

Who is an Agile Leader? Technological vs. Non-technological Mindset Employees' Views

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Abstract: For an agile organization to be truly agile, it must be led by agile leaders to sustain its competitiveness and continuously identify opportunities for future growth and development. Technological and non-technological mindsets can see agile leadership differently. Therefore, this study aims to explore if there is any difference in the vision of who the agile leader is in the views of knowledge workers employed in the IT and other sectors. Using a qualitative definitional/interpretive approach supported by MAXQDA software, this study revealed that from the perspective of the technological mindset, key specific to this group characteristics are diligent risk management, technology usage focus, deep understanding of needs, efficiency, and efficacy, critical thinking skills, multitasking, information and knowledge sharing, responsibility, feeling, and constant focus on improvement. Whereas from the perspective of non-technological mindsets, key specific characteristics these mindsets notice are support for employee growth, dynamism and relevance of actions taken, perfect operation on managerial paradoxes, creativity, inclusion, empathy, and self-confidence. The common characteristics that are easy to notice in both mindset types are open-minded personality, the sequential habit of revisions, reflection, and re-framing, learning from experience, wise dynamic (smooth and accurate actions), perfect change implementation skills, adaptability skills, and a positive attitude towards challenges.

Keywords: Transformational Leader, Agile Leader, Technological Mindset, Non-technological Mindset, Knowledge Workers, Qualitative Study, Interpretive Approach, MAXQDA

1. Introduction

In today's business environment of extreme change and uncertainty, all businesses need to be more agile. Adopting an agile approach helps organizations develop internal adaptability and organizational learning capabilities, improve their responsiveness (Kettunen et al. 2022), and gain a competitive advantage (Pulakos et al., 2019; Zastempowski and Cyfert, 2023). For an agile organization to be truly agile, it must be led by agile leaders to sustain its competitiveness and continuously identify opportunities for future growth and development (Cyfert et al., 2022; Harvey and De Meuse, 2021; Delioğlu and Uysal, 2022). Since agility was before the COVID-19 era, often seen mainly as the need and domain of the fast-developing IT sector, this study aims to explore if there is any difference in the vision of who the agile leader is in views of knowledge workers employed in the IT and other sectors. It is interesting because, from the after-COVID-19 perspective, agility has been lifted to the position of the most desired and highly valued organizational competency, not only in the IT sector (Stei et al., 2024). Changes in the business context create the need to adjust organizational knowledge to the new contexts. Without it, the organizational agile responses can be problematic or impossible. Cegarra-Navarro and Martelo-Landroguez (2020) and Cegarra-Navarro et al. (2016) claimed that efficient knowledge management supports agility, significantly increasing organizational performance. So, since leaders create standards in organizations, it is worth exploring how a leader who exposes high-level agility standards is defined.

This research is based on the definitional/interpretive qualitative approach (Elliott and Timulak, 2021; Willis, 2007). This paper assumes that knowledge workers with different mindsets (technological vs. non-technical) might perceive agile leaders differently. For better agility implementation in organizations, it is important to understand different perceptions of who is a perfect 'agile leader.' It matters today after the pandemic experience, which made the idea of agility implementation very popular across different sectors, not only in IT. Exploring different mindsets and views matters because we can learn from these perceptions about what makes a leader seen as 'agile.' The integration of both (technological and non-technological) mindsets views allows us to build the complete picture of who a perfect agile leader is. Several studies have exposed that the IT sector and other sectors' perceptions differ (Kucharska and Erickson, 2020, 2023) and that, consequently, the technological and non-technological mindsets can see some important organizational issues differently and can act differently

(Kucharska and Kucharski, 2023). Summing up, in this research, we search for the meaning of who an 'agile leader is'; we believe that first, the interpretation and, next, the integration of different views enable us to understand this construct better. So, this study aims to find the answer to the following research question:

RQ: How do technological mindset-dominated knowledge workers see a perfect agile leader, and how is a perfect agile leader viewed by those knowledge workers who are exposed to a non-technological mindset? Is there any difference?

