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Leading Teams in Today's Dynamic Organizations: The Core Characteristics of Agile Leadership

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Abstract

Agile leadership (AL) is essential for leading agile transformations. So far, a conceptualization of AL is still lacking. To investigate its core characteristics, we conduct an exploratory single case study. Our study examines a senior executive training program within a young European automotive software company, with the objective of establishing AL throughout the organization. Our study's primary findings reveal that AL can be categorized into five perspectives: person-based, purpose-based, result-based, position-based, and process-based. Agile leaders are humble, adaptable, visionary, and engaged. AL focuses on aligning employees with a clear vision, fostering a learning organization, increasing transparency, and establishing decision-making in teams. It is practiced by executives, agile accountabilities, and team members. Agile leaders operate as experimenters, collaborators, facilitators, enablers, and resilient leaders. Our findings provide a foundational basis for organizations to implement AL, thereby enhancing their adaptability and overall success.

Keywords: Agile Leadership, Agile Transformation, Case Study

1. Introduction

Organizations in the 21st century face ever-changing environments, uncertainties, and even business disruptions caused by the impact of technology and digitalization. Looking at software development, it becomes clear how important short, fast, and lightweight development cycles are to bring global IT products to the market in today's complex and disrupted world. Scrum and other agile development methods have already proven successful in this area (Tallon et al., 2019), as tech companies like Google and Apple seem to be pioneers. Now agility is finding its way into

business areas beyond IT departments and becoming an organization-wide phenomenon, such as at Bank of America and Spotify (Scherm, 2021). But, implementing and reinforcing agility company-wide requires changes at all levels of the organization and leadership plays a critical role in this transformation (Attar & Abdul-Kareem, 2020; Gren & Lindman, 2020). This can be explained by the leaders' power to change the organizational structure and create an environment that promotes high-performing agile teams (Scaled Agile, Inc., 2023).

Focusing on this phenomenon, the following observations are worth mentioning: Agile leadership (AL) is currently being discussed in practice and research as a highly relevant topic in the context of transformation (Theobald et al., 2020). It is already part of everyday life in many companies (Scaled Agile, Inc., 2023). However, research on leadership in agile environments is scarce and there is a lack of understanding of what AL on an organizational level can look like, beyond software development teams (Krieg et al., 2022). The previous literature offers limited clarity in conceptualizing AL, as the term is often ambiguously used without elaboration. This ambiguity leads to challenges, such as a lack of reference framework, misinterpretation of indicators, and misunderstood connections with other constructs (MacKenzie et al., 2011; Wacker, 2004). However, a precise conceptualization is needed to explore the specific construct (MacKenzie et al., 2011). Moreover, a reliable conceptualization of AL can provide practitioners and researchers with a basis to gain a comprehension of leadership in agile organizations and its role and relevance in company-wide transformations. This can serve as a basis to identify competencies, behaviors, and values required for leaders to effectively lead and support agile teams. Further, this can help organizations train leaders with the necessary skills to promote agility, resulting in more successful agile

transformations (Appelbaum et al., 2017). Hence, a conceptualization of AL needs to be developed. This paper works on the identified gap by answering the research question: What are the core characteristics of agile leadership?

Our study thus advances our knowledge of leadership practices in agile organizations by providing a conceptualization of AL in terms of its core characteristics. To do so, we conducted an exploratory single case study. The subject of investigation is a comprehensive training program for senior executives of a young European automotive software company. At the time of our research, the company had been in operation for two years and employed over 5,000 employees. The company has developed an extensive understanding of AL through the training program aimed at defining and implementing AL company-wide. The training program consisted of workshops, individual and group coaching, and keynote talks in which 120 senior executives took part. As part of our research, we analyze the extensively documented material of the training program to identify the core characteristics of AL.

