

UNIVERSITY OF TWENTE.

**Exploring leadership in AI-driven digital transformations: Dealing  
with social implications among employees**

By

Mannes Rorink | 3059235

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1<sup>st</sup> supervisor: Dr. Pauline Weritz

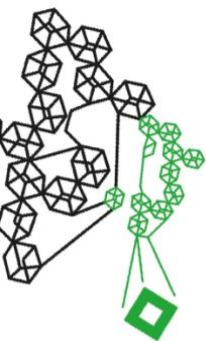
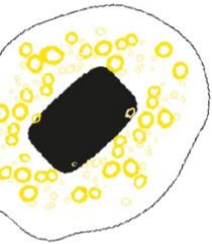
2<sup>nd</sup> supervisor: Dr. Simon Schafheitle

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University of Twente

Enschede

The Netherlands



## **Abstract**

In a world where AI is becoming increasingly important within companies, it is essential for leaders to guide this AI-driven digital transformation in a responsible manner. This research attempts to fill in the gap in the theory of one of the three responsibility domains by highlighting current implications around the social aspects, like privacy concerns, of AI-driven digital transformations. This research shows how leaders address these social implications among employees and builds on the theory of leadership and responsible AI. This research conducts an exploratory qualitative approach to identify the relevant leadership styles, the current social implications experienced within the companies, and to see what actions are used to handle these implications. Thirteen semi-structured interviews with leaders and employees at four companies undergoing an AI-driven digital transformation were conducted and analyzed using the Gioia methodology. Differences between SMEs and larger enterprises were also discussed. A conceptual framework with three propositions to illustrate the relations is developed. This study highlights three relevant leadership styles, six responsible digital transformation actions and positive and negative implications experienced among employees. Practically, this study shows what leadership styles are most suitable during an AI-driven digital transformation and how actions stimulate or mitigate social implications.

Keywords:

AI-driven digital transformation, leadership, social implications, qualitative research, large enterprise, SME

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## **1. Introduction**

The use of technology, artificial intelligence (AI) in particular, has an impact on business, society, and the global economy (Morandini, Fraboni, De Angelis, Puzzo, Giusino & Piertrantoni, 2023). In all fields of life, the use of AI has grown, and technologies have become more advanced (Tanveer, Hassan & Bhaumik, 2020). AI is defined as the ability of a machine to mimic intelligent human behavior (Aghion, Antonin, & Bunel, 2019). The field of AI is increasingly technical and can even transform the way people socialize (Tanveer et al., 2020).

With the advancement of AI, the world has shown clear evidence of a global systemic change and altered ways of working and living (Song & Wang, 2020). Artificial intelligence, big data analytics, cloud computing, and the Internet of Things are some examples of emerging digital technologies that drive changes in society, industry, and organizations, known as digital transformation (Feroz, Zo & Chiravuri, 2021). Digital transformation is the adoption of innovative business models and tactics made possible by a wide range of new information technologies (Furr, Ozcan, & Eisenhardt, 2022). Due to the rapidly changing world of AI, some pros, and cons to using AI within organizations are rising. There is a need for further investigation into how AI is affecting organizational activities, boundaries, and goals as well as the procedures and methods involved in harnessing its power for digital transformation (Aldrich & Ruef, 2006). Transformations bring irregularities to an organization's existence, this could cause disturbances in the activities, boundaries, and goals of that organization (Aldrich & Ruef, 2006). Implementing AI technologies offers companies both opportunities and challenges, however many leaders lack the know-how to tackle these effectively and fully leverage the potential of AI to improve performance and drive digital transformation (Holmström, 2022). Bankins and Formosa (2023) mention that with the advancing use of AI technologies, little is known about how this affects chances for meaningful work and the ethical implications this transition brings. Pratt and Ashforth (2003) state that an interesting perspective for future work would be to look into how leaders create and shape subjective judgments of the meaningfulness of work, especially in relation to the principles, goals, and plans that guide their deployment of AI. This highlights an interesting interplay into the relation between responsible AI leadership and how it can contribute to a working environment in which AI is used in an ethical and meaningful way. Dignum (2018) defines the responsible use of AI as the responsibility of humans on the development of intelligent systems along with essential human principles and values. To become aware of the consequences and implications that AI-driven digital transformations bring with them is of great importance. The people and organizations need to

develop a greater sense of responsibility and accountability for the decisions and actions AI applications make and for their decision to use AI in that context (Dignum, 2021).

In research done by Pappas, Mikalef, Dwivedi, Jaccheri and Krogstie (2023) and Recker, Chatterjee, Sundermeier and Graf-Drasch (2022) the need for exploration of AI-driven digital transformations was mentioned. According to Ly (2023) leadership style contributes to the digital transformation process. Ly (2023) discusses the important role that leadership takes during the digital transformation procedure, particularly regarding the motivation of stakeholders and establishing a platform for change. Therefore, based on what Ly (2023) mentioned, leadership is essential in the digital transformation process by involving stakeholders and creating a platform for change, offering guidance throughout the adoption of new technology, and thus playing a vital role in overcoming opposition. AI adoption and application have a significant influence not only on the workforce but also on leaders and leadership (Arun & Narayanan, 2023). This presents new challenges and requirements for leaders, these challenges consist of the components of the strategic transformation process, human interaction, skills and qualifications, and culture (Arun & Narayanan, 2023). According to Peifer, Jeske & Hille (2022) it is the responsibility of leaders to influence how staff members and AI interact. The decisions on which tasks should be completed by people and which are to be done by AI are eventually up to the leader (Peifer et al., 2022). Based on these theories it can be concluded that, since leaders play an important role in establishing change and are also affected by the adoption and application of AI, they have the potential to influence responsible AI in their organizations. Because leaders make the decision which task is performed by personnel or by AI systems and which AI tools etc. are used in their company, they can protect their employees from loss of human voice or loss of autonomy. Therefore, some power lies with the leaders, and all of this made it necessary to conduct this research into responsible AI leadership.

Pappas et al., (2023) identified a gap in which they propose that it is necessary to do more research on responsible AI and its integration into digital transformations. Responsible digital transformation for sustainable societies is of great importance, due to the fact it holds the potential to reshape our world for the better (Pappas et al., 2023). Its complexity, however, cannot be exaggerated because it entails navigating the interactions between technological advancements, environmental concerns, ethical considerations, and social implications (Pappas et al., 2023). Therefore, Pappas et al., (2023) recommended exploring the social, ethical, and

environmental implications of AI-driven digital transformations. The mention of this lack of research in their paper poses more than just an observation; it brings attention to an urgent issue. By doing research, these implications, best practices, and the impact of AI-driven digital transformations on individuals can be identified. Wang, Xiong and Olya (2019) also emphasize the urgent need for new research to help build and formulate responsible AI strategies that help firms to leverage AI ethically and efficiently.

In addition to the research of Pappas et al. (2023), there was also a special issue call from JAIS for more research on digital responsibility in the domains of social, ethical, and ecological implications. In this special issue Recker, Chatterjee, Sundermeier and Graf-Drasch (2022), mentioned that they are looking for novel, exciting, and thought-provoking contributions that build on the body of knowledge of digital responsibility across all levels and domains of responsibility. Recker et al. (2022) mention the contrasting narratives surrounding emerging digital technologies, such as AI, encompassing both their transformational and innovative potential and the potential for dysfunctional outcomes like loss of autonomy and human voice (Demetis & Lee, 2018) and social endangerment (Demetis & Kietzmann, 2021). Based on Demetis and Lee (2018) the growing impact of technology on the decision-making process has given rise to discussions concerning the loss of human voice and autonomy, which may result in the exclusion of people from the decision-making process. What is meant by Demetis and Kietzmann (2021) on social endangerment is the fact that the widespread use and integration of digital technologies has been used to enable digital harm against, in this case, children. Considering the studies of Demetis and Lee (2018) and of Demetis and Kietzmann (2021) in which they fear losing autonomy, human voice, and the social endangerment of people due to digitalization, the same can occur at other companies, where people can fear to be replaced by AI. It is commonly known that AI might make service workers fearful, and that fear could disrupt and render them unable to function (Jamroz, 2020). To reduce the fear of AI replacing human employees it is important that service employees understand the company's AI integration plan and that more transparency is achieved with them (Tyfting, 2020), how to effectively engage with employees to lessen such anxiety is still mostly unknown (Vorobeva, El Fassi, Costa Pinto, Hildebrand, Herter & Mattila, 2022). Therefore, it was necessary to look further into these social implications and how they are handled.

After an orientational discussion with a representative from an ICT organization in Oldenzaal who implements AI in the digital solutions they create and sell to their customers and in their

own business processes, it became apparent that the social aspect was the most relevant out of the three responsibility domains. They mentioned that they observe that themselves, customers, and fellow companies are juggling between the efficiency and cost savings of AI and the fact that AI can replace people and thus the human factor in companies can experience some stress. The threat to the employment of people is something that also becomes apparent in the literature. Therefore, the leading responsibility dimension in this research is the social aspect.

The issues surrounding how an AI-driven digital transformation influences leadership, and how leadership responds to AI-driven digital transformations together with the social implications that arise from AI-driven digital transformation results in the following research question to have been formulated:

*'How do leaders act responsibly to deal with social implications that emerge from AI-driven digital transformation?'*

According to Babbie (2014), the exploratory approach occurs when a researcher examines a new interest or when the field of study is quite new. Next to that, Kalu and Bwalya (2017) state that qualitative research is employed in behavioral and social sciences in order to gain insights in the experiences and situations of persons, as well as values, beliefs, and cultures. Because research into leadership and social implications is connected to these sciences this is a good fitting research approach. Therefore, an exploratory qualitative research approach has been used for this research.

From a theoretical point of view, this research provides insight into a relatively new topic, leadership during an AI-driven digital transformation, and how social implications are handled as a result. This paper provides an overview of the relevant leadership styles applied in companies nowadays. Furthermore, this study provides an overview of actions that are applied by the leaders in order to foster a responsible digital transformation. An overview of the found implications and how responsible digital transformation actions have a positive or negative relation towards these implications is provided. Therefore, this study presents an overview of the relevant styles, actions and the implications that were experienced in the companies.

From a practical point of view, this research provides valuable insights that can be applied in the practice. It provides the relevant leadership styles that managers can apply in order to foster a responsible digital transformation. Next to that, the relevant actions are presented that leaders



can apply during an AI-driven digital transformation. This study unveils the current social implications that organizations encounter with AI-driven digital transformation which helps with the understanding of these implications. This information can guide leaders in organizations in the responsible implementation of AI technologies.

## **2. Theoretical framework**

### **2.1 AI-driven digital transformations**

AI-driven digital transformation is a relatively new concept that is changing the world of business and companies. Igna and Venturini (2023) state that one of the most ground-breaking technologies of the current wave of inventions that have been changing business operations and workforce composition is AI. AI extends the scope of tasks that machines can perform, enabling them to not only handle repetitive and manual chores but also undertake tasks requiring cognitive abilities (Igna & Venturini, 2023). AI has not only taken the place of old computer techniques, but it also has revolutionized business operations (Haldorai, Murugan, & Ramu, 2021). AI's capacity to alter the relationships and exchanges between individuals and stakeholders is what is driving this revolution (Bharadiya, Thomas & Ahmed, 2023). Companies now realize that, due to the digitalization of AI, they must routinely explore new opportunities in the market next to focusing on their present strategies in order for these companies to stay competitive (Bharadiya et al., 2023). Because of the revolution and the widespread application of technologies, it is relevant for organizations to respond to this digital trend. Feroz et al. (2021) define digital transformation as the process that brings unprecedented disruptions in society, industry, and organizations caused by breakthroughs in digital technologies such as artificial intelligence, big data analytics, the Internet of Things, and cloud computing. In the constantly evolving area of digital transformation, the need to follow a sustainable and responsible practice is essential (Pappas et al., 2023). Pappas et al. (2023) mention that in order to create digital business models that can create value and address social challenges it is important that public and private companies, academic institutions, persons, and civil society collaborate in responsible digital transformation. Therefore, responsible digital transformation is an emerging term.

Responsible digital transformation can be defined as the procedure of incorporating digital technology into an organization in a way that is ethical, sustainable, and respectful of human values and society (Pappas et al., 2023). As Pappas et al. (2023) state in their research, given the rise of emerging technologies, particularly AI, certain components of Responsible AI would

be relevant for ensuring a responsible digital transformation. Pappas et al. (2023) mentioned that it entails weighing the possible effects of technological advancement on people and communities and taking action to lessen any unfavorable effects. Responsible AI is related to corporate digital responsibility (CDR) practices with regards to guiding the technology in a responsible way. CDR refers to a voluntary commitment made by organizations that serves the role of corporate rationalizers by representing the interest of the community in informing digital corporate actions and digital sustainability through collective guidance on addressing social, economic, and ecological impacts on digital society (Elliot, Price, Shaw, Spiliotopoulos, Ng, Coopamootoo & van Moorsel, 2021). CDR is important to include because it refers to values and norms regarding the use of digital technologies and data (Pappas et al., 2023). One strategy for corporations to reduce the ethical concerns connected with upcoming digital technologies is to implement policies that encourage a responsible attitude to their use, development, and modification (Mueller, 2022).