2. Theoretical Background

Agile organizations constantly learn collectively and respond quickly to changes, always bent on delivering value to customers and stakeholders. According to the trait theory, the most critical factor determining the effectiveness of the leadership process is the traits of the leader (Koçel, 2014, p. 676; Akkaya, 2020). Therefore, the agile leadership concept refers to the adaptability skills of leaders that enable them to respond effectively to changing business circumstances.

2.1 Agile Leaders

Agile leaders adapt to rapid changes, implement innovation, take risks, and act with foresight in unpredictable, fast-changing reality (Denning, 2016; Medinilla, 2012). They focus on continuous learning, development, technology application, and innovativeness (Hayward, 2018). Agile leaders are then transformational. So, transformational leaders identify, adapt to external, and implement internal and external changes (Kucharska and Rebelo, 2022; Kucharska et al., 2022). Regarding agile leaders' characteristics, Denning (2018) identified such vital agile CEO qualities as a customer-first mindset, a company vision for the future, and the ability to continuously create new business models that match employees' skills and create multiple paths to the same aim (scenarios creation) and are ready to take risks and acquire new institutional skills to develop new paths. According to Sanatigar et al. (2017), agile leaders foster a culture promoting collaboration and nurturance, accepting diversity, competency, innovation, and creativity, as well as transparency and trust. Kergel et al. (2023) summarized that the power of agile leadership is its exemplary commitment to inspiring the group to pursue intrinsic values and the skill created by agile cognition to envision how these values can be made factually possible. It is because, according to the authors, leading by instrumental values does not align with the agile perspective. The power of agile leadership is its status as an inspiring exemplar and a role model loved by the group and admired for the success its team creates. It serves intrinsic values and nourishes the development of agile cognition, creative relations, and community. Kergel et al. (2023) emphasize that agile leadership does not need harmful and threatening techniques to control people.

On the contrary, Neto et al. (2022) explored the literature to identify the demanded characteristics of agile software project leaders, but they did not finally define an agile leader clearly. Kumar and Ray (2023) admitted that agile leadership had become a buzzword today, and the results of their study locate an agile leadership concept as a set of practices preferring inspiration and guidance over control, collaboration over hierarchy, cross-functionality over silos, adaptiveness over plan-centricity, and value creation over output. Summing up, the numerous approaches to the agile leader concept definition provoke a critical reflection on who an agile leader is.

2.2 Technological and Non-technological Mindset

Technology is perceived as a driver of change (Huda, 2019). Agility and change are related (Oosterhout et al., 2006; Ulrich and Yeung, 2019). Moreover, people who use technology are more likely to be open-minded (Kmieciak, 2019). Being open-minded seems to be vital for agility. Therefore, technological mindsets might probably be more open to learning and adapting to changes. However, at the same time, Campana and Agarwal (2019) found that low-technology environments are not a barrier to learning. So, might be that also for adaptability. Kucharska and Kucharski (2023) exposed that technological and non-technological mindsets equally efficiently learn in their mindsets-fitted working environments. If the environment misaligns with mindset, the learning process, and consequently, the adaptability process, can take longer. Since agility was before the COVID-19 era, often seen mainly as the need and domain of the fast-developing IT sector, this study aims to explore if there is any difference in the vision of who the agile leader is in views of knowledge workers employed in the IT and other sectors. It is interesting because, on the one hand, technology and agility are seen as supporting one another (Overby et al., 2006; Gao et al., 2020), but from the after-COVID-19 perspective, agility has been lifted to the position of the most desired and highly valued organizational competency not only in the IT sector (Stein

et al., 2024). So, it is worth verifying how technology-driven mindsets and non-technology mindsets see agile leaders. There might be no difference in the agile leader's perception. However, it might be that the identified earlier strong impact of mindsets on the phenomenon of the working environment-mindset alignment for learning and change adaptability might also be visible in the leader agility vision. Mindsets are potent drivers of visions and actions. Therefore, this study aims to explore who an agile leader is through the prism of technological and non-technological mindset lenses prisms.

