

LEADERSHIP IN THE AGE OF AI IN THE CONTEXT OF EFFECTIVELY CONNECTING TECHNOLOGY TO TEAMS

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Purpose: This study aimed to analyze the opinions of leaders and employees regarding the implementation and functioning of artificial intelligence (AI) in organizations, focusing on key aspects such as trust in AI, leadership competencies, perceived impact on the organization, and readiness for change.

Design/Methodology/Approach: Statistical analysis was conducted using SPSS and R software to compare the views of leaders and employees across domains. The analysis included t-tests for differences between groups and multiple regression to identify key factors influencing AI implementation success. Data from leaders and employees were collected and analyzed in four themes: trust in AI, leadership competencies, perceived organizational impact of AI, and readiness for change.

Findings: Significant differences were found between leaders and employees in their perceptions of AI. Leaders generally reported higher trust in AI, greater confidence in their AI competencies, and a more positive view of its impact on organizational performance. On the other hand, employees expressed more concerns about AI limiting creativity and were less confident in management's ability to manage AI adoption effectively. Additionally, employees perceived greater openness to change compared to leaders. Multiple regression analysis highlighted that employee perceptions of leaders were the strongest predictor of AI implementation success.

Originality: This research offers a comprehensive comparison of how AI is perceived by different organizational roles, emphasizing the crucial role of leadership perception in the success of AI implementation. The study contributes new insights into the dynamics of AI adoption, leadership, and employee engagement in the context of technological innovation.

Keywords: leadership, artificial intelligence, trust, technology.

Category of the paper: Viewpoint.

1. Introduction

The integration of artificial intelligence in leadership is transforming traditional paradigms, which requires new competencies and strategies (Madanchian et al., 2024). The contemporary business landscape, driven by technological progress, requires leaders to redefine their roles and management methods. Leaders must adapt to changes driven by artificial intelligence, balancing technological progress with human traits such as empathy, communication skills, and the ability to build relationships (Milton, Al-Busaidi, 2023). Developing "leadership intelligence" is key here, encompassing emotional and cultural intelligence, strategic thinking, creativity, and lifelong learning (Westover, 2024). In the face of increasing automation and digital transformation, leaders face many challenges. These include solving problems related to work displacement, promoting ethical decision-making using artificial intelligence, and managing human-AI collaboration (Singh, 2023). Such challenges require an advanced understanding of the technology and anticipating long-term social and economic consequences.

Additionally, leaders should foster a culture of continuous learning that will enable employees and organizations to adapt to dynamically changing market conditions. It is also important to develop ethical guidelines for AI to ensure its responsible and fair use. At the same time, increasing emotional intelligence is becoming crucial to enable effective communication and management in diverse teams where human staff members work with AI systems (Singh, 2023). Integrating AI into leadership requires a balanced approach that combines technological innovation with preserving basic human traits such as morality, responsibility, and the ability to build trust (Madanchian et al., 2024). Organizations that want to implement such an approach effectively should prioritize holistic leadership development. A key aspect here is cultivating adaptive capabilities that will allow leaders to leverage the potential of AI to achieve business goals effectively. Fostering interdisciplinary competencies such as problem-solving, systems thinking, and building an inclusive organizational culture is becoming the foundation for achieving long-term success in a dynamically changing environment (Westover, 2024). Consequently, the future of leadership depends on the ability of leaders to flexibly adapt to new technological realities while maintaining the coherence of the organization's values and mission. Effective integration of AI requires a fundamental change in organizational culture due to its transformative impact on work practices and decision-making processes (Murire, 2024). Organizations must adapt their culture to support a data-driven mindset crucial for the effective use of AI. This cultural change includes promoting innovation, agility, and continuous learning while addressing challenges such as employee resistance and ethical concerns (Murire, 2024). Adopting the principles of mutual symmetry can foster inclusive environments that value transparency and honesty, which are essential for responsible AI implementation (Maddula, 2018). Research indicates a strong positive relationship between organizational culture, AI capabilities, and organizational performance. To ensure successful AI implementation,

organizations should focus on effective leadership, clear communication, and investment in skills development (Murire, 2024). This holistic approach to cultural transformation is essential for long-term success and competitiveness in the AI-driven digital economy.