Participating in an AI-driven digital transformation involves adopting AI technologies into your company. Cubric (2020) found that drivers for AI adoption are mainly economic related such as cost, time, performance, customer satisfaction, accurate decision making, forecasting, and less social on sustainability and well-being. Barriers to the adoption of AI are of a technical and economic nature such as cost, support infrastructure, use of models, problem selection, and data availability. However, this also includes social considerations, like dependence on non-humans, lack of knowledge, safety, job security, trust, and lack of multiple stakeholder views (Cubric, 2020).

De Cremer (2020) argues that humans must be aware that the constant development of new technologies should not conflict with one of our most fundamental aspects: our human identity. Before humans accept the use and possibilities of algorithms in the workplace, guidance is needed (De Cremer, 2020). Next to that, in a paper on AI tools written by Dwivedi et al. (2023) they stated that digital transformation cannot be stopped, we at most may hope to guide it. Within companies the people that are guiding these transformations are leaders and De Cremer (2020) mentions that leadership is an influencing process that can help people to change in their way of acting and thinking. This research therefore focuses on how an AI-driven digital transformation is guided by leaders in a responsible manner.

## 2.2 Leadership styles

For AI to be implemented and used properly, leaders and leadership are therefore essential (Peifer, Jeske & Hille, 2022). In order to gain more knowledge into leadership behavior, leadership styles help to acquire a better grasp of how leaders behave. Leadership styles are an expression of the mindset, behaviors and how a leader conducts him or herself when guiding and affecting others (Bwalya, 2023). In order to accomplish organizational objectives, a leader must actively solicit the voluntary cooperation of their subordinates through the process of social influence known as leadership (Omolayo, 2007). There are demands and challenges that can be identified for leaders and leadership (Peifer et al., 2022). Ly (2023) argues that leadership style contributes to the digital transformation process. The position of leadership is essential to realizing the benefits of digitalization, particularly by managing and keeping people through improved engagement, outreach, and connection with employees (Cortellazzo, Bruni & Zampieri, 2019). According to Nizarudin (2017) decision-making, strategic thinking, communication, empathy, and vision setting are some of the abilities, characteristics, and behaviors that make up leadership.

There are different leadership styles that leaders can choose to apply. Fischer and Sitkin (2023) assess leadership styles with the use of a framework that differentiates four aspects of leadership. These four aspects include leadership behavior, quality, intention, and effectiveness (Fischer & Sitkin, 2023). How a leader acts and makes choices is referred to as their leadership behavior, quality of leadership refers to how well a leader executes their duties and responsibilities, motivations or underlying causes of actions performed by a leader are known as leadership intent, effectiveness assesses how the actions of a leader affected the results or performance of the company (Fischer & Sitkin, 2023). With the help of this framework of Fischer and Sitkin (2023) leadership styles can be assessed more systematically.

Responsible leadership is a style that combines leadership and social responsibility and focuses on multiple stakeholders' interests, including employees, and seeks to incorporate positive social, economic and environmental effects (Abbas, Chengang, Zhuo, Bilal, Manzoor, Ullah & Mughal, 2022). Maak and Pless (2006) perceive responsible leadership as a social and ethical event, that occurs in social processes of interaction. According to Voegtlin (2011) being a responsible leader is to actively include those parties who will be impacted in the decision-making and being conscious of how your actions influence everyone involved. Through open

communication, responsible leaders seek to balance the interests of all stakeholders (Voegtlin, 2011). Voegtlin (2016) also states that the foundation of responsible leadership is the idea of leaders who are not disconnected from their surroundings, who question norms in a critical manner, who look forward, share responsibility, and who work to find solutions to problems as a team. Shi and Ye (2016) conclude that in order to be accountable to the organization and its stakeholders, responsible leadership is the merger of corporate social responsibility and leadership ethics. Ethics in leadership is an essential element of responsible leadership, requiring leaders to uphold ethical principles in their actions and decision-making (Shi & Ye, 2016). Corporate social responsibility (CSR) is an external responsibility of responsible leadership, it recommends leaders to expand their view from leader-follower to leader-stakeholder interactions and fulfill societal obligations (Shi & Ye, 2016). In a study by Schafheitle, Weibel and Rickert (2021) they highlight the significance of responsible leadership from the viewpoint of a leader by showing how neglecting to take care of issues of responsibility diffusion may cause workers to believe they have less moral obligation, which may undermine their trust, and to have negative trust perceptions. It also makes clear that workers want their leaders to uphold their rights and maintain their dignity rather than placing the blame on them, which, if ignored, might damage the leaders' credibility. Thus, to preserve integrity and confidence in the leader-employee relationship, the study emphasizes how important it is for leaders to tackle responsibility diffusion.

In a paper by Bwalya (2023) multiple leadership styles were examined. The leadership styles discussed in the paper of Bwalya (2023) are Transformational, Transactional, Autocratic, Laissez-Faire, Charismatic, Situational, Servant, Pacesetter, and Democratic. Siangchokyoo, Klinger and Campion (2020) mention that according to the concept of transformational leadership, managers may influence or transform their staff members' sense of collective identity, internalization of values, and self-efficacy through their leadership behaviors. Transformational leadership is defined by four characteristics according to Bass and Riggio (2006) it is intellectual stimulation, inspirational motivation, idealized influence, and individualized consideration. When AI is expected to be deployed in a business, followers are more engaged under transformational leadership (Htahet & Johansson, 2023). The needs of implementing AI are naturally aligned with transformational leadership, which is recognized for its capacity to inspire, motivate, and foster creativity (Shal, Ghamrawi & Naccache, 2024).

In transactional leadership, followers and leaders engage in an exchange relationship in which followers get status or compensation for doing what their leader directs (Rafferty & Griffin, 2004). Rafferty and Griffin (2004) mention that management-by-exception and contingent compensation are two aspects of transactional leadership. Bwalya (2023) mentions that autocratic or authoritarian leadership is a system where the leader has the power to make decisions and expects no comments from his followers and strict compliance from them. When there is minimal time for collective decision-making or when the group leader is the most knowledgeable member, authoritarian leadership works best (Chukwusa, 2018). Chukwusa (2018) also states that Authoritarian leadership discourages the use of creative ideas for problem-solving.

Zareen, Razzaq and Mujtaba (2014) mention that laissez-faire leaders provide their followers with complete decision-making autonomy by providing them with direction and relevant assistance to increase task involvement and inspire organizational success. As was found by Shal, Ghamrawi, and Naccache (2024) a hands-off style known as laissez-faire leadership may help create a work culture where people feel more comfortable using AI tools and can influence how simple they see it to incorporate AI technologies into their everyday tasks. Charismatic leadership is the style where leaders use their charisma, appeal, vision, and compelling communication to inspire and motivate people (Conger & Kanungo, 1998). Bwalya (2023) mentions that charismatic leaders frequently have a strong presence, are charming and have the capacity to inspire, draw in, and organize their followers.

Situational leadership states that staff should be handled according to the dynamics of the situation and that leaders should be aware of opportunities to develop staff members' skills and confidence (Thompson & Glasø, 2015). According to Goleman, Boyatzis and McKee (2013), the pacesetter leadership style is a style where leaders hold themselves and their followers to high-performance expectations. Democratic team leaders encourage other team members to participate in the decision-making process even though they will ultimately make the final decision (Bhatti, Maitlo, Shaikh, Hashmi & Shaikh, 2012). Hensellek (2020) also mentions the emergence of the digital leader. Hensellek (2020) states that a digital leader has to incorporate digital technology in an effective and efficient way into their work and that of their employees. Sağbaşı and Erdoğan (2022) define a digital leader to have creative ideas on a digital platform, inspire staff members in a digital setting, build long-lasting relationships with staff members in a digital setting, and create digital plans. According to Xiong (2022) AI will enhance leadership

and work with leaders to ensure the company's long-term success. As leaders must take into account social and human variables when making decisions, they should see AI as a collaborative partner, understanding its dangers and limits (Xiong, 2022).

Proceeding on the theory of leadership styles and their function in AI-driven digital transformations, leadership effectiveness as mentioned by Fischer and Sitkin (2023) assesses how the actions of a leader affected the results or performance of the company. In the context of AI-driven digital transformation for this research the social implications reflect the outcome of how effective the leadership styles are, especially how employees perceive the process of transformation. The following chapter will highlight the social domain of responsibility.

### **2.3 Social domain of responsibility**

When the social impact of AI is acknowledged, there is often a logical separation in which AI is considered first as a technical item while only later, after it has been applied, may have social consequences (Dahlin, 2021). This is one of the challenges with AI in the social context. However, it is possible to address this issue effectively. By applying social analysis of the proposed technology throughout the design and development stages, it would provide engineers with a greater probability of forecasting and handling potential social challenges (Dahlin, 2021). Hagerty and Rubinov (2019) mention in their paper that the social implications of AI can only be comprehended through looking, conversating, and listening with people on the floor.

The main social challenge of AI is the threat it poses to employment (Kelley et al., 2018). As AI replaces careers, wealth inequality between social classes is likely to grow (Kelley et al., 2018). Hagerty and Rubinov (2019) also confirm this in their research, as they point out that previous research in U.S. settings demonstrates that AI technology has a history of establishing societal differences and worsening social inequality. AI increases the automation of industry, agriculture, and services, which advances society but also poses significant employment-related societal dangers (Ghallab, 2019). To reduce the unemployment risks, several studies and initiatives are carried out in the areas of social recognition, integration, resource sharing, training, and job development (Ghallab, 2019). Wilson, Daugherty and Morini-Bianzino (2018) also mention that the threat of job displacement might be a stressful outlook for the future, but they also mention that there will be new jobs created. Wilson et al., (2018) characterize these jobs into trainers, explainers and sustainers. Trainers are employees that teach AI systems on

how they should work and behave. Explainers are employees that fill in the gap on the technology that business leaders do not exactly possess by explaining how these processes work. Sustainers are employees who make sure that the AI systems are operating as intended to (Wilson et al., 2018).

In research done by Ghallab (2019), it was stated that researchers can engage in research that works toward the needed shift of paradigm to promote socially beneficial developments and to address the risks of AI for humans and society. Ghallab (2019) mentions that it is important to mitigate social AI risks, such as safety, security, social risks, and privacy, and how rules and regulations are required to address these concerns. Next to that, the research of Ghallab (2019) mentions the importance of social acceptability, social cohesion, and long-term impacts of AI technologies. As was previously mentioned by Baeza-Yates (2022) ethical challenges arise due to data bias. Some challenges that AI-led systems encounter as stated by Saurabh, Arora, Rani, Mishra & Ramkumar (2022) are social uncertainties, chances of errors, biased algorithms, and miscalculations, which lead to unforeseen and damaging effects on humanity.

In Table 1 a conceptualization of the key constructs can be seen.

**Table 1**

*Conceptualization of key constructs*

<b>Construct</b>	<b>Conceptualization</b>	<b>Source</b>
AI-driven digital transformation	“AI is the ability of a machine to mimic intelligent human behavior.” “Digital transformation is the disruptive process caused by advancements in technologies like AI, big data, IoT and cloud computing impacting society, organizations and industries.”	Aghion, Antonin & Bunel (2019) Feroz et al. (2021)
Leadership	A leader is someone who assigns tasks or persuades others to take action in order to accomplish goals.	Nanjundeswaraswamy & Swamy (2014)
Social challenges	Any behavior or condition that is widely acknowledged as needing to be addressed and that has negative impacts on a significant number of individuals.	Mabokela & Schlippe (2022)

*Source: Own visualization*

### **3. Method**

#### **3.1 Research design**

In this research, an exploratory qualitative approach was used. Babbie (2014) mentions that an exploratory approach occurs when a researcher investigates a new interest or when the field of study is relatively new. The field of AI-driven digital transformation, in the context of leadership roles and their impact on addressing social implications, is relatively new, and therefore the exploratory qualitative method was the correct method for this research. As Babbie (2014) mentions exploratory studies are of some value for social science research because they are highly important when a researcher is venturing into unexplored territory.

The exploratory qualitative approach allowed for a deeper and more thorough examination of the organizational cultures, and experiences of individuals involved in AI-driven digital transformations. It permitted unexpected themes, viewpoints, and other aspects to arise that could not be easily recorded with a quantitative approach.

#### **3.2 Research instrument**

For this research, semi-structured interviews were conducted. The five-step approach for developing a framework for a qualitative semi-structured interview guide from Kallio, Pietilä, Johnson and Kangasniemi (2016) has been used. Step 1 for this study was identifying what needed to be researched and why semi-structured interviews were appropriate. In step 2 prior knowledge was found and researched in order to become more familiar with the topic and to make better questions. Step 3 was drafting a first guide for the semi-structured interviews. In step 4 a test round was done to see if the guide provided the right information, and very small adjustments were made. In step 5 the semi-structured interview guide was finished and used for the research. These steps were followed because Kallio et al. (2016) mention that the reliability of semi-structured interviews as a qualitative research approach is enhanced by the thorough development of semi-structured interview guides.