3. Methodology

This qualitative study has a definitional/interpretive character. It is because the a priori assumption has been made that the leader's agility might be seen differently by knowledge workers representing different mindsets (technological vs non-technological). However, since technology spread widely, forced by the pandemic and business reality, it is not apparent whether the expected difference exists or is sharp enough. It matters, especially since this concept has numerous definitions (Neto et al., 2022; Kumar and Ray, 2023). It might be that these different views on a leader's agility are rooted in the technological/non-technological mindset views. So, this study aims to reveal it thanks to these comparisons of views.

Theoretical sample – To best explore the perception of an agile leader through the prism of a technological/non-technological mindset, the theoretical sample was defined as knowledge workers working in specialist positions interested in the topic of agility. So, this sampling process was clearly purposeful. We aimed to interview those who could bring a fresh perspective to the topic they were familiar with; therefore, we excluded experts.

Final sample—The final sample comprises twenty volunteers, ten with a technological mindset and ten with a non-technological mindset. The gender balance was secured. Participants' age was not controlled.

Data collection: Volunteers were recruited among scrum methodology workshop members conducted in January 2024 in Gdansk, Poland. However, those volunteers were intentionally invited to participate in the interviews before the workshop started. Thanks to this, the sample represents knowledge workers interested in the topic of agility but not experts. It matters to be sure we collect those members' individual opinions instead of shared opinions through the collaboration of the workshop. Individual views enable the identification of peripherals (insights that are not widely known and established can bring new value). The point of conducting this interview before, rather than after, the training was to ensure that these fresh insights were not obscured by established training content presenting a specific view. The goal was to gather these insights from a group knowledgeable and interested in the topic before these insights were obscured or overwritten by expert opinion.

Participants declared their familiarity with the agility concept; next, they declared themselves as representing a technological or non-technological mindset. Next, the interviewee answered the following open-ended question: *Who, in your opinion, is a perfect agile leader exposing higher-level agility standards? Please describe.* Answers were recorded, transcribed, and anonymized.

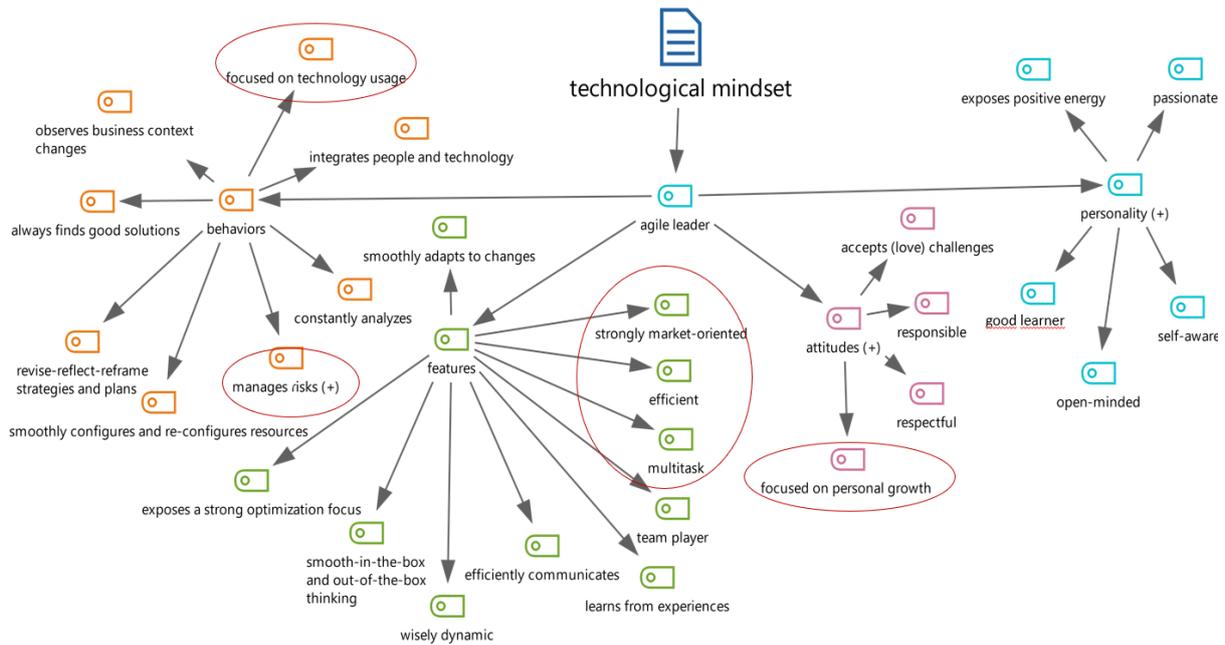
Analysis procedure—The collected data were analyzed using MaxQDA Analytics Pro 2020 software. This analysis started by identifying the main themes and subthemes (codes) separately for each group. Next, data collected for the technological mindset and non-technological groups were separately structuralized and visualized to be summarized and compared. The following sections present effects and their meaning.