2. Theoretical Background

2.1. The Need for Agile Leadership in Terms of Digital Transformation

In many industries, digital transformation is vital for businesses and the COVID-19 pandemic has accelerated its pace. Digital transformation is a company-wide phenomenon and involves far-reaching organizational changes (Verhoef et al., 2021). The term can be characterized using the following three elements: challenging and redefining company boundaries, opening up products and services to community feedback and property rights, and transforming organizational and product identities (Parmentier & Mangematin, 2014). Digital transformations focus on an organizational shift toward digital technologies such as machine learning, the Internet of Things, and artificial intelligence, increasing transparency, accountability, and participation (Altayar, 2018).

In today's volatile business environment driven by technological progress the ability to rapidly and effectively respond to external changes by adopting structures, processes, and outputs is vital for survival and competitiveness (Ravichandran, 2018; Škare & Soriano, 2021; Youssef et al., 2021). This ability is referred to in the scientific literature as 'organizational agility' (OA). Previous research has shown that there is a close connection between digital transformation and agility. Salmela et al. (2022) explain the growing relevance of OA in the context of digitalization due to

three significant trends: (1) increasing competition in converging markets due to the adoption of digital innovations, (2) growing strategic significance of generative digital technologies, and (3) more flexible organizational boundaries caused by the collaborative efforts of companies capitalizing on the emerging opportunities from new digital technologies. OA enables companies to navigate emerging markets, harness the potential of digital technologies, and collaborate effectively within fluid organizational structures (Salmela et al., 2022). In addition, studies show that OA facilitates the process of digitalization through the continuous creation and adaptation of new technologies (Akhtar et al., 2018; Chan et al., 2019). Other findings propose that digital transformation enhances the effectiveness of OA (Lucas Jr. & Goh, 2009; Troise et al., 2022).

To implement OA, a new way of leadership is required as traditional leadership practices are no longer compatible (Attar & Abdul-Kareem, 2020). Leadership can be defined as "a social influence process whereby intentional influence is exerted by one person [or group] over other people [or groups] to structure the activities and relationships in a group or organization" (Yukl, 2002, p. 3). While bureaucratic hierarchy entails strong command and control structures that are inherently anti-change, agile organizations need to respond effectively to volatile circumstances and master proactivity, adaptability, flexibility, and learning (Lang & Rumsey, 2018). Decision-making at the management level takes too much time and makes it difficult or even impossible to react quickly to change (Nold, 2012). In addition, the rise of knowledge work has led to decentralization, autonomy, and self-organization (Howaldt et al., 2012). Managerial control loses strength in agile settings where teams operate self-organized (Bäcklander, 2019). In addition, bureaucracy and hierarchy block the exchange of knowledge (Nold & Michel, 2016) and hamper collaboration and innovation (Appelbaum et al., 2017).

2.2. Leadership in Agile Teams

Agile teams typically employ practices like Scrum or Kanban, emphasizing flexibility, teamwork, shared learning, and iterative work cycles (Shen & Xu, 2015). Collaboration in agile teams is based on the Agile Manifesto, promoting transparency, inspection, and adaptation (Scaled Agile, Inc., 2023). Agile teams prioritize delivering value to customers by actively involving them in the development process (Holbeche, 2019). Self-organization is a key characteristic of agile teams, enabling autonomous coordination of work with shared commitment and decision-making authority among team members (Petermann & Zacher, 2021). Strong cooperation, communication, and mutual

support among team members are crucial in self-organized teamwork (McHugh et al., 2011).

As the interest in agile teams rose, so did the interest in leading those teams. The research literature offers various perspectives on leadership in agile teams, especially in the software development field. Some studies seek to investigate established leadership styles within agile teams, such as adaptive (Augustine et al., 2005) and servant leadership (Holtzhausen & Klerk, 2018). In contrast, several studies assume that leadership in agile teams represents a unique and independent leadership style (Krieg et al., 2022). Certain research emphasizes the characteristics of leaders in agile environments, hereinafter referred to as an 'agile leader'. Neubauer et al. (2017) define agile leaders as individuals practicing in disruptive, rapidly changing environments. The authors (2017, p. 7) characterize agile leaders as "humble, adaptable, visionary, and engaged". Humble leaders acknowledge what they don't know, accept feedback, and constantly expand their knowledge. They deal with not knowing the details and acknowledging the technical expertise of their team members (McPherson, 2016). The strategic role of agile leaders can be defined as change agents, understanding change as a necessary and essential constant (Theobald et al., 2020). Agile leaders need to actively encourage their employees to accept change (Denning, 2018) and promote a learning organization (Krieg et al., 2022). Further, agile leaders are described as visionary. They have a "well-defined idea of where the organization needs to go, even if he or she does not know exactly how to get there" (Neubauer et al., 2017, p. 12). In addition, engagement is another identified characteristic of an agile leader. Engaged leaders are good listeners and gather relevant information by asking the right questions (McPherson, 2016).