The test study done in step 4 helped with developing a valid and reliable instrument. This because the test study helped to identify problems beforehand and thus enhanced the overall quality of the data. It also reduced the risk of coming across problems in the end phase of the research. The technique of conducting the test study was field-testing. Field-testing is the method where a possible research participant is interviewed to evaluate the preliminary interview guide (Kallio et al., 2016).



### 3.3 Participants

For the data collection of the empirical part of this research, the selected participants worked in service-oriented companies that are in an AI-driven digitalization process. The network of an ICT organization was used to help gather participants. The participants were involved in the adoption of AI, the handling of responsible practices considering AI, and working with AI technologies. This study adopted a purposive sampling approach. Purposive sampling is a form of non-probability sampling in which the researcher specifically chooses certain subjects to be observed based on their assessment of which subjects will be the most valuable for the research (Babbie, 2014). This research makes use of both perspectives in the organizations, so the employee and leader perspectives. There are also two SMEs and two larger enterprises chosen. The resources and experience available in large companies differ significantly from those in small and medium-sized enterprises (Gutierrez, Orozco & Serrano, 2009). Therefore, this was a perspective that was found interesting to assess. In Table 2 you can find the sampling steps that were followed in this study, based on Robinson (2014).

**Table 2**

*Sampling steps*

<b>Robinson (2014) sampling steps</b>	<b>Description:</b>
Step 1: Define sample universe	<i><b>Inclusion criteria:</b></i> Service-oriented organization is busy with AI-driven digital transformation, involved in AI, leader or employee, wish to participate. <i><b>Exclusion criteria:</b></i> No involvement in AI, do not work at a service-oriented company, do not wish to participate.
Step 2: Determine sample size	Approximately 15 interviews.
Step 3: Selection of sampling strategy	Purposive sampling was adopted. This allows for selection of participants that fit the criteria well.

Step 4: Source participants in the real world	Search for participants that fit all the criteria and aim for a divided opinion of employees and leaders.
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*Source: derived from Robinson (2014), visualized by author.*

With the help of these sampling steps the following companies and participants were found.

Company A is a Dutch ICT company that started in 2006 and has around 40 employees. They provide several different services, including cloud solutions, cybersecurity, and software development. They offer guidance and advice in IT infrastructures and digitalization. They are using AI so they can work more efficiently like with Microsoft copilot, they let AI generate manuals, instructional videos, and more. Next to that, they organize events into how AI can help them more in their company and to raise awareness among their employees about the implications AI can have.

Company B is a Dutch IT consulting company that started in around 2020 And has around 20 employees. Their main emphasis is to help their customers with implementing new systems to improve their business processes. In their technologies, AI is incorporated, they use it for their customer service and the handling of tickets. AI looks at ticket information and makes suggestions based on this information from the knowledge bank. They are constantly improving their company processes and those of their customers.

Company C is a large Dutch bank that started in around 1991 and has around 59.000 employees. They use AI and robotics in multiple aspects of their company. The interviews were held in one of the two main headquarters of the bank. In this headquarter they focus on optimizing the thousands of post documents they receive, and they use AI technologies to optimize this process.

Company D is a Dutch technology-oriented company that is organized in different segments within the company. They have around 1000 employees. They focus on being very innovative in their market segments and therefore are using a lot of AI technologies in their day-to-day work. With the likes of ChatGPT and their own large language AI models, they make use of AI

a lot. Since they have different segments, one of the segments that uses AI the most and has the highest degree of security and responsibility for the use of AI was highlighted.

In table 3 you can see an overview of the characteristics of the participants and companies.

**Table 3**

*Overview of participants and companies*

Company	Name & Role	Gender	Age range	Function of participant
<b>Company A</b> SME ± 70 employees Sector: ICT	A1-M (Manager) A2-E (Employee) A3-E (Employee)	Male Male Male	30-39 30-39 30-39	General director-Security officer VoIP engineer Accountmanager
<b>Company B</b> SME ± 20 employees Sector: ICT	B1-M (Manager) B2-E (Employee) B3-E (Employee)	Male Male Female	30-39 30-39 20-29	Founder & business developer Power platform developer Marketeer & graphic design
<b>Company C</b> Large Enterprise ± 70.000 employees Sector: Finance	C1-M (Manager) C2-E (Employee)	Male Female	30-39 20-39	Lead operations Administrative employee
<b>Company D</b> Large Enterprise ± 1000 employees Sector: Technology	D1-M (Manager) D2-M (Manager) D3-M (Manager) D4-E (Employee) D5-E (Employee)	Male Male Male Female Male	40-49 50-59 30-39 30-39 30-39	Chief technical officer Team lead, business developer Head of support Developer Communication employee

*Source: Own visualization*

### 3.4 Data collection

Semi-structured interviews were the primary source of data collection for this research. Eventually, 13 semi-structured interviews among employees and leaders were conducted for this research during a total of 372 minutes. Interview durations varied depending on the input from the interviewee on the questions asked. Some interviewees were more invested in the subject and spoke more elaborately about their experiences. Other interviewees spoke more quickly and motivated their answers less. A detailed document outlining the goal of the study, the voluntary nature of participation, and the confidentiality precautions in place was given to the participants prior to the interviews. Every participant was asked for their informed consent, guaranteeing that they were willing to share their ideas. With the consent of the participants, all the interviews were recorded. This is to make sure all the information that is given can be correctly interpreted by being able to listen back to the interviews. Thereafter, the interviews were transcribed verbatim making sure that a correct representation of the participants' words

was used. For the transcription part, when the interview was conducted online, it was done and recorded via Microsoft Teams or Zoom, with the use of the automatic transcription function it provides. Afterwards, the transcription was checked with the actual recording to see if the text was correct. During a physical interview, the interview was recorded with Microsoft Teams or recorded via phone. The ethical considerations were upheld through the collection process. The collected data was anonymized making sure that no specific trace leads back to the participant. Direct identifiers like names and locations were removed or coded differently. Codes like E=Employee and L=Leader were used in the transcriptions. Furthermore, these codes were numbered like E1, E2, L1, L2.

The data was collected via a hybrid approach of both virtually, using online conference tools, and in-person interviews. Nine interviews were conducted online due to the busy schedules of the participants and four were conducted in-person at the companies. This was the best approach since this enhanced the cost and time efficiency for both the researcher and the participant since there was no need for extra travel expenses, reducing the time needed for conducting the interview. Also, this allowed for a participant to speak their preference for in-person or online. The interviews were held in Dutch. After transcribing the interviews in Dutch, the transcripts were translated to English and backward to check if the essence was captured well in the translation. The translation was done with the use of online tools such as TranslateGPT and DeepL.

### **3.5 Data analysis**

The collected data from the semi-structured interviews was analyzed using the Gioia methodology of Gioia, Corley and Hamilton, (2013). The use of a variety of data sources is important, as is the case with all good qualitative research, but semi-structured interviews was the main tool used to gather both real-time and retrospective accounts from individuals actually experiencing the theoretical phenomenon (Gioia et al., 2013). The Gioia method consists of multiple steps. First, all the transcripts of the interviews were thoroughly read. During the early stages of the research, a wide range of informant names, codes, and categories emerge (Gioia et al., 2013). As the study goes on, we began to look for patterns and distinctions between the numerous codes, this process narrows down the relevant categories to a more manageable amount (Gioia et al., 2013). Then the relevant categories were given collective names, this step can be seen as the creation of the second-order themes. Gioia et al. (2013) state that when they

have a feasible collection of themes and concepts they examine if it is possible to further reduce the emerging second-order dimensions into aggregate dimensions. The tools used in this research were Atlas.Ti for the development of the first-order codes. Then the first order codes were exported to an Excel sheet to create a clear overview of the first codes. Then these codes were grouped by hand and the data structure was made in a web app called Lucid.App.

61 first order codes were developed, these were grouped into 14 second order themes and these themes were grouped into 4 aggregate dimensions. This was all put into a data structure that can be found in Appendix 3. This data structure provides a visual representation of the process and helps to gain an understanding of the steps and how the concepts were established. With the help of the visualized data structure, the important concepts, themes, and dimensions were used to develop a conceptual model that can be found in figure 5. According to Gioia et al. (2013), the final model needs to demonstrate the relationships between the emerging ideas that characterize or explain the phenomena of interest and make evident all relevant data-to-theory relations.

After the initial coding and the development of the data structure, the differences between SMEs and larger enterprises were analyzed to see if there are real differences. These differences were assessed by looking per code if these were more mentioned in SMEs or in large enterprises. When a code was mentioned more in a large enterprise it was put into **bold** lettering and for SMEs it was put into *italic* lettering.

### **3.6 Possible biases**

One of the possible biases that could appear during the collection and analysis process was the researcher bias. Researcher bias occurs when researchers intentionally or unintentionally influence the findings of an empirical study to fit their initial assumptions (Romano, Fucci, Scanniello, Baldassare, Turhan & Juristo, 2021). To prevent researcher bias this research paper was transparent through pre-registration of the research. Before beginning the study, a proposal outlining the purpose of the investigation must be submitted and peer review must be arranged (Romano et al., 2021).

Since this research adopted a purposive sampling approach there are some advantages and disadvantages. One of the advantages of purposive sampling is that they only research the demographic that captures their interest (Andrade, 2021). As Andrade (2021) also mentions the

disadvantage of purposive sampling is the fact that the external validity will be more restricted the more purposeful the sample is. Therefore, the sampling bias could become more apparent in this research. To help overcome this bias the four steps of sampling in qualitative interview-based research by Robinson (2014) were used. Robinson (2014) mentions defining a sample universe as the first step, this involves defining exclusion and inclusion criteria for possible participants. The next step Robinson (2014) identifies is the determination of the sample size by taking into account practical and epistemological considerations. Robinson (2014) mentions that in step 3 the selection of a sampling strategy is done. The last step Robinson (2014) identified is to go and source participants in the real world. Taking care of these four sample concerns mentioned is essential to improving the validity of any specific interview research (Robinson, 2014). In Table 2 under section 3.3 the steps are visualized.

## 4. Results

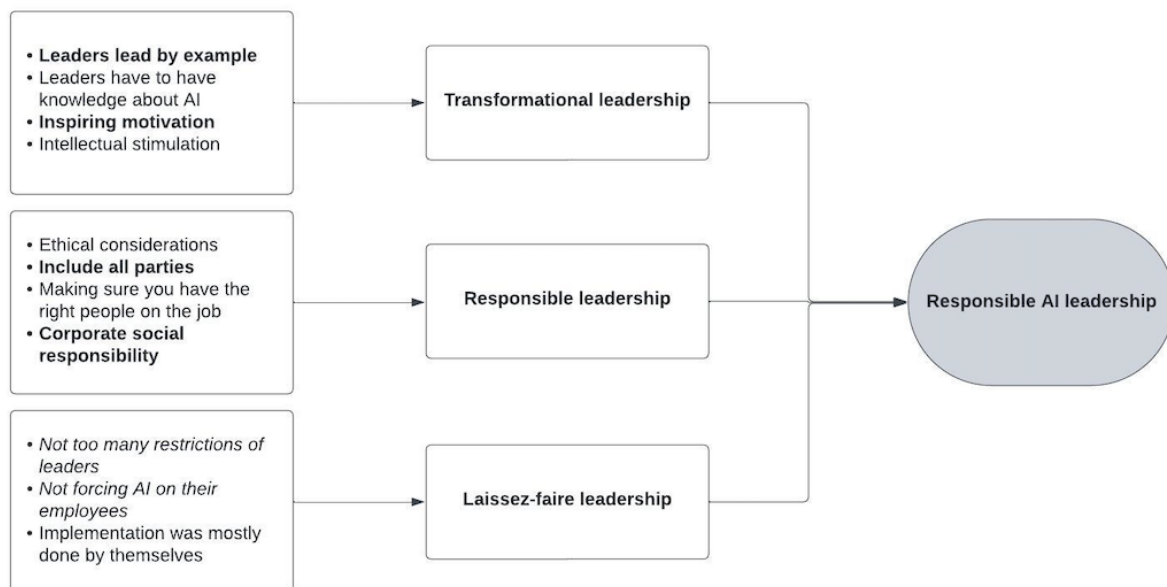
This section of the research presents the results that were found based on the analysis of the qualitative data retrieved from conducting semi-structured interviews. By discussing the first order codes and the second order themes, the third order aggregate dimensions are explained. After these explanations the differences between SMEs and larger enterprises that were derived from the interviews are explained. The **bold**-faced first order codes are more prevalent in large enterprises and the first order codes that are in *italic* are more prevalent in the SMEs. The codes that are in normal lettering were found to be equally more or less important to both. In the figure underneath parts of the data structure can be found per dimension, and the entire data structure can be found in appendix 3.