4. Results

As a result of the analysis, 160 codes for the non-technological group and 171 for the technological group were structured into four main themes: behaviors, features, attitudes, and personality, and thirty-eight subthemes: ten subthemes for agile leaders' behaviors, sixteen for features, five for attitudes theme and, seven subthemes for personality characteristics. Figure 1 exposes these themes and their hierarchy for both groups separately.

Ellipses expose those themes that are characteristic of the particular group based on up to 10 of the most frequently identified codes. So based on this, there is a simple conclusion regarding behaviors: the technological mindset focuses on technology usage and development, whereas the non-technological mindset focuses on people's growth. Regarding features, the technological mindset stands out in market orientation, multitasking, and efficiency, whereas the non-technological mindset view stands out in perfect operation on managerial paradoxes and creativity.

a) Technological mindset view



b) Non-technological mindset view

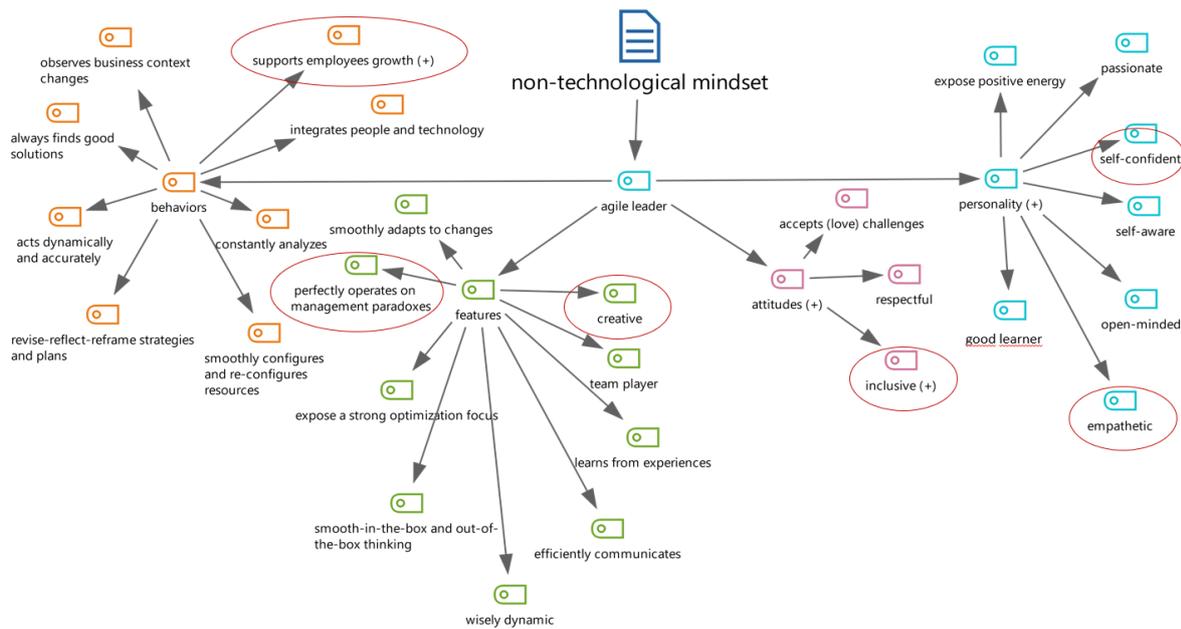


Figure 1: Themes hierarchy generated based on a) technological and b) non-technological mindsets' perceptions of agile leader characteristics.

Note: Visualizations were made by authors using MaxQDA Analytics Pro 2020 software based on up to 10 of the most frequently identified codes.

Regarding attitudes, technological mindsets highlight personal growth needs, whereas non-technical mindset highlights inclusive attitudes as important for being agile leaders. Regarding personality, non-technological mindsets identified more themes than technological ones, and those themes that do not repeat in both groups are self-confidence and empathy. Summing up, Figure 1 presents a hierarchy of themes and sub-themes based on up to 10 of the most frequently identified codes but does not present their frequency, whereas Figure 2 does. Figure 2 presents clouds of subthemes where the most frequent subthemes are bolded (wide font).

a) Technological mindset view



b) Non-technological mindset view



Figure 2: Clouds of subthemes frequency are generated based on a) technological and b) non-technological mindsets' perceptions of agile leader characteristics.

Note: Visualizations were made by authors using MaxQDA Analytics Pro 2020 software; the most frequently identified codes are bolded

Based on the data presented above, it can be summarized that ten of the most frequent themes are very similar, but their frequency differs in groups. Technological mindsets most frequently see the agile leader as someone who learns from experience, constantly revises, reflects, and re-frames strategies and plans to align to a fast-changing business context, and acts quickly and wisely. Non-technological mindsets also often see an agile leader as a wisely dynamic person who reflects and re-frames strategies and plans to align to a fast-changing business context but who also supports employees' growth, is open-minded, loves challenges, is inclusive, and communicates effectively. So, a set of human-factor themes is the most critical for leaders' agility perceived by non-technological mindset specialists. In comparison, technological mindset specialists focus more on analytical skills resulting from critical thinking. This summary is based on the most frequent subthemes but does not clearly focus on the detailed comparison between the views of the explored mindsets. Figure 3 illustrates then the most frequent subthemes comparison and groups them into commonly frequent themes and themes that are characteristics only for the particular group that helps more sharply see similarities and differences.