The outcome of leadership in agile teams is also taken into consideration in previous research. One of its key results is defined as aligning employees through establishing a shared vision that is built into the culture of the organization (Krieg et al., 2022). The literature emphasizes that leadership is of great importance in changing, complex environments. Theobald et al. (2020) mention that leadership plays a key role in enabling agility at the organizational level. To embrace OA, a leadership style other than top-down, bureaucratic leadership is required (Appelbaum et al., 2017), meeting the central requirement in agile environments, the need to react quickly to change. Furthermore, several studies suggest that leadership in agile environments needs to be fostered across all levels to successfully support OA (Denning, 2018; Theobald et al., 2020). Nonetheless, there are conflicting opinions on which person or accountability should hold the responsibility of leadership. On the one hand, some researchers describe

that leadership in agile teams is still mainly performed by positions with managerial authority (Neubauer et al., 2017). Here, leadership executed by supervisors still holds relevance. On the other hand, some studies refer to accountabilities within self-organized teams and describe how leadership is shared among team members (Hoda et al., 2012). In the agile framework 'Scrum', leadership is divided between the accountabilities of the Product Owner, the Scrum Master, and the Development Team (Spiegler et al., 2021). Moe et al. (2010) and Poston and Patel (2016) investigate the role of the Scrum Master and demonstrate that leadership roles without managerial authority are common in an agile context. Further, some studies indicate that leadership in Scrum teams is also often assumed by the Product Owner (Moe et al., 2010). Bäcklander (2019) demonstrates that Agile Coaches show leadership behavior as well. Other studies discuss how the leadership dynamic in agile teams evolves as team members gradually assume greater responsibility and share leadership tasks (Moe et al., 2009). Other researchers outline that agile teams are not coordinated by a designated leader at all and aim to lead themselves (e.g. Gren & Ralph, 2022).

Leadership in agile teams is also assessed about tasks and responsibilities. One of the main tasks of agile leaders is described as empowering their teams by creating autonomy to take ownership (Appelbaum et al., 2017; Krieg et al., 2022). Here, the identification of impediments and improvements is also relevant (Krieg et al., 2022; Shen & Xu, 2015). Moreover, Eilers et al. (2022) and Krieg et al. (2022) emphasize that an agile leader has to promote an agile mindset among employees. Shen and Xu (2015) mention that agile leaders focus on fostering collaboration within and across teams. Therefore, it is necessary that they communicate and interact with employees on eye level and concentrate on the motivation and inspiration of their teams (Nold & Michel, 2016). While understanding change as a necessary constant, agile leaders must "expect uncertainty and manage for it through iterations, anticipation, and adaptation" (Baker & Thomas, 2007, p. 417). Here, the facilitation of all stakeholders is also relevant (Krieg et al., 2022; Shen & Xu, 2015). According to Nold and Michel (2016), agile leaders have to champion experimentation and creativity. The introduction of new tasks, instruments, and procedures accompanies this (Shen & Xu, 2015). Additionally, some researchers describe the leader's role in agile environments as maintaining a clear purpose to direct the teams (Shen & Xu, 2015). Denning (2018) states that agile leaders must embody the vision through their behavior and decisions, align their teams with it, and internalize agile values.