### 4.1 Responsible AI leadership

The dimension of responsible AI leadership is built up out of three leadership styles that were derived from the interviews. These leadership styles are transformational leadership, responsible leadership, and laissez-faire leadership. The codes out of which these themes are built up out of will be explained further in this chapter.

**Figure 1**

*Responsible AI leadership dimension*



*Source: Own visualization*

#### 4.1.1 Transformational leadership

During the interviews multiple subjects were found that drive the theme of transformational leadership. Good initiatives of leadership were for instance **Leading by example**. *“Ultimately, it's a lot of talking to people. But also showing examples. In my own work, I already use a lot of AI by now. The things I just mentioned with notetaking. Those are all little examples that I pick out. I can also show them to the people on my team. For what AI can do for you. (D3-L)”*. It also became apparent that it is important for **leaders to have knowledge about AI** so they can give direction, as can be seen in the following. *“I think it is mainly knowledge-driven. Skills might come second. If you don't understand how the technology works and what to pay attention to when using it, you can't give any advice or direction. (A1-L)”*. This was also supported by the employee perspective. B2-E mentioned: *“I think mainly that they are also a bit immersed in it. How does such a model work exactly? What happens with the data? Those kinds of things. That you know a bit, how does AI work? How does it go? In its operation, you also stay a bit up to date with the latest developments, so to speak”*. One of the characteristics of transformational leadership according to Bass and Riggio (2006) is inspirational motivation. **Inspiring motivation** among their employees is derived from that. *“So that's my responsibility to make sure my team is ready to 'hop' on that train. Now I see that in my team, the people themselves are far from being engaged in AI. And actually, find it almost a little scary. My responsibility is to awaken that interest in the team. To see how we can turn this from something scary to something useful. How can we make that mind switch from AI is going to replace my work, to me learning how to do my work better with AI. (D3-L)”*. Another characteristic of transformational leadership according to Bass and Riggio (2006) is the **intellectual stimulation** of their employees. As can be derived from the following quotation. *“Then he sees ChatGPT open on my screen. And he sometimes makes a remark like, 'read it carefully and make sure you remain critical.' (A3-E)”*. Stimulating critical thinking and making sure employees understand what they are doing is important. *“If you don't understand what's happening with AI tooling, you can't assess the risks. And we deal with a lot of customer data, sensitive data from customers. You need to handle that carefully. So, I want you to understand the subject matter before you start using tooling. (A1-L)”*.

#### 4.1.2 Responsible leadership

The second style of leadership that was identified is responsible leadership. **Ethical considerations** among leaders during an AI-driven digital transformation is what became prevalent during the interviews. Making sure it gets adopted well and will meet the societal



consequences can be illustrated through the following quotation. *“So how can we make sure that this gets adopted and starts delivering the value. Yes, what it has the potential for and also at the same time the things you just mentioned. How do you make sure that as an organization you also meet the societal consequences that are insurmountable from that, that are going to come. (D1-L)”*. **Including all the parties** involved in the process is what keeps your employees engaged in the process. *“I work with the team to determine exactly what we need, who will take it on, how long it will take, and which parties will be involved. (C1-L)”*. and *“I also think you need to keep a constant dialogue with all parties involved in such a project. So, not just keep checking, but also keep the dialogue going: Are we doing the right thing. (C1-L)”*. Next to those aspects the aspect of **corporate social responsibility** has been identified during the interviews. *“A certain amount of empathy about what's coming and how do you make choices that are longer term not only in the corporate interest. We also look I think from the corporate interest in a different way. So not just looking at financial interest for the company, but also for long-term social embedding of the company in how that's all going to sit. (D1-L)”*. By making sure they keep looking at the long-term social embedding of the company they remain conscious of their actions and how these can affect the parties involved.

#### **4.1.3 Laissez-faire leadership**

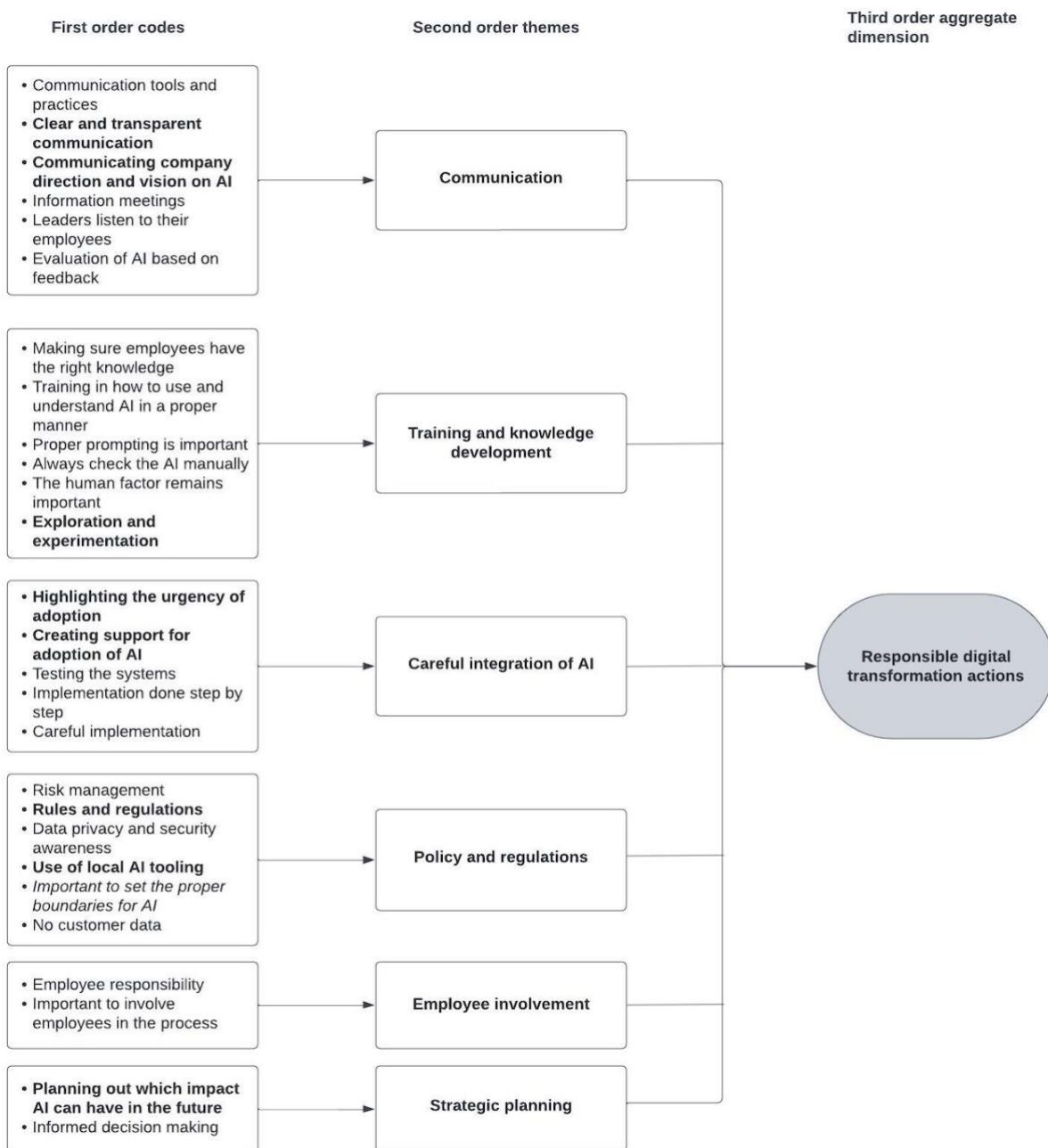
A Laissez-faire leadership style means a more hands-off approach conducted by leaders. Some employees experience **not too many restrictions of leaders**. *“Yes, I think everyone is still given a lot of freedom. For example, I can freely use ChatGPT, but I also use co-pilot in my Edge browser, which I always have on. But nothing is said about that. So, the responsibility still largely lies with yourself. (A3-E)”*. Next to not putting too many restrictions to the use of AI, Laissez-faire leaders are also **not forcing AI on their employees**. *“It's then also up to yourself whether you want to use AI within your work. It's not something that you have to use, so we did leave people free in it if they want to use it. (B1-L)”*. They also believe that not forcing AI on their employees is the real way to go for positive adoption. *“No, and I also don't believe that in the long run that's not the way to get it. You eventually want to get it adopted out of energy and out of desire. (D1-L)”*. The **implementation of AI was mostly done by themselves**. *“It's not that there's a whole implementation and training process from IT. It does go, like everything here, a little bit on your own initiative and your own interest that you're going to pick this up. (D5-E)”*. This all is in line with the first two aspects of not having too many restrictions and not being forced.

## 4.2 Responsible digital transformation actions.

The dimension of responsible digital transformation actions is built up out of six themes that were derived from the interviews. These themes are communication, training and knowledge development, careful integration of AI, policy and regulations, employee involvement and strategic planning. The codes out of which these themes are built up out of will be explained further in this chapter.

**Figure 2**

*Responsible digital transformation actions dimension*



Source: Own visualization

#### 4.2.1 Communication

The second order theme “Communication” consists out of multiple aspects. An important one that was mentioned by employees and managers during the interviews is **clear and transparent communication** since this is essential for maintaining good contacts between employees and leaders. C2-E mentioned: *“Yes, I think communication. That is very important, especially when working with multiple teams. So, our department and the team that created the AI. So that everything goes smoothly and as quickly as possible without errors. Because at the end of the day, we want to help the customer as quickly as possible with their requests. And I think communication is essential for that”*. Transparent communication on decisions is important as is illustrated in this quotation: *“Continuously, we also have decision-trackers for internal processes. That means that if we want to make decisions in this area, we communicate as much as possible centrally and involve our employees as much as possible. (D2-L)”*. In order to help with clear and transparent communication in their companies **communication tools and practices** are used. *“Yes, we actually always work according to the scrum methodology ourselves, so I don't know if you're familiar with Agile working, but we actually try to organize weekly sessions every time together with our staff to actually manage the implementation process in that. (B1-L)”*. and *“Yes, we are actually very transparent about that. We use a lot of Slack internally as a communication tool. In it we have some channels where all the choices, and all the conversations about AI are held, which are actually open to everybody. (D3-L).”*. According to the respondents, the **communication of the vision of the company** and if that happens to align with the employees is essential. When employees know the direction of the company, they understand what they can expect and act as they see fit. *“We actually want to give as many employees the freedom to do their jobs as possible. Only, we did choose here to say, yes no, this has to be a business choice. To accept that risk. And that's also part of the fact of like as an employee you're not allowed to say, I have an opinion about it that I use Slack. (D1-L)”*. and *“Because we also have to be honest that if the speed of the adoption curve is so fast that we can't shift with that, we might be forced because of our position as a publicly traded company to make choices. Which are not in line with how we would like to make them. And we're just transparent about that. (D1-L)”*. To also communicate the direction of the company on AI and to create more awareness about the topic of AI **information meetings** are organized. *“So, there are also those information sessions that we have had in which it is said in general terms: Dear people, this is all very nice, but also look at the dark side of AI. We have also had presentations about this in order to create awareness. (D4-E)”*. Next to the different tools and practices used in communicating it also is important according to respondents to **evaluate AI**

**based on feedback** and therefore **listen to employees**. These are in line with each other for the theme of communication because there is a clear interaction between leaders and employees about how AI is being experienced. *“I also think you need to keep a constant dialogue with all parties involved in such a project. So, not just keep checking, but also keep the dialogue going: Are we doing the right thing? (C1-L)”*.

#### **4.2.2 Training and knowledge development**

During the interviews, it became apparent that a lot of leaders highlight the importance of training and knowledge development among their employees regarding the use of AI. **Making sure employees have the right knowledge** helps with reducing fear among employees about AI. *“So yes, I try to take away some of the fear in people in that way. And I also believe that the fear of AI is very often accompanied by a bit of knowledge about AI. People who don't know much about it also quickly become fearful of it. (D3-L)”*. Also, leaders experience that this knowledge is essential for employees to stay in control. *“When people no longer have the knowledge themselves, you can't control it. So, that's always my top priority, and that tooling is present to make your work easier is fine. (A1-L)”*. Therefore, **training in how to use and understand AI in a proper manner** is provided. *“We also have partnerships with Microsoft, which invite us to their training. So, our employees who work with it also join those trainings to acquire that knowledge. We are also continuously developing how best to do it. I invited a major party, who is a global leader in using Microsoft licenses like 'Afanade,' to give us hands-on tips on how they, as a leading company, have been using this kind of tooling for a long time. Both on the security side and the user side. So, you get a much better idea of how it can actually be applied. (A1-L)”*. Trainings also help employees understand AI better and therefore stimulates the use of it. *“So there are always people who are a little bit of those forerunners who think oh I think this is cool, I'm going to do a lot with it and they know a lot about it. And you just see that there is a group that might want to do it, but for whom it is still a bit too far away, and for them they do organize training sessions. So we are thinking about what we can do to stimulate this within our market group. (D5-E)”*. Because AI systems are not completely flawless it is very important to **always check the output manually before proceeding**. *“But it is still machine work. So, you have to check everything by hand and read it through. There are often still mistakes. (B3-E).”* and *“You just have to not go blind on the data that AI provides because it's connected to everything that goes into it. Yes if there is an error in there somewhere then you can just start making big mistakes and big misconceptions. (D3-L)”*. Checking is important and that is always done by humans. The human factor remains very important in this

process *“Ultimately for innovation for things that go out of the box. You will always, that's my perspective then, you will always need people. Because what a person doesn't know, chatgpt basically doesn't know either. Chatgpt also only gets it from things that were once made up by humans pretty much. (D4-E)”*.

