason.

These data cannot be used as a basis for further research, but the author has listed them for the sake of completeness and as proof of an analysis with correct and valuable data.

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Appendices

Transcript of the Interviews for the PESSOA Experiment

Category: Positive leadership (PERMA model)

1. **What was your experience with "Positive leadership with the PERMA model", related to the PESSOA experiment?**

Interpretation:

The leader embracing the idea of **positive emotions** and **engagements**, to establish good mindset. Each individual is different (some introverted, some extroverted) therefore it is important for the leader to find solutions to keep employees touched in a way they understand. The process communication model (PCM) helped the leader a lot to establish a good **relationship** and to know on which pattern the employees communicate – thinker, harmonizer, rebel etc. The PCM helped to have a "script" how to support positive emotions. It is important to give each actions a **meaning** – to tell the WHY behind! If someone know why he is doing what he is asked, than he can identify with the task. If the WHY is understood, the employee stands for the leader, for the idea and for the team. Especial during the experiment people often ask, "Do I really need to do that" and here the feedback of the leader was often: What are our options? What happen if we do not do it? In general the leader give trust into the employees and involve them into decisions.

Accomplishment is important and the leader could see that in the experiment. The KANBAN ticket was closed from the employees only if the task is really finished without anything keeping open or not fully done. The leader experience that lots of employees reported a motivation increase every time they could close a ticket – they see the success directly. The leader is familiar with Kotter's "achieve quick wins" during a process of change.

2. **How would you rate the "positive leadership" style in relation to crisis resilience?**

Interpretation:

Nobody know what will happened – all is VUCA, nothing stable anymore. The automotive industry needs to adapt very fast. A positive mindset is the basis – let´s do it! If a leader see people are afraid, take ownership as a leader and go in front. Positive leadership is the basis for crisis management, especial in crisis questions about the "why" increase and motivation decrease (especial after 3 years of COVID). Here we need positive feelings and motivation whenever possible.

Category: Empowerment

3. **How has Corona affected you as a leader in employee empowerment?**

Interpretation:

Each employee needs to be empowered to do his job – this is the maximum a leader can achieve in his role. This is the king discipline for a leader and should be the target for every leader! It is related with "people development" and must be the target that every employee achieves this level to be fully empowered. "Train, teach and develop to the next level to be ready to take own decisions and ownership".

4. **Are there any changes according to empower your employees you will do after the Corona crisis?**

Interpretation:

The group decide together not to change after COVID. The team is motivated to go on because they see the success. Also during COVID they was motivated to go to office, even home office was free to choose – because they are empowered employees, they decide to take ownership to come into office whenever it was needed to make a good job.

Category: Strength-based leadership and - workstyle

5. **What challenges did you observe according "strength-based leadership during COVID-19?**

Interpretation:

This was a very hard experience for the leader! The standard in the automotive industry is, that the project asked for an assignment as a project member and the project do not care about the strength. The solution was to support the project to put some goals for the KANBAN e.g. new entry need to learn, start with easy task and get a mentor beside so that there is the chance to use the strength.

6. **What was your experiences acc. the employees strengths, during the process they freely choose the work packages from a KANBAN board?**

Interpretation:

The leader suggests doing it once, but at the next time a task came, it was delegated to other employees acc. the strength. Invest to put effort to newbie and later get back that time for other, higher task. For an experienced employee is the requirement to train others acc. strength. The leader gave that for the “senior level” in the role description – senior = mentor.

7. **How could you as a leader support the strength-based workstyle from your employees?**

Interpretation:
Using that goal to have the possibility (empowerment) to use the strength, delegated from the leader to the mentor (the leader implement for the mentor as a goal).

Category: Ownership

8. **What experiences have you had with “ownership” in your team?**

Interpretation:
Ownership comes with the empowerment and also fail without empowerment. In the way colleagues have ownership behavior they are empowered from the leader to do the work like it would be their own company. Giving the people the correct mindset pushes the ownership to max. Important is that the leader step back and bring the employee into front, by giving the full trust. In case something happens, the leader is ready to support and bring them back to track. Give trust bring back trust.

9. **Are there differences of ownership before and during the crisis in your team?**

Interpretation:
Yes, the leader could experience that the ownership even increases in the crisis! People want to go to office to do the work. They feel responsible to do whatever needed to be done to reach the goal of the team. The employees see the need to work together in the crisis. The leader could see big success in implementing ownership for the group!