2.3. Classification of Leadership Styles

The term ‘leadership’ encompasses a wide array of theories and concepts, making it challenging to provide a universal definition. In this paper, we adopt Yukl’s (2002, p. 3) definition: “Leadership is a social influence process whereby intentional influence is exerted by one person [or group] over other people [or groups] to structure the activities and relationships in a group or organization.” To provide a systematic overview of leadership concepts, Grint et al. (2016) classify five major approaches: (1) Person-based leadership focuses on the leader’s character, often associated with charisma and the ability to attract and persuade followers. (2) Purpose-based leadership explores the primary reasons for taking on leadership roles. (3) Result-based leadership prioritizes achieving tangible outcomes as the key criterion for leadership. (4) Position-based leadership highlights the power and control associated with formal hierarchical positions, providing leaders with the necessary resources. (5) Process-based leadership emphasizes the practices and methods employed by leaders.

3. Research Design

3.1. Method and Case Description

We have chosen an exploratory single case study to conceptualize AL because this method (1) is particularly suitable for the exploratory phase of research, as it enables researchers to delve deeply into a specific context and collect rich data (Yin, 2013), (2) is especially effective when the research question revolves around ‘how’ and ‘why’ (Yin, 2013), (3) is valuable for comprehending complex social phenomena like leadership practices (Yin, 2013), and (4) permit researchers to derive theoretical insights directly within the context of evolving phenomena (Eisenhardt & Graebner, 2007).

The subject of investigation is a training program that was designed for senior executives of a young European automotive software company. The company is developing different software products for the automotive industry, specifically passenger cars. It had merged with several firms, primarily in the automotive sector, and to a lesser extent, in the tech and software industry. At the time of the research, the company had been in existence for two years, employed over 5,000 people, and had multiple locations in Europe. With extensive changes taking place in the automotive industry, the company is facing challenges arising in a volatile, complex, and emerging market driven by rapid technological progress (Lopis-Albert et al., 2021). To

become competitive, the company aims to implement OA. Above all, the senior executives are seen as crucial to the success of the agile transformation. Largely originating from conventional automotive manufacturers and adhering to traditional leadership practices, they should be trained and sensitized through the mentioned training program.

The training program aimed to implement “agile leadership” (AL) within the company, with goals described as (1) identifying effective ways to apply AL in one’s leader role, (2) gaining knowledge and mindset to enable senior executives to implement OA through AL in their teams, and (3) addressing challenges and opportunities of AL. The program covered the key topics: (1) understanding OA and AL in the company context, (2) key AL fields of action, methods, and principles, and (3) implementing AL while reflecting on individual leadership roles. The training program extended over a period of 4 months in total. It encompassed four workshops (total duration: 16 hours), five keynote talks held by renowned European university professors, researchers, and leading new leadership experts (total duration: 5 hours), three group coaching sessions (total duration: 11.5 hours), and individual coaching sessions (total duration: 5 hours). The workshops featured keynote talks and group work activities for input and understanding, while group and individual coaching aimed to deepen knowledge and foster reflection within small groups and with coaches. The training program was organized and carried out by leading scientists in the field of agility and experts from two renowned consultancies in cooperation with the company’s human resource management. Preserving neutrality, the authors of this study were not involved in the implementation and documentation of the training program.

The training program was available to all senior executives on a voluntary basis. A total of 120 participants from different departments (e.g. HR and technical domains) took part. Most of the training was conducted virtually on MS Teams due to COVID-19. One group coaching session was held in-person, while the second one was facilitated in a virtual environment through the use of VR glasses. All formats prioritized interaction and involvement through group activities, plenary discussions, and small group working sessions. For example, in the first group coaching session, the participants discussed in small groups on virtual boards: “How do overarching aspects of the traditional leadership style change in the context of agile leadership?”; and related to defined AL values: “What measures can I take to bring the value into my role?”

The training program described previously was selected as the subject of investigation because it had the explicit goal of defining the core characteristics of AL

to establish the leadership style company-wide. Through the training program, the company developed a comprehensive understanding of what AL means to them and how they can implement it in their specific context. The training program was extensive and of high quality, developed with leading experts and researchers in the field of new leadership. It covered about 40 hours with a total of 120 participants from different departments of the company. The training program documentation, our data source for analysis, comprises more than 70 detailed documents, providing a rich foundation. In addition, The company's growth and mergers fostered diversity. The participating senior executives brought various mindsets, experiences, and ideas related to the agile transformation. Consequently, the concept of AL within the program emerged as multifaceted. Thus, studying the training program allows us to gain a deep understanding of the construct and its core characteristics.