2. Leadership in the Age of Artificial Intelligence

Transforming traditional leadership involves moving from hierarchical, rigid structures to more flexible, collaborative models that adapt to changing environments. Transformational leadership emphasizes expressing new visions, demonstrating passion and confidence, and aligning individual aspirations with organizational goals. Transformational leadership is key in facilitating the integration of AI and HR digitalization in organizations (Estherita et al., 2023). It promotes employee performance and innovation while managing the uncertainty associated with AI adoption (Matsunaga, 2021). In the context of AI, transformational leaders must balance AI capabilities with human insight, ethics, and emotional intelligence. They must adapt their strategies based on the stage of development of AI systems, focusing on setting a vision and building relationships. Effective team communication mediates the positive impact of transformational leadership on team performance in AI development projects (Sun, 2024). However, digital leadership skills mitigate these effects, emphasizing the importance of technological competence (Matsunaga, 2021). As AI takes over more leadership roles, organizations must continually evaluate and adapt their leadership approaches to maximize the benefits of AI integration while minimizing disruptions (Estherita et al., 2023). Technology increasingly mediates leadership processes, and the concept of e-leadership has been highlighted, requiring leaders who are communication-oriented, supportive, and able to create stable environments. Effective leaders build personal relationships, champion stakeholder causes, and use symbolic behaviors to bridge the mission (McMullen, Adobor, 2011). Social entrepreneurs are key bridges between innovation managers and technology-reflective individuals in public-private partnerships. As technology leaders, middle managers make pedagogical interventions to overcome intra-organizational boundaries and support agile working methods, focusing on adaptation through collaboration, interdependence, flexibility, and communication (Gustafsson et al., 2012). These interventions aim to influence knowledge creation and promote collective learning. As organizations navigate increasingly unstable, uncertain, complex, and ambiguous environments, leaders must adapt to effectively bridge the gap between technology and people (Paliszkievicz et al., 2023). Inspiring teams to embrace technology as a supporting tool rather than a threat involves addressing various challenges. Virtual teams, enabled by advances in IT, offer opportunities for organizational development but require careful management of information security and human factors. While robots are still primarily seen as tools, there is potential for positive integration in teams, performing

dangerous tasks, and enabling humans to focus on creative work (Krawczyk-Bryłka, Nowicki, 2024). Building effective virtual teams requires attention to goal setting, member selection, group rule setting, idea generation, and decision-making processes (Krawczyk-Bryłka, 2016). Knowledge and innovation are key organizational resources that should be integrated into management processes (Skarżyńska, 2023). Changing the managerial mindset to recognize the strategic value of diverse employee knowledge is essential to achieving sustainable competitive advantage (Baruk, 2008). Organizations can foster an environment that supports technology adoption and team collaboration by addressing these aspects.

The role of leadership in implementing is crucial and multifaceted, encompassing strategic, operational, and cultural aspects. Leaders set the direction for the entire process, deciding where and how the technology should be applied, as well as defining business objectives and managing the risks associated with implementation (Sun, 2024). They are also responsible for building trust and acceptance of AI among employees through transparent communication, explaining the benefits and limitations of the technology, and personal involvement. Effective leaders support the development of digital competencies within their organization by organizing training, facilitating learning processes, and helping teams adapt to a changing work environment (Gao, 2024). At the same time, they act as guardians of ethical AI implementation, ensuring privacy and data security and counteracting algorithmic bias. The implementation of artificial intelligence often requires a change in organizational culture—towards greater openness to data, human-technology collaboration, and continuous improvement. Leaders play a catalytic role in this change by modeling values and attitudes that foster innovation (Sun, 2024). Ultimately, it is leaders who are responsible for whether AI is perceived as an opportunity for growth or as a threat within the organization. Their flexibility, vision, and ability to integrate people with technology determine whether AI implementation will bring real benefits.

3. The Impact of Artificial Intelligence on Team Dynamics

AI has emerged as a promising tool for increasing team effectiveness in various ways. AI can augment human teams by improving coordination, knowledge sharing, decision-making, and performance evaluation (Khakurel, Blomqvist, 2022). Studies have shown that AI-assisted teams demonstrate improved communication, adaptability to disruptions, and broader solution space exploration (Song et al., 2022). AI can provide team diagnostics, process management, and interventions that match or even exceed human capabilities in some aspects. However, there are still challenges to the widespread adoption of AI for team improvement, including concerns about social interaction, privacy, and ethics (Khakurel, Blomqvist, 2022). To effectively implement it in team environments, organizations should consider a multi-step

process for analyzing and improving team performance (Webber et al., 2019). As this technology continues to evolve, it has significant potential to revolutionize teamwork and increase overall team effectiveness.

New technologies significantly affect traditional duties in various sectors. In libraries, despite the growing role of technology, it is still possible to effectively provide services in traditional forms. In the professional sphere, technical progress accelerates changes in the content of work and forms of employment, leading to the redefinition of professions and careers (Walczak-Duraj, 2022). AI redefines the concepts of intelligence, creativity, and intellectual work, changing the traditional gatekeeping model in the media in favor of algorithmic information selection. In journalism, AI leads to deanthropocentrism, where human interpretation of events is replaced by technological entities (Gruchola, 2022). At the same time, the development of AI poses new challenges in the field of competition law, especially in the context of using algorithms by entrepreneurs (Wieczerzyńska, 2022). Despite potential threats, AI also offers opportunities to increase efficiency and innovation. Finding a balance between the use of technology and maintaining human creativity and ethics in the new technological reality becomes crucial.