#### **4.2.3 Careful integration of AI**

To start with the careful integration of AI, leaders **first highlighted the urgency of the adoption** of AI. Leaders communicate realistic scenarios towards their employees in order for them to make their employees more conscious of the fact that if you will be falling behind what some of the consequences can be. *“And that's why I put these scenarios to the team: what happens if we don't go along with this? Then you will simply no longer be relevant in the market as a support team. And then it will be at our expense. (D3-L)”*. When leaders are **creating support for adoption** of AI among their employees this helps with getting their employees on board. In order to do this, they carefully help their employees and reassure them. *“Yes, some people still have some concerns about not having knowledge of AI yet. And do I have to start gaining all that knowledge now or else I'll be redundant? But again, you know, that knowledge will come to people. We're going to help them with that. And we'll reassure them of that. (D3-L)”*. Facilitating all the AI systems and tooling for their employees and encouraging them in the process helps to lower that barrier and create more support. *“Actually, all employees are free to use that. Company D facilitates that, so as to make the step a little smaller to get started with it. We are actually just encouraging that. (D3-L).”* To make sure that the integration of AI was done responsibly and **implemented carefully** the companies started with testing the systems and reviewing every step. *“You have to be very careful with these kinds of models. You can't just roll them out; it's a very gradual process with a lot of risk-wise steps, a lot of control, and a lot of reviews. (C1-L)”*. Because the use of AI is different for every employee, the implementation can be quite hard, so that is why it is carefully handled according to the respondents. *“People are busy, they have all these aspects and then you ask this. And then it's not direct. You can't say if you do this, you get that in return. It's so hard to implement. It's not one tool that you just explain. You depend on however that person picks it up and implements it. Yes, you're really dependent on people. So you can't implement ChatGPT, for example, in one session. Because ChatGPT is something different for a marketer, as for a developer, as for a salesperson. And it's so different. There is no one implementation. (D1-L)”*.

#### 4.2.4 Policy and regulations

Being aware of the risks and doing everything to the best of their abilities to make sure that **risks are managed** is essential according to the respondents. *“You have to master the subject; otherwise, there are too many risks. If you now turn on AI tooling in most companies, it can access everything. And that’s where the risk lies. (A1-L)”*. Always evaluating the risks is also done according to this quotation: *“So, that’s also what we communicate when there is a need to work with AI. We always take a step back first to evaluate together. What are the risks? (A1-L)”*. Setting and handling **rules and regulations** within the company about AI is something that makes sure some problems are prevented according to the respondents. *“We have entered into dpa's with all the major suppliers and within that we say we are comfortable for everything within the company to use with that. To also encourage to start using it that way for high-level things. (D1-L)”*. When AI was first introduced little was known about it, so to become **aware of the data privacy and security** around AI systems and communicate those to your employees, was new and important as was expressed by A1-L: *“And that was immediately the moment when, and I’ll put on my security officer hat here, I had to put a stop to it. This is a tool we have not approved within our organization, stop using it. We need to first look at what it does and where you leave information.”*. Different respondents mentioned that with the help of **local AI tooling** their company can make sure where their data goes, and it is not used for other purposes. *“Hope we can do this responsibly, is actually to bring those models in and start hosting them ourselves and start running them ourselves and start putting down a learning curve ourselves. (D2-L)”*. When an AI-tool, for example co-pilot, is introduced in a company and the rights are not properly set, it can access all kinds of information from the system that it should not have access to. Therefore, it is **important to set the proper boundaries for AI** as was illustrated by A1-L: *“If user rights are not set correctly at the user level, folder level, or even further, then anyone can get access to information they shouldn’t have. So, you must set up very clear boundaries about what can be used and who can access what”*. The rule that became the most prevalent in the interviews was the fact that **no personal or customer data** was shared with AI tooling as was expressed by D3-L: *“Of course so, that means you should always be aware of what data you are going to feed to an AI now. So never bring person data in there. Never go bring code in there that is critical to your own software and your own IP.”*

#### 4.2.5 Employee involvement

Companies are dependent on their employees. **Involving employees in the process** of adopting AI helps with the adoption process. As can be derived from the following by C1-L: *“No, I think*

people find it very interesting to work with these new methods. If you keep them away from it, it could become a problem. But if you involve them, the team members become owners of such a change. When they become owners, they also get the opportunity to learn from it". Employees receive a lot of responsibilities when working with AI. It is expected of them to handle the tooling in a responsible manner according to the respondents. "Then it is also said, be careful with that and don't do it. That is mainly the responsibility of the employee themselves, I think. That you think a little. Especially with sensitive data, customer data. (B2-E)". Having more responsibilities and not having every step regulated is something that was also positive for some employees as was mentioned by D5-E: "No, and rather not. I'd rather run into problems on my own than have somebody go all out and frame me on what I can and can't do."

#### **4.2.6 Strategic planning**

It became prevalent that some companies are already looking very much towards what the consequences of introducing AI in their company are, and how they will handle those by **planning out which impact AI can have in the future.** "That is also one of the reasons that we started looking at the discussion in advance, what does AI mean for employment? So that we can also indicate to our people what our kind of opinion on that is going to be and how we are going to act. (D1-L)". This helps with providing their employees with the necessary information about the impact it can have in the future and thus preventing anxiety about the future. Discussing the impact on certain variables can be derived from the following: "We are very much working on that now. Also to look at those long-term societal components. So for example, in 15 days we're having some sessions with leadership about the potential impact of AI on society, on employment, and on our value compositions. (D1-L)". There still is a lot of uncertainty and they can't plan out every step they need to make in the future because the speed of AI can become unpredictable that is why informed-decision making is important According to D1-L: "There's a lot of uncertainty about the timeline and the impact that it could potentially have. And I think it's good to make an informed average choice. Knowing that nobody really knows."

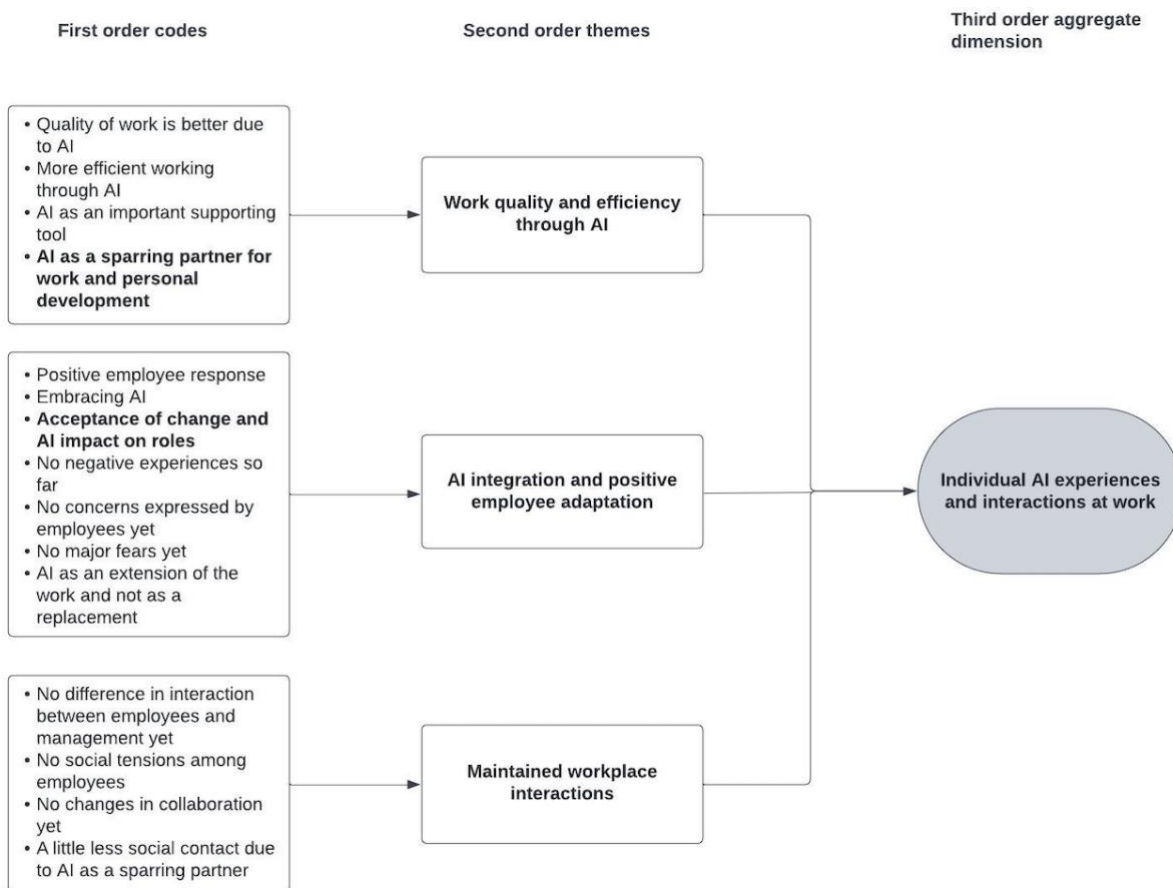
#### **4.3 Individual AI experiences and interactions at work**

Positive reactions from employees form the dimension of individual AI experiences and interactions at work. This dimension is built up out of three themes that were derived from the interviews. These themes are work quality and efficiency through AI, AI integration and

positive employee adaptation and maintained workplace interactions. The codes out of which these themes are built up out of will be explained further in this chapter.

**Figure 3**

*Individual AI experiences and interactions at work, dimension*



*Source: Own visualization*

### 4.3.1 Work quality and efficiency through AI

One of the main factors why AI has a positive impact at work, according to the respondents, is the fact that it allows workers to provide **better quality of work**. *“Quotes are made faster, and the quality goes up. I am quite allergic to spelling mistakes. That happens much less. Customers also respond positively. (AI-L)”*. Working faster and thus **more efficiently** is also a benefit of using AI as was mentioned by B1-L: *“Yes, as I said, the positive effects are pretty clear, actually working more efficiently faster, working, collaborating better also yes working more error-free.”* Employees also confirm this as is illustrated via D4-E: *“I like the fact that I can probably program some things much faster now because I have help 'on the spot'. Because of this, I don't*



*have to go to a colleague to ask for things. I can ask Chatgpt, I put it in and we're there". AI is becoming an important supporting tool for employees in their daily tasks. AI is seen as an enabler and supporting tool and not as a replacement as is mentioned by C1-L: "While AI is often mentioned as a replacement for people, I see it more as an enabler to help us become faster and better because you also need people to manage a good AI model". The use of **AI as a sparring partner for work and personal development** is according to the respondents another positive impact of the use of AI in companies. "What we didn't expect is how often it's used for personal development. That's interesting, though. A lot of people spar with it. To get themselves out of situations, conflict situations, things that they would otherwise find difficult, as a kind of sparring partner. Almost like an additive over management. Normally you might discuss that with your supervisor or something to have a discussion with. You see a lot of those kind of things. Parsing feedback, writing things like that, correcting. (D1-L)".*

#### **4.3.2 AI integration and positive employee adaptation**

For the employees and leaders, the effects of the integration of AI were mostly positive. When asked if there were any social tensions among employees during the implementation of AI most answers were no and resulted in quite **positive employee response to AI**. As can be seen in the following: "No, not so much not really. No, they were actually all on board pretty quickly and fortunately also because, so it did have a largely positive end result, people were actually quite enthusiastic. (B1-L)". And illustrated via D5-E: "I see only positives, I must say honestly. I don't see. No negative effects so far.". Employees started to realize that they need to get on board and start **embracing AI** in their work as was mentioned by A3-E: "And that triggered me again, 'if you don't get on board now, you'll likely be lagging behind.' As an organization, you have to keep up, and I think as an employee, you just have to learn to use it. And from that moment, I started using it more and more." **Accepting the change and AI impact on roles** is important for employees to remain positive, this can be illustrated via this quotation D3-L: "After many conversations, people now realize that it's a beautiful thing, part of our work is being replaced. Only, doors are just going to open, our work is going to change. It's not that our work is going to be redundant, it's just going to change. The challenge where it used to be to acquire a lot of knowledge, about our applications for example, yes, that just changes because all that knowledge will soon be in the AI, you don't have to acquire it yourself anymore. And that time that you put in there you can invest differently in utilizing AI for example.". Many respondents mentioned that there were **no negative experiences, no major fears, and no concerns expressed by employees** as can be seen with the following quotations. "I haven't had

*any negative experiences with it so far. (A3-E)*". No major fears can be illustrated by: *"No I've asked several people that but I don't think I've ever really had a response back with; 'I'm afraid for my career'. (D4-E)*". And no concerns can be explained by the following as mentioned by a leader: *"Yes, if there are concerns, I address them, but none have been expressed. (C1-L)*". Some of these reactions can be partially traced back to the fact that employees and leaders see AI more as an **extension of the work rather than a replacement**. *"I think AI is more of an aid for us, helping us sort documents, so it can't replace us as humans. What AI does with the post, the physical mail, it can't do that. (C2-E)*". and *"So I'm positive and I certainly don't feel like it's going to take over my job or it's going to dominate the world. (D5-E)*".