3.2. Data Material and Analysis

To gather qualitative data, we analyzed the training program material. We solely relied on these documents for our study due to the following reasons: (1) We followed Bowen's (2009) recommendations, assessing the investigated documents for suitability as a data source for conceptualizing AL based on factors like existence, accessibility, authenticity, usefulness, original purpose, context, and intended audience. The documents include training materials and extensive photo documentation of the workshop and coaching results created by the participants. Therefore, additional data collection, such as interviews, was deemed unnecessary. (2) Maintaining participant anonymity and data privacy can be challenging during data collection (Lobe et al., 2020). By exclusively using document data, we effectively preserve participant anonymity without collecting additional personally identifiable information. (3) Analyzing document data reduces potential researcher and respondent influence, which can be present in other qualitative research methods like interviews, as documents offer an objective and unbiased information source (Bowen, 2009). (4) Interviews require substantial time, financial, and human resources (Hove & Anda, 2005). Analyzing the extensive document collection offers a cost-effective way to gain valuable insights (Bowen, 2009).

The data material comprises 72 documents, consisting of (1) documented workshop and coaching results (photos and screenshots) which were created by the participants in individual and group work, (2) course materials and slides presented during the training program, and (3) video recordings of the keynote talks. Maintaining neutrality, the authors of this study only use

original documents that were created for and within the training program without their intervention. During the second analysis iteration, we combined the generated codes of the first iteration into superordinate terms by cycling between the emergent data, themes, dimensions, concepts, and relevant literature. In the third step, we structured these codes into theory-centered themes and distilled them into theoretical dimensions based on the classification of leadership (Chapter 2.3). Then, we continuously cycled between the emergent data, themes, dimensions, concepts, and relevant literature. The emerging themes (codes of third iteration) revealed concepts that help explain the observed phenomena (Gioia et al., 2013).

4. Findings

In the following, we present the findings extracted from the analyzed training program documents (summarized in Table 2) representing the conceptualization of AL. Hereby, we rely on the classification of leadership styles proposed by Grint et al. (2016).

4.1. Person-Based Agile Leadership: Who Are Agile Leaders?

An essential part of the training program dealt with the topic 'Being Agile' which is related to an agile mindset (Eilers et al., 2022). Here, being agile is associated with the following four characteristics: humility, adaptability, vision, and engagement. The four characteristics were defined in a group exercise as part of the first group coaching session. Humble means that agile leaders learn from the knowledge and experiences of others. This requires agile leaders to admit that they cannot and do not have to know everything. Rather, they lead at eye level and ask questions instead of giving answers. They value the knowledge and expertise of others and use their skills and abilities when needed. Agile leaders prioritize the development of others over their performance. Further, agile leaders need to be mindful of creating opportunities for knowledge sharing and fostering an active feedback culture. In this way, team members and leaders can learn from each other. Learning is based on collaborative exchange, positive error culture, and transparency. Adaptability is also important in AL. In this understanding, changing the mind is a strength, not a weakness. Agile leaders constantly challenge the status quo, reflect, and deal with unexpected changes.

Furthermore, agile leaders remain open to new ideas and ask for different perspectives. In addition, they use experiments in a suitable place to drive innovation. To

create the necessary psychological safety, they actively deal with fears and risks. Agile leaders are also described as visionary. They prioritize a vision over a detailed plan and set clear and ambitious goals together with everyone involved. This also includes the direct engagement of customers through co-creation. Additionally, they align all activities with the vision and generate enthusiasm for it by providing a clear explanation of the purpose behind it. Agile leaders do not dictate the path to achieving the vision. Rather, they include the knowledge and expertise of their employees. Another relevant attribute of agile leaders is engagement. They take responsibility for the achievement of goals and concentrate on finding solutions in the overall context. Further, they are also referred to as role models. In the training documents, this statement from a key speaker is noted: “You as leaders are the role models, the frontrunners, who exemplify the new way of working, agility, and thus self-organization, transparency, and organizational learning and can thus manifest it in the company! You are the engine of agile transformation.” Agile leaders exemplify an agile mindset and behavior, define fields of action, and create the framework. Hence, they strive for self-organization, transparency, and organizational learning. This requires continuous listening, employee participation, an open feedback culture, and tolerance.