Technology redefines traditional responsibilities but does not always completely replace them. Recent studies highlight the emergence of new AI-related positions in various sectors. These include AI ethics officers, AI operations managers, and AI explainer engineers, who are key to ensuring ethical standards and optimizing AI system performance (Ejjami, 2024). The demand for AI skills in the workplace has increased, emphasizing communication, problem-solving, creativity, teamwork, and AI-specific competencies (Squicciarini, Nachtigall, 2021). New roles, such as Chief Data Officer, Chief AI Officer, and Chief Robotics Officer, have also emerged in the data ecosystem. While AI adoption is leading to changes in hiring patterns and skill requirements at the plant level, its aggregate impact on employment and wage growth in AI-exposed occupations and industries remains modest (Acemoglu et al., 2022). These findings underscore the need for continuous skill development and appropriate governance to fully leverage AI's potential while considering ethical implications (Ejjami, 2024). Integrating AI into teams, therefore, poses new leadership challenges. Trust issues can arise, with initial overestimation of AI capabilities leading to decreased trust over time. Human-AI teams often underperform due to poor team cognition and inadequate mutual understanding (Schmutz et al., 2024). Effective collaboration requires AI to develop mental models, self-awareness, theory of mind, and the ability to express and explain mental states. AI must also adapt goals, communication, and decision-making to humans while demonstrating cognitive competence, reinforcement learning, and semantic communication (Hagemann et al., 2023). Despite AI's potential to improve team performance in specific contexts, its underdevelopment limits wide-scale adoption (Webber et al., 2019). Overcoming these challenges requires interdisciplinary collaboration between computer science and psychology and developing a solid theoretical framework to realize the full potential of human-AI

collaboration (Schmutz et al., 2024). Framing AI care as personalized, using AI to support rather than replace human decisions, and addressing issues such as bias and data privacy can help build trust and acceptance (Longoni et al., 2019; Li, Abangbila, 2024). Understanding and solving these problems is crucial for successfully implementing AI (Yang et al., 2024).

4. Strategies for Effectively Connecting Technology with Teams

Building trust and acceptance of AI is crucial for its widespread adoption and successful implementation. Key factors influencing AI acceptance include perceived usefulness, ease of use, and technology readiness (Rane et al., 2024). Transparency, accountability, and fairness in the development and application of AI are essential to earning public trust (Westover, 2024). Organizations should ensure that AI systems are explainable, considering user needs and context to promote trust and acceptance (Theis et al., 2023). Regulatory frameworks, ongoing education, and skills development are essential to address ethical and data privacy concerns (Rane et al., 2024). A user-centered approach to designing and implementing AI systems is crucial, as is collaboration between industry, academia, and policymakers. Despite low trust in AI systems, Australians generally accept or tolerate AI, expecting careful governance and regulation (Lockey et al., 2020). Increasing AI skills and addressing social issues are essential to building trust and realizing the full potential of AI. Zhang et al. (2023) identified four key communication strategies for AI teammates, emphasizing the importance of proactive communication in building trust and situational awareness. Carter and Wynne (2024) proposed a theoretical framework for AI-human team effectiveness, emphasizing the need to understand the potential negative implications of AI integration. Sycara and Lewis (2004) explored the types of assistance AI can provide to teams that prove beneficial. Webber et al. (2019) explored the potential of AI for team diagnostics and improvement, proposing a multi-step process for analyzing and increasing team effectiveness in organizations. Together, these studies emphasize the importance of effective communication, building trust, and carefully considering the role of AI in team decision-making processes. The studies emphasize developing AI and leadership skills for non-technical managers to implement responsible AI solutions effectively (Salazar-Gómez et al., 2022). The Human Education AI Teaming (HEAT) framework proposes an innovative approach to enable collaboration between domain experts and AI systems, focusing on knowledge transfer rather than technical skills (McCall et al., 2021). Learning science research plays a key role in designing AI educational technologies, and interdisciplinary partnerships are recommended to bridge the gap between AI developers and educators (Luckin, Cukurova, 2019). Educational programs are being developed to meet the needs of various learners, from military personnel to the general public, incorporating various learning methods and experiential approaches. These efforts are intended to prepare individuals and organizations

for the growing impact of AI across industries and societies. To foster trust and ensure human autonomy, it is essential to establish ethical principles and develop an appropriate regulatory framework for the development of AI.