Category: Agile workstyle

10. **What impact did the agile workstyle with the KANBAN board had, during the experiment?**

Interpretation:
A KANBAN board means transparency – from team and management. Stand-up meeting support that also. Everybody is motivated and want to bring a value add. The team support each other if they see some weakness from others or new colleagues. The leader want to expressly emphasize, he was very proud to observe, that if someone finish the work package, they first asked if they could support colleagues before they choose a new KANBAN board. The leader always supports teamwork and such behavior is really success for him.

11. Do you think the agile workstyle will change in your team after the COVID-19 crisis?

Interpretation:

The KANBAN in the department is developed to the next level to a kind of department-internal "shared knowledge platform" and the project team took over the old approach of the KANBAN. Now the colleagues will step into the PROJECT-KANBAN and the project work is doing this approach there. Internal in the team was the decision done to continue the KANBAN only for chosen projects like pilot projects or complicate products like high-performance-computer for autonomous driving. To summarize: It was important for the leader, to move the ownership for KANBAN from his development department to the project department, where it should be at the beginning already – the project work is done in the project and it is just logical, that there should be also this approach of the KANBAN.

Category: General question to the experiment

12. How can you measure the success of the experiment (KPI)?

Interpretation:

The leaders first idea of KANBAN and thus the start of the experiment was to get the people loaded by themselves, so they can choose the optimum way and their own workstyle. Because of material shortage during the crisis, the team was forced to think about new workstyle in the pandemic, otherwise they would have been not able to take over the additional workload, generated by the material shortage to validate replacement material (e.g. Microcontroller change). The leader reported an increase of efficiency of about 20%, because of the PESSOA method in the experiment.

Note of the author – explain what means "validation of replacement material":

If some standard material is not available (caused by the material shortage) a "replacement" needs to validate before use (environmental tests like temperature, vibration, dust, humidity, etc. but also electromagnetic interference). This means the workload increase, despite there are no new projects, but the running products need replacement and lots of validation ongoing in that group the experiment was done.

13. How would you rate the success of the experiment, based on the measured KPI?

Interpretation:

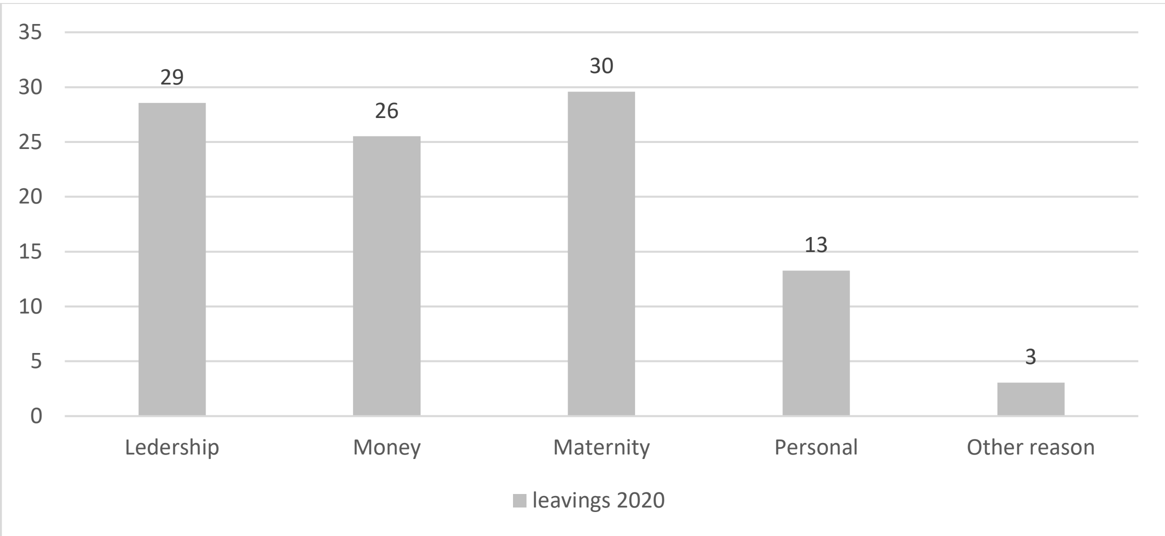
The success was very good – the group could gain 20% efficiency during the experiment -other department took over that approach. The experiment is not matching each activity, but idea to increase transparency, visibility, overview, make fast reaction possible. For people with high experience is easier as with new colleague or with low experience. About 30% is project specific what cannot be done, the rest of 70% standard work is possible to be done and optimise with this new PESSOA method.