4.2. Purpose-Based Agile Leadership: Why Do Agile Leaders Lead?

The importance of agility and AL are closely intertwined and form a key topic of the analyzed training program. Table 1 summarizes the main findings.

Table 1. Contributions of organizational agility

Organizational Focus:	Leader Focus:
<ul style="list-style-type: none"> - Increase adaptability, transparency, responsiveness to change - Dealing with a high level of competition 	<ul style="list-style-type: none"> More time for the development of employees and strategy work
Employee Focus:	Product Focus:
<ul style="list-style-type: none"> - Ensuring the delivery capability of cross-functional teams - Higher employee identification - Increase of employer attractiveness 	<ul style="list-style-type: none"> - Product and customer centricity - Innovation and efficient structures - Shorter product cycles - Fast response to customer requests

Through workshops, keynote talks, and group work, participants extensively discussed the relevance of OA and AL. During the first workshop, the CPO stated: “Today’s automotive industry is changing, software is

the key to the unique customer experience and a decisive competitive advantage”. AL is vital in achieving the desired OA, and leaders are expected to act as “bridge builders” by creating an environment that fosters agility through a clear vision, a learning organization, transparency, and team decision-making.

4.3. Result-Based Agile Leadership: What Do Agile Leaders Achieve?

In the training program, four key successes of AL that enable OA were identified. A clear vision is the first crucial outcome, defined as a promising picture of the future. It provides direction in rapidly changing environments and a clear definition of the general rules of change. In this way, it aligns employees, promotes autonomy, and enables self-organized teams with end-to-end responsibility. A vision also conveys why shaping the future is desirable and shows plausible reasons to take part in the transformation, even if the direct benefit is not yet tangible. The second significant result of AL is a learning organization continuously improves by fostering a positive error culture and providing appreciative feedback. Learning is also closely related to the formation of vision. According to the training documents, “agility needs a vibrant culture of jointly developing strategic identity and vision”. Transparency is another critical achievement of AL that promotes decision-making autonomy and agile working by clarifying responsibilities and outcomes. Lastly, team decision-making is emphasized in AL, which requires empowering all levels to encourage equal encounters and enthusiasm for change.

4.4. Position-Based Agile Leadership: Where Do Agile Leaders Operate?

The training program highlighted that “agility requires a radical rethinking of leadership – the systematic and dynamic interaction of different roles – managers as designers and those affected”. This raises the question of who should practice AL. Based on the target group of the training program, it appears that senior executives should be the primary practitioners. However, the separation of technical and disciplinary leadership is seen as essential for the company’s agile transformation, enabling the introduction of AL in accountabilities without managerial authority. The company has already defined related accountabilities, including the Agile Master, Product Owner, Line Manager, and Feature Teams. The Agile Master is responsible for the way of working and acts as the “guarantor of empowerment”. The Product Owner decides what to do, and the Line Manager is responsible

for staff deployment. The Feature Team takes care of the way of implementing the work. This aspect of AL offers a fresh perspective by defining leadership beyond hierarchical positions.