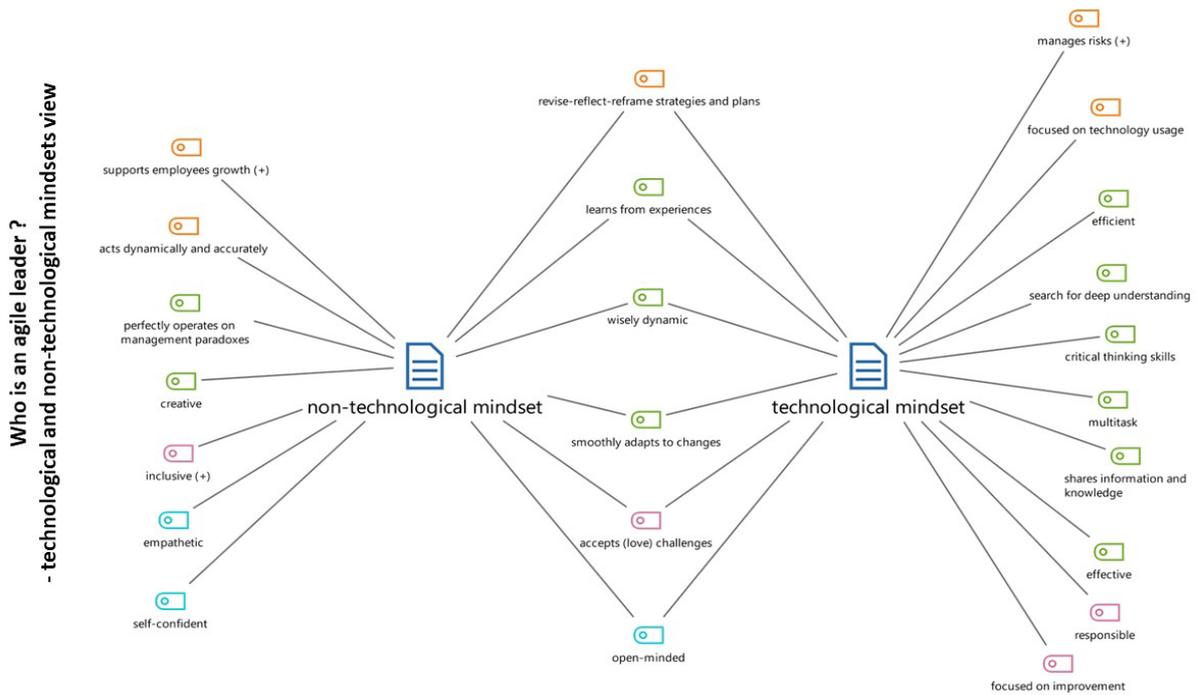


Figure 3: All identified subthemes comparison to expose mindsets perceptions differences

Note: Visualization was made by authors using MaxQDA Analytics Pro 2020 software

Summing up, from the perspective of the technological mindset, key specific to this group characteristics are diligent risk management, technology usage focus, deep understanding of needs, efficiency and efficacy, critical thinking skills, multitasking, information and knowledge sharing, responsibility, feeling, and constant focus on improvement. Whereas from the perspective of non-technological mindsets, key specific characteristics these mindsets notice are support for employee growth, dynamism and relevance of actions taken, perfect operation on managerial paradoxes, creativity, inclusion, empathy, and self-confidence. The common characteristics that are easy to notice in both mindset types are open-minded personality, the sequential habit of revisions, reflection, and re-framing, learning from experience, wise dynamic (smooth and accurate actions), perfect change implementation skills, adaptability skills, and a positive attitude towards challenges.

Based on the presented analyses, we summarize that agile leaders are those leaders who support employees' growth, are wisely dynamic (respond to changes quickly and accurately), are open-minded; reflect, revise, and re-frame strategies and plans smoothly; learn from experiences; love changes and prefer them over repetitive actions therefore enthusiastically adapt to changes; are highly self-aware, empathetic, respectful and inclusive; integrate people and technology; observe and analyze business context changes and smoothly operates on paradoxes.

5. Discussion

Answering the research question, we summarize that agile leaders are those leaders who support employees' growth, are wisely dynamic (respond to changes quickly and accurately), are open-minded; reflect, revise, and re-frame strategies and plans smoothly; learn from experiences; love changes and prefer them over repetitive actions therefore enthusiastically adapt to changes; are highly self-aware, empathetic, respectful and inclusive; integrate people and technology; observe and analyze business context changes; smoothly operates on paradoxes. However, there is a difference between technological and non-technological mindset views. At the same time, we highlight that there are differences in an agile leader's perception by knowledge workers with technological and non-technological mindsets.

Consequently, there is a simple conclusion regarding identified key behaviors: the technological mindset perception notices technology usage, development, and risk management (non-technological mindsets ignore these behaviors), whereas the non-technological mindset focuses on employee growth support and dynamic acting. Regarding features, the technological mindset stands out in market orientation importance, multitasking, critical thinking, knowledge sharing, efficiency, and efficacy. In contrast, the non-technological mindset view

stands out in perfect operation on managerial paradoxes and creativity. Regarding attitudes, technological mindsets highlight personal growth needs and responsibility, whereas non-technical mindsets strongly highlight inclusion as vital for successful agile leader status. Regarding personality, non-technological mindsets identified more themes than technological ones: self-confidence and empathy.