14. What are the next steps for the experiment, after COVID-19 in the endemic?

Interpretation:

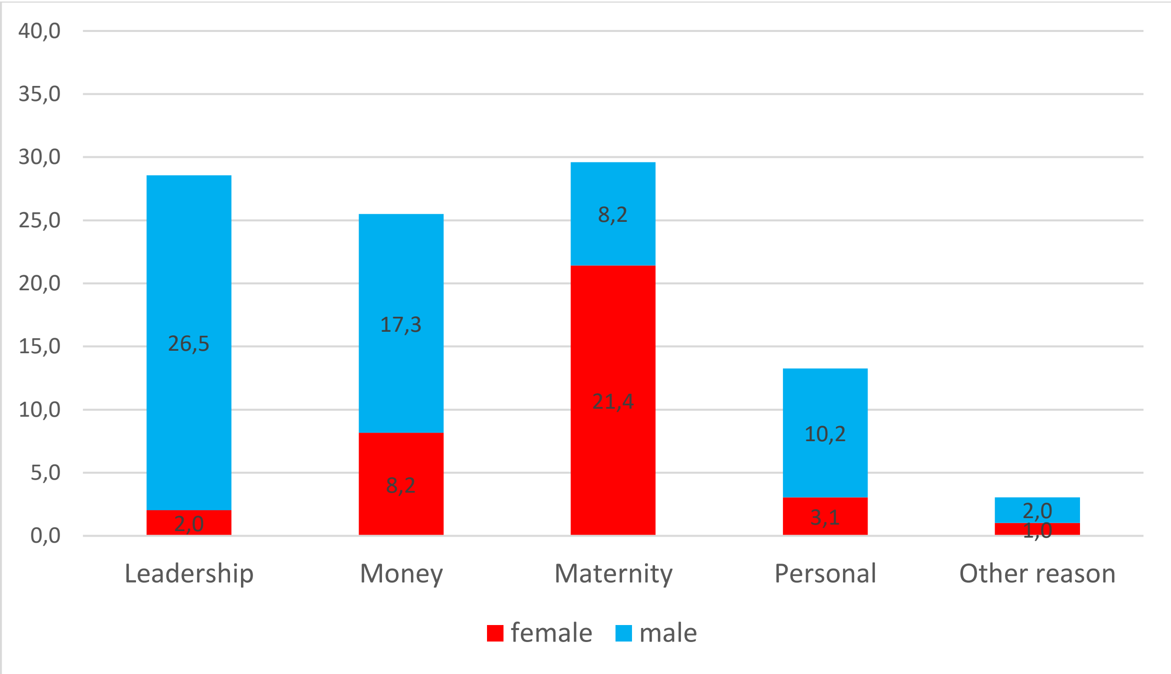
Reduce in the group and give the ownership to the project. Develop the KANBAN to knowledge sharing platform. Lessons learned and sharing, celebrate success. Not what a leader say to the people is important, it is important to be part of the team, not the big boss – trust. Establish good relationship is the key.

Figure 17. Reasons employees left the company during COVID-19 in 2020 [%]