4.5. Process-Based Agile Leadership: How Get Agile Leaders Things Done?

The training program extensively covered the successful operation of AL. During group work in one of the group coaching sessions, the participants defined the responsibilities and functions of an agile leader. These findings can be assigned to the five essential roles of agile leaders: resilient leader, experimenter, enabler, collaborator, and facilitator. Resilient Leaders always treat others with respect. They constantly question and reflect on current circumstances and move forward with foresight. In addition, they deal with changes in a solution-oriented and constructive manner. Experimenters are focused on customers and products. Agile leaders are described as courageous and open to change. They strive for innovation to achieve high customer benefits. Therefore, data support and iterative development play an important role. Further, agile leaders value other opinions and deal with them constructively. They see mistakes as learning opportunities and use them to improve themselves and their team. Enablers place their employees at the center stage. They see themselves as coaches and encourage employee empowerment. This empowerment requires certain conditions. Firstly, it aims to enable employees to work in a self-organized manner and take responsibility. Teams act independently and organize themselves, working cross-functionally rather than in silos. Secondly, empowerment assumes that agile leaders ensure the professional and personal development of their teams and themselves. They aim to create active knowledge exchange and encourage employees to think innovatively. Empowerment is therefore considered a key factor in creating a learning organization. Thirdly, creating a safe environment and culture of trust is essential for empowerment. Equally important is the fourth requirement, transparency. To empower their employees, agile leaders need to provide clear context so that others have the necessary information to make informed decisions.

Collaborator is a role that focuses on the collaboration between agile leaders and their teams and emphasizes the promotion of an agile mindset. This role is closely related to the enabler role. As mentioned earlier, agile leaders work iteratively and cross-functionally with their teams while promoting self-organization, enabling their teams to work independently and take responsibility for their actions. As collaborators, agile leaders break down barriers and

support direct exchanges between employees and customers. They view feedback as an enriching moment of communication, thus encouraging constructive and appreciative feedback. Facilitator as another role of an agile leader emphasizes processes. Agile leaders set meaningful goals and prioritize tasks to guide their teams. They concentrate on finding constructive solutions while keeping an eye on the demands of all stakeholders. They ensure that decisions are made within their teams which have the required technical expertise. To promote active engagement, agile leaders create an atmosphere in which everyone feels comfortable expressing their opinions and needs.

Table 2. Summary of the agile leadership (AL) conceptualization

Characteristics of Agile Leader	Humble, adaptable, visionary, engaged
Purpose of AL	Implementation of agility at the organizational level and thus increasing the speed of reaction to change
Key Results of AL	Alignment through a clear vision, learning organization, transparency, decision-making in teams
Practitioners of AL	At all levels of the organization, practiced by executives, agile accountabilities and within teams
Roles of Agile Leader	Resilient Leader, Experimenter, Enabler, Collaborator, Facilitator

5. Discussion

One of the core results of the case study is that agile leaders are described as humble, adaptable, visionary, and engaged. This characterization can also be found in the literature (Neubauer et al., 2017). Our results go beyond previous findings by detailing how the characteristics of agile leaders impact their practices and help to achieve the set goals. These results are concrete starting points for the practice of AL. Concerning the relevance of AL, the findings of our research confirm the assumption from the literature that AL is used in practice in a targeted manner to actively contribute to the implementation of agility at the organizational level (Attar & Abdul-Kareem, 2020; Gren & Lindman, 2020). In addition, we show the effects of AL on the organizational, employee, product, and management level and thus underline ALs' relevance in practice. Furthermore, our case study identifies the key results of AL: alignment, clear vision, learning organization, transparency, and decision-making in teams. Our research makes a significant contribution to previous studies that mainly focus on the alignment of employees

through a vision (Krieg et al., 2022) by demonstrating which other positive effects can be achieved through AL. Moreover, our findings show that AL is practiced by employees at all levels of the organization. Thus, our case study confirms the assumption of some authors (e.g. Bäcklander, 2019; Spiegler et al., 2021) that AL is practiced by non-managerial positions, e.g. Scrum Masters and team members. The last approach based on how AL operates successfully is intensively discussed in our study. Experimenter, Collaborator, Facilitator, Enabler, and Resilient Leader were identified as key roles of agile leaders. In the literature, the identified tasks of agile leaders are empowering employees, driving change, promoting collaboration and an agile mindset, and embodying the vision (Appelbaum et al., 2017; Baker & Thomas, 2007; Eilers et al., 2022; Denning, 2018). With a detailed role description, our study enriches previous research by specifying the tasks and responsibilities of leaders in agile organizations.