Generalizing the given results leads us to the simplification that non-technological mindset specialists uniquely pay attention to the social skills of agile leaders. In contrast, technological mindsets dominated specialists focused uniquely on analytical skills and technology support. What is common – both mindsets highlight a positive attitude towards challenges, an open-minded personality visible in a sequential habit of revisions, reflection, and re-framing, learning from experience, smooth and accurate actions (wise dynamic), perfect change implementation skills, and change adaptability skills. It leads us to conclude that, generally, both mindsets see agile leaders quite similarly. However, the roots of agility – technological mindsets are seen in analytical skills and technology support. In contrast, non-technological mindsets next to the dynamism and adaptability skills highlight socially oriented skills (employee support, inclusion, creativity) as vital to leading organizations' agility.

Studies by Kucharska et al. (2024a-b) confirm these findings.

6. Limitations and Further Studies Direction

Qualitative studies aim to bring new insights, enabling a better understanding of the particular phenomenon, as this study was based on a specialist view. So, to gain more insights and views of managers could be beneficial. Analyzing only one group—specialists—is the fundamental limitation of this study, and for better understanding, managers' insights should also be collected. So, this study did not examine the self-vision of leaders who aspire to be agile, which can expand the insights gathered.

Moreover, all presented analyses conclude that only the synthesis of both technological and nontechnological perspectives can give us a complete picture of the perfect agile leader. So, to define an agile leader, the synthesis of both views is needed. This assumption provokes the contrary opinion that some behaviors, features, attitudes, and personal characteristics might be more critical for leaders' agility in different sectors. Further studies should verify this assumption. Moreover, this study aimed to reveal the differences in perceptions among mindsets based on qualitative analysis methods and revealed a set of insights that should be explored quantitatively, including gender issues. Lechman and Popowska (2020, 2022), taking a macro perspective, proved that there is a significant relationship between ICT and women's economic activity. So, it might be that the agile leader mindset is somehow related to gender. To quantify the importance of the identified characteristics, the agile leader measurement scale should be first developed based on all the identified factors to be next confronted with organizational agility and its performance.

7. Practical Implications

From the practical perspective, the value of the identified insights is quite tremendous. All leaders aspiring to be agile should revise their attitudes and behaviors according to identified factors and, based on this self-revision, reflect and reframe some of their attitudes and behaviors, features, and personalities. Agile leaders constantly learn – so this research delivers some materials for consideration and learning on what leaders can improve regarding personal development focused on being agile leaders. Summing up, this study's results provide material for self-reflection. It might be that some of the identified factors will inspire leaders to become 'more agile'. However, it is essential to know that the relevance and importance of identified qualities will vary across contexts (e.g., personal, industrial, organizational, and cultural). So, critical thinking and self-reflection are the basis for making good use of the delivered characteristics.

8. Conclusions

This study exposed that, generally, both mindsets see agile leaders quite similarly. So, it suggests that the idea of agility is increasingly popular today and, therefore, less and less limited to IT organizations – as observed before the pandemic crisis experience (COVID-19). Nevertheless, some detailed differences have been identified. Technological mindsets see agile leaders more through the prism of analytical skills and technology support. Whereas non-technological mindsets highlight dynamism and smooth change adaptability, other socially oriented skills (employee support, inclusion, creativity) are vital for a successful agile leader.

Summing up, this study delivered a set of valuable insights regarding who the agile leader is and exposed that the synergy of both perspectives, technological and non-technological, can provide the complete picture. To fully

see the entire picture of who the agile leader is, the power of the influence of identified factors should be quantifiably explored with the understanding that the relevance and importance of identified qualities will vary across contexts (e.g., personal, industrial, organizational, and cultural).

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