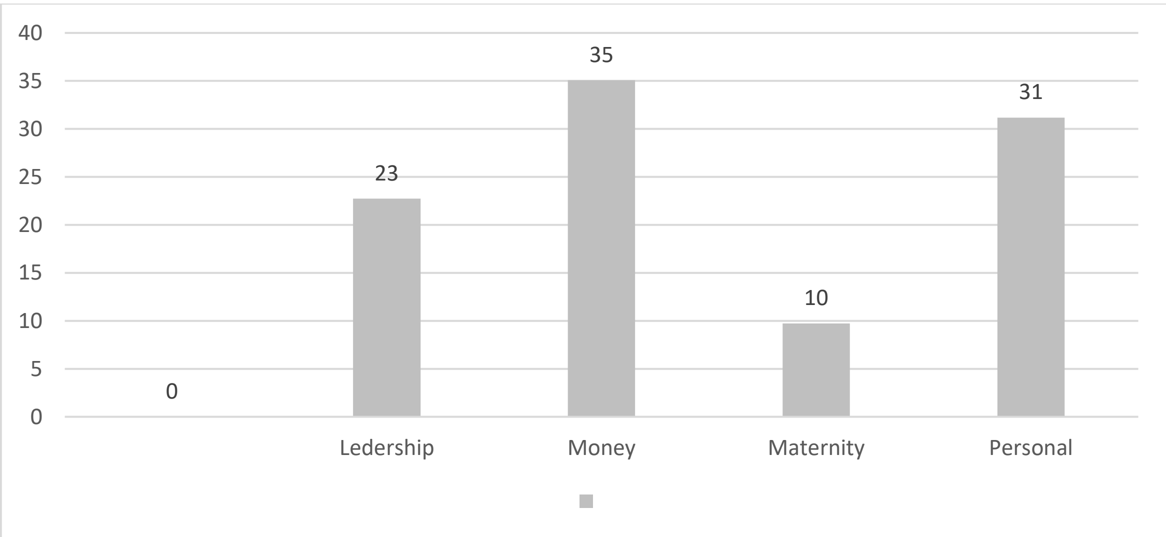
Source: author’s analysis

Figure 18. Reasons employees left the company during COVID-19 in 2020 [%]



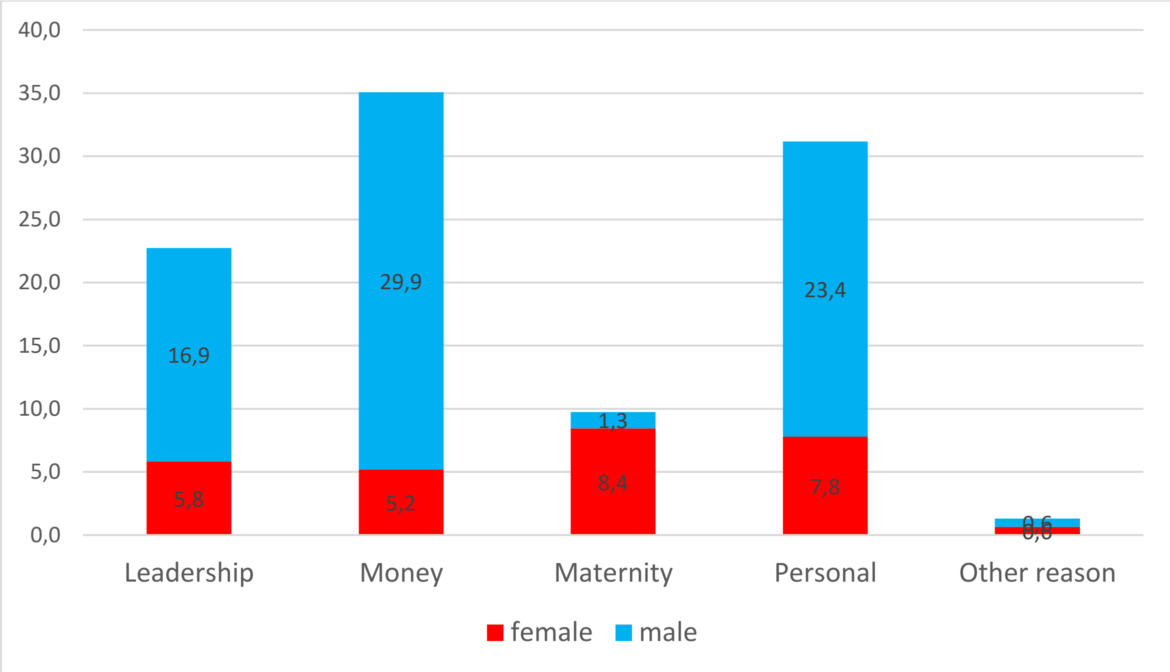
Source: author's analysis

Figure 19. Reasons employees left the company during COVID-19 in 2021 [%]