Our conceptualization suggests that AL emerges as a vital leadership concept uniquely suited for success and competitiveness in today's dynamic and rapidly evolving corporate landscape. It distinguishes itself from established leadership styles like servant leadership (Greenleaf, 1998) or digital leadership (Eberl & Drews, 2021) by placing a strong emphasis on OA and prioritizing adaptability and flexibility as core competencies. Further, AL reshapes the leader-team member dynamics by empowering employees to make decisions and take risks, resulting in quicker decision-making and enhanced responsiveness to change compared to other leadership styles.

6. Limitations and Future Research

While our research provides promising insights, it also has limitations that offer opportunities for future research: (1) We use a single case study that only represents one company's perspective, limiting the generalizability of our findings (Yin, 2013). To enhance generalizability, future research should include cases from other enterprises and sectors, including for example SMEs (Walsham, 2006). (2) Our study focuses on the outcomes of the training program without incorporating additional data sources. To gain deeper insights into the impact of the training program on the company, we recommend conducting a longitudinal study (Yin, 2013). This study should involve interviews with managers and employees, making the effects of the training program over time visible. Expanding the target group to include viewpoints of middle managers as well as team members can generate more valuable insights as they can also assume leadership roles based on agile team maturity (Gren et al., 2020). (3) We rely on the classification of leadership styles by Grint et al. (2016)

to develop our conceptualization of AL. The approach has already been used several times to conceptualize leadership styles in IS. Due to its holistic view, it is suitable for bundling the breadth of existing leadership concepts and focusing on a specific context such as leadership in agile organizations (Greineder & Leicht, 2020). The five leadership dimensions have unique content and scope, and they are not entirely identical or fully independent of each other. While the classification is based on a comprehensive set of criteria, it may not encompass all aspects (Greineder & Leicht, 2020). (4) To refine the concept of AL, future research should also explore in detail how AL distinguishes itself from other established leadership styles like adaptive and servant leadership.

7. Theoretical and Practical Contribution

This research provides valuable insights into the field of leadership in agile organizations by introducing an AL conceptualization. Given the absence of existing conceptualizations of AL in scientific literature thus far and the term's usage with ambiguity or without further clarification, our findings aim to reduce confusion and misinterpretation and facilitate a basis for further exploration and validation of this construct (MacKenzie et al., 2011). We conducted an exploratory single case study of a training program for senior executives to identify the core characteristics of AL, addressing a research gap that existed in previous studies. Our conceptualization achieves several key objectives: (1) characterizing agile leaders, (2) validating the relevance of AL, (3) identifying key outcomes associated with AL, (4) highlighting the inclusive practice of AL across all organizational levels, and (5) defining the key roles of agile leaders. Our findings establish AL as a unique leadership concept suited for competitiveness in today's dynamic corporate landscape. Currently, there is no unified understanding of AL within organizations. Yet, it is crucial for managers to implement OA in today's volatile environment. Our findings offer a conceptualization of AL, providing a foundation for practitioners to (1) understand its significance, (2) grasp its fundamental principles, (3) identify key competencies, behaviors, and values for effective leadership in agile teams, and (4) integrate these principles into their operations. This equips organizations to effectively respond to today's uncertainties, and enhance adaptability, resilience, and long-term success (Ravichandran, 2018). The relevance of agility in all industries and the high potential of AL to foster agile transformations are motivations for further research. Our findings are valuable for firms similar to the investigated company, such as large

organizations with high heterogeneity due rapid growth as well as firms undergoing agile transformations.

8. Conclusion

Effective leadership is crucial for implementing organizational agility and fostering high-performing teams in today's digitalized world (Attar & Abdul-Kareem, 2020). However, limited research exists on leadership's role in this specific context (Krieg et al., 2022). Our study aims to fill this gap by providing a first conceptualization of agile leadership (AL). Therefore, we conducted an exploratory single case study on a training program for senior executives at a European automotive software company that aims at gaining a deep understanding of leadership in agile teams. Our findings indicate that AL can be seen as a unique type of leadership style, emphasizing the adaptability and responsiveness of organizations to change and underlining the autonomy and self-organization of teams in the agile context.

9. References

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