#### **4.3.3 Maintained workplace interactions**

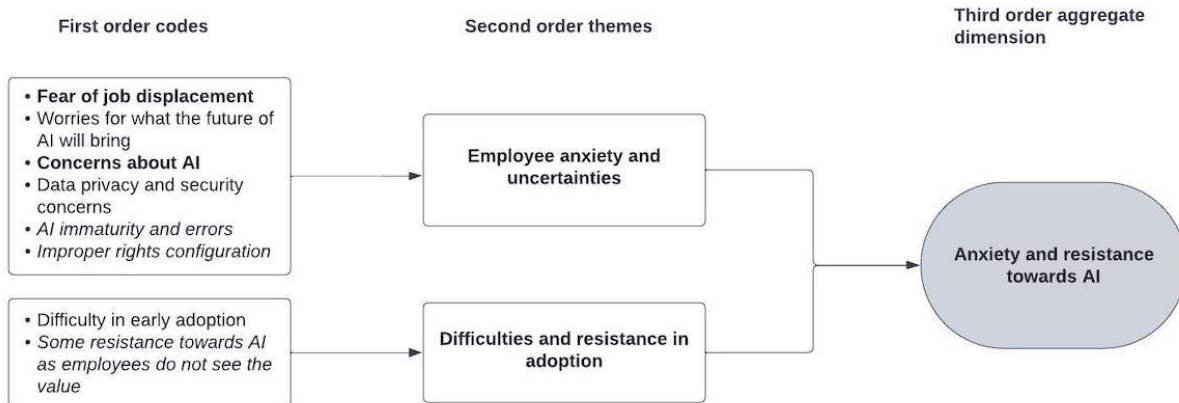
With the implementation of AI, the interviews pointed out that there are no differences in interaction between employees and management yet. *"That in itself has remained the same. No hasn't really changed a bit from how we work together. (B1-L)*". Next to that, it was pointed out that among employees themselves there were **not any social tensions** experienced after the introduction of AI. *"No, not at all. My colleagues haven't really either. (B3-E)*". When asked about changes among the employees it was found that there were **no significant changes in collaboration yet** as can be made up of the following mentioned by C1-L: *"So, that's no different for such a project than for any other project. No, I don't think it has significantly changed collaboration."*. And the following: *"With my team itself, I don't really see a change in collaboration yet. (D3-L)*". One employee did mention that it sometimes makes them work less together, but that was the only small change mentioned by one employee. *"No, I don't think so. It may cause you to work a little less together sometimes because so you don't always need more help from your colleagues. (D4-E)*".

#### **4.4 Anxiety and resistance towards AI**

The dimension of anxiety and resistance towards AI is built up out of two themes that were derived from the interviews. These themes are employee anxiety and uncertainties and difficulties and resistance in adoption. The codes out of which these themes are built up out of will be explained further in this chapter.

**Figure 4**

*Anxiety and resistance towards AI, dimension*



*Source: Own visualization*

#### **4.4.1 Employee anxiety and uncertainties**

The theme of employee anxiety and uncertainties is made up out of multiple codes that were traced from the interviews. However, a lot of interviews mentioned that there were no big concerns yet. A small number of respondents mentioned some concerns that fuel anxiety among employees for example **fear of job displacement**. *“Yes, I did have those. At the moment it does begin to diminish as people become more knowledgeable about it and more accustomed to AI becoming a part. In the early days, there were really some people who were afraid of being redundant. (D3-L)”*. The following quotation by D3-L adds to it: *“And especially for a support team, sometimes it's quite a scary development. At least, you often hear that support work can be automated away quite easily”*. The **worries for what the future of AI will bring** is also something that raises anxiety among employees. *“And now you have action models, or something like that, where you can train it on how to click on websites. I can now set up a telephone exchange, which Co-Pilot can't do because it's all text-based. But when they can perform actual actions and know how to click on certain locations on websites or apps, you start thinking, am I still needed? (A2-E)”*. The following quotation adds to the fact that there are some concerns about where AI is headed in the future. *“I don't think right now there are any very big concerns within our team around AI. Other than not knowing where it's going, exactly. (D3-L)”*. Other **concerns about AI**, according to the respondents, are examples like **data privacy and security concerns**. *“You see now the first people are also starting to say, gosh hey, but actually I'm not that comfortable with my data going into an American AI. And that's quite a challenge, because you can't actually as a company allow that pick and choose. (D1-L)”*. and as A3-E mentioned: *“You can't just install co-pilot for someone if certain rights*

are not set correctly, so you might end up in certain folders you shouldn't access. That's very dangerous with personal data and all the other information you can retrieve". Other uncertainties that arise come from **AI immaturity and errors**. "Yes, the biggest problem with the older model is the hallucinations, which AI is sometimes known for. (B2-E)". Adding to that as mentioned by B1-L: "Negative effects are, as I may have just mentioned, that sometimes you see that suggestions are just not good or that AI makes mistakes. Because they don't recognize things very well. See, and that's an inefficient way of working and takes more time than I had hoped."

#### **4.4.2 Difficulties and resistance in adoption**

During the adoption process there were sometimes difficulties as there are mixed employee reactions towards AI. "Some people really like it, and others don't. For example, we have an employee who is in their 40s or 50s. They won't use it quickly. But we also have developers in their 20s. If they encounter a problem, they throw it into ChatGPT, and it comes out. (B3-E)". Adding to this by A2-E: "When the people experimenting with it in project groups are used to it, then you have a large group who also need to embed it. So, I think before it is fully used, it will take at least a year and a half.". What was also experienced is the fact that some employees do not want to use AI as much as others because they do not see the value. That is where the code; **some resistance towards AI as employees do not see the value** comes in. "For an inside sales department that mainly handles processing, it doesn't help as quickly. So for them, the adoption is less important. And you see a bit of struggle there. This brings me nothing. So why should I gain knowledge about this? (A1-L)". Adding to this also by A1-L: "Because if you take out a yearly license and people use it incorrectly and don't get the desired results, they will say, 'it's not what I want, I'll stop using it.' While it might be very applicable if used correctly, and because they use it wrong, it's not well-received. Introducing new things in a company stands or falls with how it is received by the employees.". Other people just do not want help from AI. "Sometimes, maybe a little bit of resistance, because people are like. Yes, I am still just doing my job and I want to do it the way I do it and I don't want to accept any help from AI. (B1-L)."

#### **4.5 Cross-case analysis between SMEs and large enterprises**

This research conducted interviews among two SMEs and two larger enterprises. In figure 1 the characteristics of the companies interviewed are visualized. In the figures 1,2,3 and 4 above and in appendix 3 an overview of the data structure that was retrieved from coding the

interviews can be found. In this data structure the codes are based on both types of companies, there are a lot of similarities but there are also some differences. Some of these codes are more prevalent in the different type of companies. As was previously mentioned the **bold**-faced first order codes are more prevalent in large enterprises and the first order codes that are in *italic* are more prevalent in the SMEs. The codes that are in normal lettering were found to be equally more or less important to both.

#### 4.5.1 Differences in leadership style

Among the identified leadership styles some first order codes were more prominent among the two different company sizes. What was found in the interviews is the fact that **leading by example** is done more in larger enterprises than in smaller SMEs. *“Ultimately, it's a lot of talking to people. But, also showing examples. In my own work, I already use a lot of AI by now. The things I just mentioned with note-taking. Those are all little examples that I pick out. I can also show them to the people on my team. (D3-L)”*. Not only leading by example is showing examples, but also showing your own vulnerability as an example to make employees more at ease about their problems, as was mentioned by D3-L: *“And also by being honest, because you know, there are just areas of AI that are pretty exciting, which I also find exciting, where we don't know where we're going to come out. You also have to be honest about that with these employees, but the moment I show my vulnerability from my role in that, I also have certain concerns, but I also get very excited about it. Then you see that, at a certain point, people start to adopt that.”* **Inspiring motivation** among their employees for the adoption of AI is more prominent in larger enterprises. With the inspiration you make employees more enthusiastic about the change. *“No, I think people find it very interesting to work with these new methods. If you keep them away from it, it could become a problem. But if you involve them, the team members become owners of such a change. When they become owners, they also get the opportunity to learn from it. (C1-L)”*.

Larger enterprises also put more focus on **including all parties** in the process of an AI-driven digital transformation. *“Every project we run, whether it's with robotics, AI, or something else, requires the people involved to always create a work description, present to the rest of the team what they are working on, and share the progress with the team so that everyone is involved in the change. (C1-L)”*. Making sure that as an organization you are keeping the social components and consequences that arise from the transformation in the back of your mind is an element in which larger enterprises put more thought than SMEs.

In the SMEs there are less restrictions from leaders on the use of AI by employees. Although there are not too many rules in larger enterprises there are still some. That there are almost no restrictions in SMEs can be illustrated via this quotation mentioned by B2-E: *“At the moment, we are still given freedom. We don't really have a document or guideline that I can quickly say, this is allowed, this is not allowed”*. Respondents working at SMEs mentioned that they have a freer approach to AI and do **not want to force AI on their employees** which was mentioned by A3-E: *“No, you are still completely free in that. There is absolutely no obligation, not even advised.”*

#### **4.5.2 Differences in actions for a responsible digital transformation**

By communicating with your employees everybody knows what the status of the process is. What was found is that in larger enterprises **clear and transparent communication** was more prominent. As they have a larger team of employees than in SMEs it is essential to keep everybody up to date on the developments. Larger enterprises have a more formalized process for communication, they use certain tools to promote this type of communication and remain transparent in what they do. *“Yes, we are actually very transparent about that. We use a lot of Slack internally as a communication tool. In it we have some channels where all the choices, all the conversations about AI are held, which are actually open to everybody. (D3-L)”*. What was also found is that in larger enterprises they communicate the company direction and vision on AI more than in SMEs. Together with having clear and transparent communication, it is important to communicate the vision of the company to prevent that employees do not encounter any unexpected challenges or situations. Because they are larger companies, they have to act on certain expectations, and they cannot satisfy every employee's needs. *“Because we also have to be honest that if the speed of the adoption curve is so fast that we can't shift with that, we might be forced because of our position as a publicly traded company to make choices. Which are not in line with how we would like to make them. And we're just transparent about that. (D1-L)”*.

What also became evident in larger enterprises is that they are trying to stimulate the exploration and experimentation of AI more among their employees. They believe that the use of AI is a change in their business that they must act upon and therefore employees must adapt. This can be illustrated by this quotation: *“But what I found even more important is that from a strategic level, there was actually an incentive. For every employee. You have to start using this. So it*

*wasn't a question. Hey, we come across this and if you use it, hearty nice. But we are an innovative technology company. This is a change for our overall society and the way we work. If we don't get into this and learn, we could potentially just lose a future. So it's not a choice. Go explore. (D2-L)*". Next to that, the larger enterprises other than stimulating experimentation also try to **highlight the urgency of adoption**. Highlighting the consequences of what could happen to their employees, if they do not start with adopting AI, creates a sense of urgency for employees to start with it if they do not want to undergo the consequences. *"And that's why I put these scenarios to the team: what happens if we don't go along with this? Then you will simply no longer be relevant in the market as a support team. And then it will be at our expense. (D3-L)*". And this is also experienced by the employees in this way as is mentioned by D5-E: *"You either can do it or you can't, and that has repercussions on that too. You get into it and you develop into it, or you don't develop into it and you're not going to benefit from it. It's implicitly expected of you to work with it and see if it works for you."* In line with all this is that larger enterprises try to create support for adoption of AI among their employees by facilitating all tools and encouraging the use. *"Actually, all employees are free to use that. Company D facilitates that, so as to make the step a little smaller to get started with it. We are actually just encouraging that. (D1-L)"*.

What was experienced during the interviews is that larger enterprises have some more rules and regulations regarding the responsible use of AI. **Rules and regulations** like having data processing agreements (dpa's) with their major suppliers. *"We have entered into dpa's with all the major suppliers and within that we say we are comfortable for everything within the company to use with that. To also encourage to start using it that way for high-level things. (D1-L)"*. Next to that, it is much more preferred to work with applications that are not from outside of Europe so they can also adhere to the GDPR. *"So for GDPR we actually always said that we only want to work with European hosted applications, preferably even European vendors. (D1-L)"*. Larger enterprises want to handle client data first using local AI solutions to ensure responsible processing. This helps them to observe where their data is going and if their plan can be achieved, this ensures data security at first. *"So one of the requirements for me is if I want to apply AI applications to the data we get from our clients from support. Then I always want to be able to do that within a local network. So for that, we currently have an application called N8N. With which we can build kind of workflows that we run completely locally on our own infrastructure. And only when it plays locally, then only then do we start running our own LLMs over it to apply AI applications. (D3-L)"*.