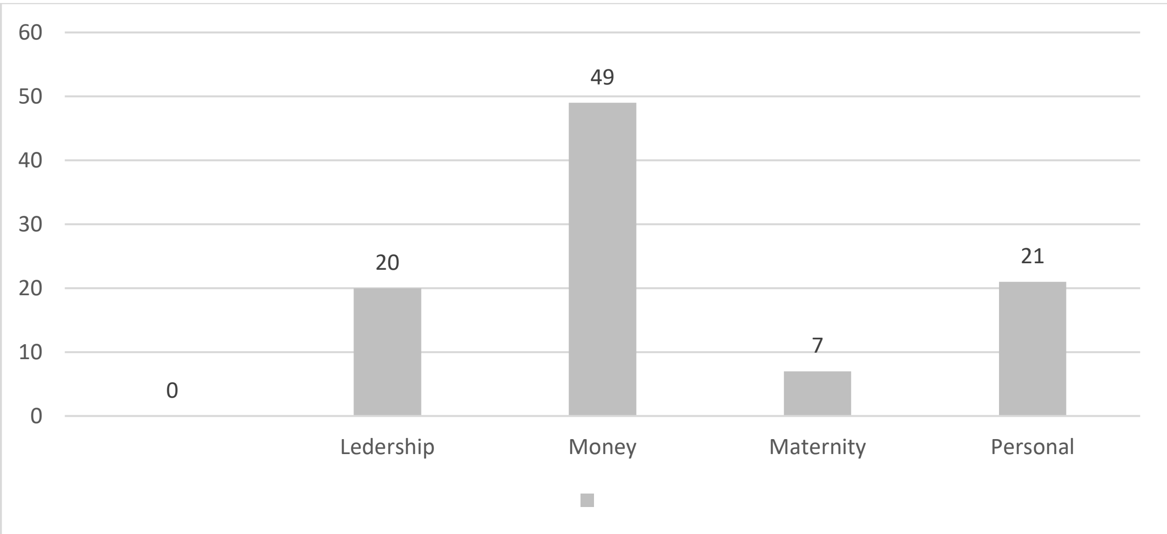
Source: author's analysis

Figure 20. Reasons employees left the company during COVID-19 in 2021 [%]



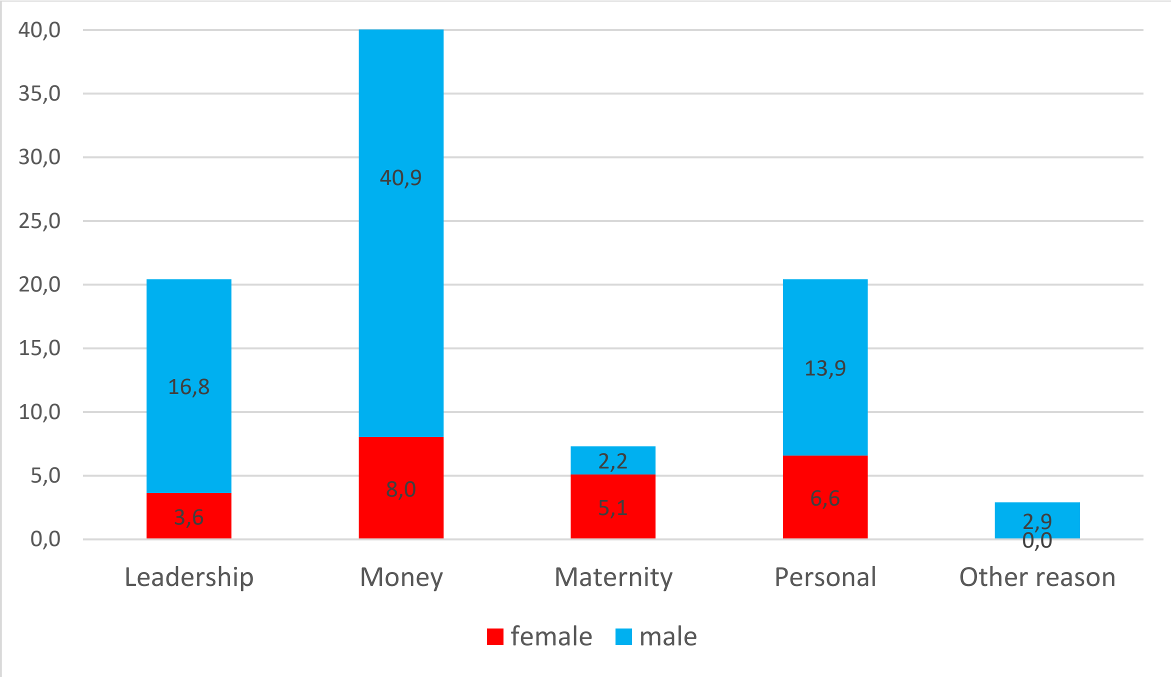
Source: author's analysis

Figure 21. Reasons employees left the company during COVID-19 in 2022 [%]



Source: author's analysis

Figure 22. Reasons employees left the company during COVID-19 in 2022 [%]



Source: author's analysis