SMEs make less use of local AI tooling but try to limit the ability of what data an AI application can access **by setting proper boundaries for AI**. With these boundaries, the security of information can also be guaranteed better. They look at user rights structures for employees and give sensitivity labels to documents that the AI applications are not allowed to open. As can be made up out of the following: *“If user rights are not set correctly at the user level, folder level, or even further, then anyone can get access to information they shouldn’t have. So, you must set up very clear boundaries about what can be used and who can access what. (AI-L)”*.

To handle the expectations of employees and anticipate on what could happen in the future of AI, larger enterprises are already busy **planning out the impact AI can have for the future**. By doing this, larger enterprises are giving a more transparent approach to their employees of what could be happening in the future as is mentioned by D1-L: *“That is also one of the reasons that we started looking at the discussion in advance, what does AI mean for employment? So that we can also indicate to our people what our kind of opinion on that is going to be and how we are going to act.”*

#### **4.5.3 Differences in Individual AI experiences and interactions at work**

The use of AI tools as a **sparring partner for work & personal development** is something that is used some more in the larger enterprises than in SMEs according to the respondents. This was also to the surprise of the leaders as was mentioned by D1-L: *“What we didn’t expect is how often it’s used for personal development. That’s interesting though. A lot of people spar with it to get themselves out of situations, conflict situations, things that they would otherwise find difficult as a kind of sparring partner. (D1-L)”*. Not only is it that leaders experience that employees are using it as a sparring partner, but they do it themselves too, as was mentioned by D3-L: *“For some meetings, I use AI to prepare for my meetings. For example, if I have a performance review with employees, I often use AI to prepare by checking what kind of questions I need to ask, how I am going to approach the review, and use it more as a sparring partner”*.

What is also more prevalent in larger enterprises is the acceptance of change and impact AI will have on the roles within the company, as can be illustrated via: *“People are starting to realize now that the change is just really, really big. The whole transformation to AI. And it will be like that everywhere. Such a big change just brings some excitement to a lot of people. But that’s*



*not necessarily different with AI than any other big change. (D3-L)*". This realization and acceptance of change can be deducted to the fact that larger enterprises need to have bigger systematic changes in their more complex operations, in comparison to SMEs that have more simple operations and thus less of a big change management operation.

#### **4.5.4 Differences in Anxiety and resistance towards AI**

The **fear of job displacement** among employees was only experienced by the leaders in the larger enterprises. When AI was introduced some people among the teams of the leader became worrisome as was mentioned by D3-L: *"Yes, I did have those. At the moment it does begin to diminish as people become more knowledgeable about it and are more accustomed to AI becoming a part of our work. In the early days, there were really some people who were afraid of being redundant."* In the larger enterprises they see different reactions to this as can be illustrated via this quotation by D1-L: *"What you do notice is that some people out of fear downplay it a little bit. You see it mainly, ironically developers who of course have made almost their entire career over the last 20 years on replacing other people are now seeing for the first time that their own job is on the roll to actually put serious consequences in there. And that's where you see that leads to very different reactions."* However, there are not too many fears of job displacement noticed among the interviews only a few.

Some more negative things about AI that were encountered in SMEs was that the applications sometimes give errors or are still a bit too **immature**. As is mentioned by B1-L: *"One of the negative things is perhaps that, yes, AI is actually still a bit immature at times I think."* Next to immaturity, the errors that AI gives because it cannot recognize some aspects well, is a negative factor for SMEs as can be made up out of B1-L: *"Negative effects are, as I may have just mentioned, that sometimes you see that suggestions are just not good or that AI makes mistakes. Because they don't recognize things very well. See, and that's an inefficient way of working and takes more time than I had hoped."* These negative effects raise some uncertainties about AI among SMEs. The next pitfall that is experienced by SMEs when using AI technologies is improper rights configuration. *"The biggest pitfall in using AI tooling in our field is improper rights configuration. (AI-L)"*. By not having the proper rights SMEs risk that all employees can access documents they should not have access to.

Among SMEs during the interviews a bit of **resistance** was noticed because employees **do not see the value of AI** and do not want to change their way of work as can be seen in this quote

by B1-L: “Sometimes, maybe a little bit of resistance, because people are like. Yes, I am still just doing my job and I want to do it the way I do it and I don't want to accept any help from AI.”. Leaders experience that some employees do not like it that they constantly have to check if the AI output is correct. Instead of using AI they would rather do it themselves. As a leader quoted an employee, B1-L: “I don't see any added value for them, because I have to look at it myself every time anyway.’ So they quickly dismiss it.”

A clear overview of the more prominent codes per case and per segment can be found in table 4

**Table 4**

*Overview of more prominent codes per SME or Large industry*

<b>Segment:</b>	<b>SME</b>	<b>Large enterprise</b>
<b><i>Differences in leadership style</i></b>	<ul style="list-style-type: none"> <li>- Not too many restrictions of leaders</li> <li>- Not forcing AI on their employees</li> </ul>	<ul style="list-style-type: none"> <li>- Leaders lead by example</li> <li>- Inspiring motivation</li> <li>- Include all parties</li> <li>- Corporate social responsibility</li> </ul>
<b><i>Differences in actions for a responsible digital transformation</i></b>	<ul style="list-style-type: none"> <li>- Important to set the proper boundaries for AI</li> </ul>	<ul style="list-style-type: none"> <li>- Clear and transparent communication</li> <li>- Communicating company direction and vision on AI</li> <li>- Exploration and experimentation</li> <li>- Highlighting the urgency of adoption</li> <li>- Creating support for adoption of AI</li> <li>- Rules and regulations</li> <li>- Use of local AI tooling</li> <li>- Planning out which impact AI can have in the future</li> </ul>
<b><i>Differences in individual AI experiences and interactions at work</i></b>	No prominent codes.	<ul style="list-style-type: none"> <li>- AI as a sparring partner for work and personal development</li> <li>- Acceptance of change and AI impact on roles</li> </ul>
<b><i>Differences in Anxiety and resistance towards AI</i></b>	<ul style="list-style-type: none"> <li>- AI immaturity and errors</li> <li>- Improper rights configuration</li> <li>- Some resistance towards AI as employees do not see the value</li> </ul>	<ul style="list-style-type: none"> <li>- Fear of job displacement</li> <li>- Concerns about AI</li> </ul>

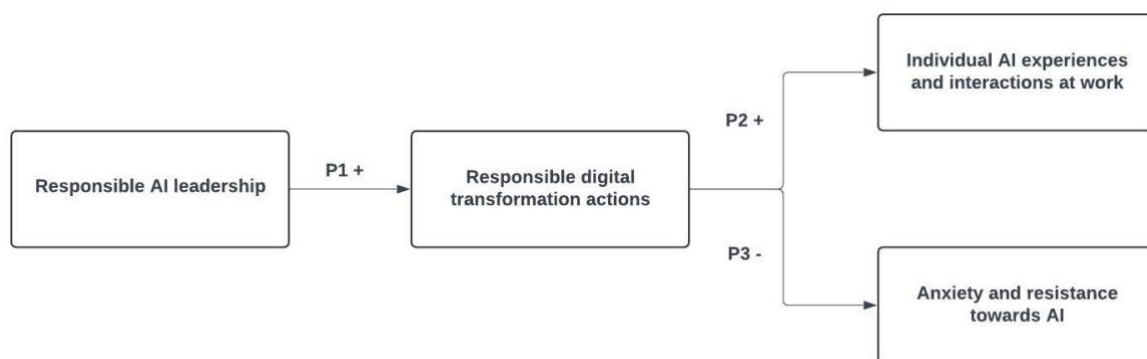
*Source: Own visualization*

## 5. Discussion and conclusion

This research was developed and conducted to address the following research question: *How do leaders act responsibly to deal with social implications that emerge from AI-driven digital transformation?* It was found that three specific leadership styles are most applied by leaders in companies during an AI-driven digital transformation. Several actions that are applied by the leaders to foster a responsible digital transformation have been identified. In addition, the relationship between these actions and the implications experienced by employees are discussed. The findings are visualized and the relationships among the dimensions are illustrated in the conceptual model in figure 6. In the following section, it is discussed how the findings of this study contribute to the existing theory.

### Figure 5

*Conceptual model for the responsible AI leadership style and the responsible digital transformation actions and their effect on the implications*



Source: Own visualization

## 5.1 Discussion and theoretical implications

### 5.1.1 How Responsible AI leadership contributes to responsible digital transformation actions.

For AI to be implemented and used properly, leaders and leadership are essential (Peifer et al., 2022). Ly (2023) argues that leadership style contributes to the digital transformation process. The position of leadership is essential to realizing the benefits of digitalization, in particular by managing and keeping people through improved engagement, outreach, and connection with employees (Cortellazzo, Bruni & Zampieri, 2019).

This study adds to the literature on responsible leadership, since it was found that certain aspects of leadership used, when busy with an AI-driven digital transformation, are in line with

responsible leadership. Maak and Pless (2006) perceive responsible leadership as a social and ethical event, that occurs in social processes of interaction. Voegtlin (2016) also states that the foundation of responsible leadership is the idea of leaders who are not disconnected from their surroundings, who question norms in a critical manner, who look forward, share responsibility, and who work to find solutions to problems as a team. This is in line with ethical considerations leaders make for their employees and customers as mentioned by the respondents. According to Voegtlin (2011), being a responsible leader is to actively include those parties who will be affected in the decision-making process and being conscious of how your actions impact everyone involved. This was also found in the results of this study, leaders aim to include all parties. Furthermore, the results present that some leaders are preoccupied with looking at their CSR initiatives regarding AI and how these actions can help with the societal consequences that come from introducing AI. This is in line with the theory of responsible leadership that was mentioned by Shi and Ye (2016) as they say that corporate social responsibility (CSR) is an external responsibility of responsible leadership, it recommends leaders expand their view from leader-follower to leader-stakeholder interactions and fulfill societal obligations.

This research enhances the existing body of knowledge surrounding transformational leadership during an AI-driven digital transformation. Bass and Riggio (2006) stated that there are four characteristics of transformational leadership, idealized influence, intellectual stimulation, individualized consideration and intellectual stimulation. Three of these four characteristics were found in this study. Thus, it can be stated that by leading by example, which is a component of idealized influence, leaders strive to embody the changes they want to see during an AI-driven digital transformation. Leaders aim to inspire and motivate their employees to achieve goals during an AI-driven digital transformation, they want to stimulate their employees in order to foster a successful AI-driven digital transformation. This is all in line with what was stated by Shal Ghamrawi & Naccache (2024) that the needs of implementing AI are naturally aligned with transformational leadership, which is recognized for its capacity to inspire motivate and foster creativity.

The body of knowledge on Laissez-faire leadership is also enhanced by this research. It was found that some leaders apply a more hands-off approach that can be related to a Laissez-faire leadership style. Zareen, Razzaq & Mujtaba (2014) mention that Laissez-faire leaders provide their followers with complete decision-making autonomy by providing them with direction and relevant assistance to increase task involvement and inspire organizational success. This

research did not find that there was complete decision-making autonomy for the employees, but the leaders aimed to not limit their employees but only to put them in the right direction. By not having too many restrictions, letting employees implement AI themselves, and not forcing AI on their employees, the leaders have applied a Laissez-faire leadership style. As was found by Shal, Ghamrawi, and Naccache (2024) a hands-off style known as laissez-faire leadership may help create a work culture where people feel more comfortable using AI tools and may influence how simple they see it to incorporate AI technologies into their everyday tasks. This statement can be supported by the results of this research because people felt more comfortable and not being too forced to use AI. Therefore, the statement of Shal, Ghamrawi, and Naccache (2024) can be confirmed

These three leadership styles have their own distinct characteristics and were found to be the most prominently present in the companies. Because of these characteristics, they also have certain actions they applied to ensure a responsible digital transformation. A responsible digital transformation refers to the process of incorporating digital technology into a company in a way that is sustainable, ethical, and considerate of society and human values (Pappas et al., 2023). Pappas et al. (2023) mentioned that it entails weighing the possible effects of technological advancement on people and communities and taking action to lessen any unfavorable effects.

According to Peifer, Jeske & Hille (2022) it is the responsibility of leaders to influence how staff members and AI interact. The decisions on which tasks should be completed by people and which are to be done by AI is eventually up to the leader (Peifer et al., 2022). This was also found in the results of this study, leaders make the choices on which AI is applied within the company. This study expands the existing literature on transformational, responsible, and laissez-faire leadership being relevant styles during an AI-driven digital transformation.

Based on the characteristics of these three leadership styles and the actions that follow from these styles of leadership that fall under the term of responsible AI leadership the first proposition is made:

*P1: Responsible AI leadership has a positive influence on responsible digital transformation actions*

### **5.1.2 How responsible digital transformation actions improve individual AI experiences and interactions at work.**

This research presents an addition to the theory of a responsible digital transformations by providing an overview of responsible digital transformation actions. As was mentioned by Pappas et al. (2023) responsible digital transformation entails weighing the possible effects of technological advancement on people and communities and taking action to lessen any unfavorable effects. The actions that were identified during this research were applied to lessen unfavorable effects that can emerge during the process. In studies done by Demetis and Lee (2018) and by Demetis and Kietzmann (2021) they fear losing autonomy, human voice and the social endangerment of people due to digitalization. When taking a closer look at the results of this study, it was found that there were positive effects experienced in the companies after the introduction of AI. Respondents experienced no social endangerment, and it was highlighted that manual checking, and the human factor is increasingly important when you are using AI. Therefore, it can be said that in this study what was mentioned by Demetis and Lee (2018) and Demetis and Kietzmann (2021) was not found in this study.

The results of this study showed that a big disruption in the companies is not the case. With maintained workplace interactions and a positive employee adaptation towards AI, the impact was mitigated by the responsible digital transformation actions. Contradictory Feroz et al. (2021) define digital transformation as the process that brings unprecedented disruptions in society, industry, and organizations caused by breakthroughs in digital technologies such as artificial intelligence, big data analytics, the Internet of Things, and cloud computing. This was not the case in this research. According to Cubric (2020), drivers for AI adoption are mainly economic such as cost, time, performance, customer satisfaction, accurate decision-making, forecasting, and less so social on sustainability and well-being. Elements from these drivers like performance and time are in line with positive implications that were experienced. It was experienced by individuals that AI allows for better quality of work and thus performance and will save time as you can work more efficiently. The research of Ghallab (2019) mentions the importance of social acceptability, social cohesion, and long-term impacts of AI technologies. Among most respondents the technology was accepted and did not disrupt any social cohesion in the companies.

Because there was no major disruption in the organizations and positive employee responses to AI because of the efforts taken by leaders, the second proposition is made.

*P2: Responsible digital transformation actions have a positive relation with individual AI experiences and interactions at work.*

### **5.1.3 How responsible digital transformation actions mitigate anxiety and resistance towards AI.**

As can be seen in figure 6 it is depicted that responsible digital transformation actions have a negative relation towards anxiety and resistance towards AI. This study highlights the role of responsible digital transformation actions in relation to mitigating anxiety and resistance towards AI. To reduce the fear of AI replacing human employees it is important that service employees understand the company's AI integration plan and that more transparency is achieved with them (Tyfting, 2020). How to effectively engage with employees to lessen such anxiety is still mostly unknown (Vorobeva, El Fassi, Costa Pinto, Hildebrand, Herter & Mattila, 2022). By having clear communication and communicating the vision and direction of the company on AI towards their employees in an honest manner, leaders aim to lessen such anxiety. Leaders also believe that fear of AI is accompanied by not having enough knowledge about AI, that is where training comes in to develop that knowledge. With the anxiety that was mentioned, there are also worries for what the future of AI will bring. These worries can be mitigated by strategically planning out how the company will operate in different scenarios in the future.

One strategy for corporations to reduce the ethical concerns connected with upcoming digital technologies, is to implement policies that encourage a responsible attitude to their use, development, and modification (Mueller, 2022). According to Ghallab (2019) it is important to mitigate social AI risks, such as safety, security, social risks, and privacy, and how rules and regulations are required to address these concerns. With the results of this research, it can be said that leaders have applied actions like applying policies and regulations on AI use within their company and providing training and developing the knowledge of their employees to mitigate such risks as mentioned by Ghallab (2019).

With the results of this research that responsible digital transformation actions have a negative relation with anxiety and resistance towards AI, the third proposition can be made.

*P3: Responsible digital transformation actions have a negative relation with anxiety and resistance towards AI*

By having two negatives this results in a positive effect meaning that the actions mitigate the anxiety and resistance towards AI.

## **5.2 Practical implications**

This research provides several practical implications. It gives an overview of the relevant styles of leadership that are mainly used during an AI-driven digital transformation. These styles are transformational, responsible, and laissez-faire leadership. These styles and the actions they result in provide a practical benefit for leaders who are busy with an AI-driven digital transformation in their company. Applying these styles and their characteristics provides a guideline for leaders during an AI-driven digital transformation.

Next to that, the actions that were identified, were used to guide a responsible digital transformation in the companies. These actions were: policy and regulations, careful integration of AI, strategic planning of AI, communication, training and knowledge development, and employee involvement. All these actions have their own importance in the process of guiding a responsible digital transformation as a leader. When leaders are in the middle of an AI-driven digital transformation and do not know how to help their employees and their company, these actions can be used to help with the implications that can be experienced during this transformation.

Lastly, this study provides an overview of the implications that were experienced within the companies during a transformation. These outcomes were mostly positive. The positive implications are a result of the actions the leaders undertook to make sure a responsible digital transformation was ensured. Resulting in a positive experience with AI which increased efficiency and quality of work, positive employee adaptation, and good integration of the technologies and maintained workplace interactions. However, not for everyone it was as positively experienced, there were some negative experiences. Employee anxiety and uncertainties, difficulties and resistance in adoption were some of the difficulties that leaders had to address. But what eventually was experienced was that with the help of these actions, these experiences could be addressed. Therefore, this study provides leaders an insight into how these implications were mitigated with the help of the actions.



### **5.3 Limitations and recommendations**

This research has several limitations. However, this provides opportunities for other researchers to improve for further research. The first limitation of this research was that the interviewed companies were in different stages of the AI-driven digital transformation process. Some companies were further with already applying AI in their daily tasks and some companies were still in the beginning phase of mapping everything out. This could give a distorted image of some companies already experiencing more difficulties while others are not.

Another limitation is that the companies that were selected are all located in the Netherlands and with a purposive sampling technique. This may not represent the broader population of the world. For further research it would be recommended to apply a random sampling technique so selection bias can be reduced, and the sample is more representative of the population. A more diverse sample of more companies from different countries can help make a better representation.

Moreover, the respondents at the companies that were interviewed all have an affinity with technology and therefore are more interested in the application and use of AI. This could give a distorted image of the experiences of employees because they would be willing to adopt AI more easily due to their personal interest in the subject. It would be recommended to interview more diverse employees that are in different roles regarding the use of AI.

An additional limitation is that the subject of an AI-driven digital transformation is still relatively new. Companies are still in the early stages of transformation and the development speed of AI is going so fast it constantly changes the way companies need to handle it. Because it is still in the early stages the results of this study could differ much in two years if the same study is conducted. Therefore, it would be recommended to apply a longitudinal study to assess how AI is implemented by leaders and how the actions and implications may differ over a greater period and see what the differences are.

Another limitation is that the companies that were interviewed used different AI tools and in different frequencies. It could be more interesting to pick one specific tool like a Microsoft co-pilot and focus on how leaders apply this and the actions and experiences that follow from this implementation. This allows for developing a more specific overview of what the best way of implementing and handling of employee experiences is for that specific AI tool.

In this research the differences between larger enterprises and SMEs were noted, as there was not too much literature in the theoretical framework of this research the differences could not be related to the theoretical framework. For further research, it would be interesting to see what the underlying causes are for this and how existing research could connect to this.

#### **5.4 Conclusion**

The goal of this research was to build more theory on relevant leadership behavior during AI-driven digital transformations, fill in the theoretical gap of one responsibility domain, unveil how leadership roles address social implications and build on the theory of leadership and responsible AI. The results showed that responsible AI leadership consists out of three styles which have a positive effect on six responsible digital transformation actions. These actions have a positive effect on individual AI experiences and interactions at work and a negative effect on anxiety and resistance towards AI. The social implications that were experienced by the respondents during the process of an AI-driven digital transformation were identified. Showcasing the positive responses of individuals towards AI because of higher efficiency and better quality of work, the positive adaptation of employees towards AI integration, and the maintained workplace interactions. The more negative experiences were the anxiety among employees and uncertainties about AI, also the difficulties during the adoption and the resistance that goes with that. So, leaders act responsibly during AI-driven digital transformations by applying these six identified actions and aligning the three leadership styles. Therefore, the goals that were set before conducting the study are all met, and the research question is answered.

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## **7. Appendices:**

### **Appendix 1: Interview guide for leaders**

#### **1. Introduction:**

First, welcome and thank you for agreeing to participate in this research. Before we start, I would like to remind you that you have signed and agreed to the informed consent form, and that this meeting will be recorded with your permission.

First, let me introduce myself and the research topic.

**1.1** Please tell me something about yourself (study, career, how long have you worked at this company, what is your function)

**1.2** Please share your general understanding of how you use AI at work, what you use it for, how long it is used and if it plays a significant role in your daily operations?

**1.3** Can you explain what responsibilities and tasks you have in your company when it comes to using technologies like AI?

**1.4** What traits or abilities do you think you as a leader should possess to cope with AI related concerns or problems? Why do you think that is necessary?

**1.5** How would you describe your own behavior and approach to the implementation process and handling of AI within your organization? What is the reason you use this behavior and approach?

#### **2. Leadership in AI-driven digital transformation**

**2.1.** You mention that you have been using AI within the organization for (..) long. Could you please elaborate on how the implementation process unfolded?

**2.2** During the implementation phase, how did you make sure that your behavior as a leader complemented the organizations AI-adoption vision?

**2.3.** which procedures and activities did you use to implement AI in the organization?

**2.3.1.** Did you implement any rules and guidelines in your company to ensure responsible use of AI?

**2.3.2.** How do you and your company make sure that the use of AI is transparent and that everyone is aware of how AI decisions are made and communicated?

**2.4.** Why did you use these processes and activities?

**2.5.** Can you explain which processes and activities worked out positively and which strategies negatively? And how did you measure this?

### **3. Social implications**

**3.1.** During the implementation of AI, how did your employees experience the use of AI? did you experience some social tensions among your employees? If so what?

**3.2** How has AI changed the way in which employees work together in your organization? Did the interactions between the management and employees also change? Please explain

**3.3** Did any of your employees express any thoughts or concerns regarding the use of AI and the impact it could have on their attitude and behaviour within your company? If so, how do you handle these thoughts or concerns?

**3.4.** Did you experience some social tensions and resistance? How did you handle this?

**3.5.** What was the biggest problem during the implementation process of AI? How did you solve it?

### **4. Consequences and implications of AI-driven digital transformation**

**4.1.** How has the implementation of AI had an impact on your organization's general operations and activities? And can you give examples about positive effects and examples about negative effects?

**This concludes the interview. Do you have any additional comments or questions, or have I overlooked anything? Is there anything else you would like to share?**

## **Appendix 2: Interview guide for employees**

### **1. Introduction:**

First, welcome and thank you for agreeing to participate in this research. Before we start, I would like to remind you that you have signed and agreed to the informed consent form, and that this meeting will be recorded with your permission.

First, let me introduce myself and the research topic.

**1.1** Can you tell me something about yourself (study, career, how long have you worked at this company, what is your function?)

**1.2** Please share your general understanding of how you use AI at work, what you use it for, how long it is used and if it plays a significant role in your daily operations?

**1.3** Can you explain what responsibilities and tasks leaders have in your company when it comes to using technology like AI?

**1.4** What traits or abilities do you think your leader should possess to cope with AI related concerns or problems? Why?

**1.5** How would you describe the approach and behavior of your leader towards AI? What do you think about their behavior?

### **2.1. Leadership in AI-driven digital transformation**

**2.1** You mention that you have been using AI within the organization for (..) long. As an employee, could you provide your thoughts on how the AI implementation has unfolded?

**2.2** which strategies have you observed during the implementation of AI in your organization?

**2.2.1.** Are there rules and guidelines that you must follow to ensure the responsible application of AI in your daily tasks?

**2.2.2.** How does your company make sure that the use of AI is transparent and that you and your co-workers are aware of how AI decisions are made and communicated?

**2.3** Why do you think these processes and activities were used for the implementation of AI in your organization?

**2.4** Can you explain which processes and activities worked out positively and which strategies negatively? Why do you believe that is?

### **3. Social implications**

**3.1.** During the implementation of AI, did you experience some social tensions from you or your fellow employees? If so, what?

**3.2.** How would you describe your experience working with AI?

**3.3** How has AI changed how you and your fellow employees work together in your organization? Did the interactions between you as the employees and management also change? Please explain.

**3.4** Did you or your fellow employees express any thoughts or concerns regarding the use of AI and the impact it could have on your attitude and behaviour within your company? If so, how were these thoughts or concerns handled by your leader?

**3.5** What was the biggest problem you encountered during the implementation process of AI technology? How was it solved?

### **4. Consequences and implications of AI-driven digital transformation**

**4.1.** How has the implementation of AI had an impact on your organization's general operations and activities? And can you give examples about positive effects and examples about negative effects?

**This concludes the interview. Do you have any additional comments or questions, or have I overlooked anything? Is there anything else you would like to share?**

## Appendix 3: Gioia method data structure