Ethical leadership is essential in organizations using AI technology because it helps address bias and privacy concerns (Uddin, 2023). Leaders must establish ethical standards and promote transparency in AI-based environments. However, AI does not have an ethical compass; human choices ultimately shape ethical decisions (De Cremer, Kasparov, 2021). Organizations can make responsible AI choices by approaching them methodically. While AI can increase the efficiency and accuracy of data-driven decision-making by educational leaders, misuse can harm stakeholders. Potential risks include reinforced biases, conflicts with moral values, and data security issues. To harness the potential of AI and minimize negative consequences, leaders must uphold ethical principles, cultivate responsible AI cultures, and prioritize stakeholder interests (Uddin, 2023). Ongoing research on ethical leadership in AI-based enterprises is essential to shaping ethical behavior and ensuring responsible AI implementation.

5. The Future of Leadership in the Context of Technology and Teams

The future of leadership in the context of AI technologies and teams will require a transdisciplinary approach, integrating multiple disciplines to address complex challenges. AI will be a strategic enabler, empowering leaders with predictive analytics and faster decision-making capabilities (Madanchian et al., 2024). However, human skills such as empathy, creativity, and intuition will remain key, creating a hybrid leadership model. Leaders must adapt to manage distributed teams, embrace diversity, and support continuous learning. The concept of "leadership intelligence" will become increasingly important, encompassing emotional intelligence, cultural intelligence, and strategic thinking. Organizations should focus on developing these skills in emerging leaders through personalized learning, global exposure, and coaching (Westover, 2024). While AI integration poses challenges such as ethical concerns and privacy issues, it also offers opportunities for more flexible and data-driven leadership practices (Madanchian et al., 2024). AI can improve team coordination, communication, and performance, especially during disruptions (Song et al., 2022). It can empower human teams by improving knowledge sharing, supporting decision-making, and assessing team performance (Khakurel, Blomqvist, 2022). However, adopting AI in team settings faces challenges, including issues with social interaction, design concerns, and ethical considerations (Khakurel, Blomqvist, 2022). Researchers propose a multi-step process for analyzing and improving teams using AI (Webber et al., 2019). The future of AI-human teaming in design can be conceptualized using a 2x2 matrix that considers AI focus (tool vs. guide) and modality (reactive vs. proactive) (McComb et al., 2023). As AI continues to evolve, it offers unique opportunities to support team problem-solving and increase team effectiveness.

6. Material and methods

6.1. Data collection and sample characteristics

The survey was conducted among employees and people holding management positions in companies using artificial intelligence. The research instrument was based on previous work by Rožman, M., Tominc, P., Miller, B. (2023), Sun, N. (2024), and Gao, P. (2024). The main survey, conducted from October to December 2024, was preceded by a pilot study in September on a group of 30 employees—the pilot study aimed to verify the comprehensibility of the questions included in the survey. As a result of the pilot study, the survey was modified. Ultimately, six sections were obtained for survey measurement. The survey contained closed, open, and semi-open questions. It was divided into thematic sections measuring specific variables. The first section consisted of metrics. The second section consisted of questions regarding the level of trust in AI. The variables from the second section were qualitative and ordinal (1 - strongly disagree, 2 - disagree, 3 - undecided, 4 - agree, and 5 - strongly agree). The third section concerns the competencies of leaders in AI management. The subsequent sections were based on the competencies of leaders in AI management, the perception of the impact of AI on the organization, readiness for change, and the success of AI implementation.

Participation in the study was voluntary, and the survey was conducted using computer-assisted online interviewing (CAWI). The research group includes leaders and employees representing various organizations implementing AI solutions. A total of 342 completed questionnaires were obtained. Among the respondents, 121 leaders (managers, project managers, and team leaders) and 221 employees (specialists, analysts, and members of operational teams) were distinguished. Table 1 presents the distribution of respondents according to their sociodemographic characteristics. The validity of the survey was assessed based on the percentage of total explained variance. At the same time, reliability was checked using Cronbach's alpha coefficient (1951), using thresholds adopted in social research, which are 0.5 and 0.45, respectively (Taber, 2018).

Table 1.
Sociodemographic characteristics of respondents

Variable name	Categories	n	%
Sex	Female	189	55.26
	Small	153	44.73
Position	Employee	221	64.61
	Leader	121	35.38
Professional experience	Up to 5 years	72	21.05
	From 5 to 10 years	85	24.85
	From 10 to 20 years	152	44.44
	Over 20 years	33	9.64
Experience in working with AI technology	Under 1 year	52	15.20
	From 1 to 5 years	118	34.50
	From 5 to 15 years	144	42.10
	Over 15 years old	28	8.18

Source: Own elaboration.

6.2. Statistical approach

The collected statistical material was analyzed using SPSS version 27.0 software and the R environment.

6.3. Data analysis

Table 2 presents the results of a comparative analysis of the opinions of leaders and employees on various aspects of the implementation and functioning of artificial intelligence (AI) in organizations. Four main thematic areas were considered: the level of trust in AI, leaders' competencies, perception of the impact of AI on the organization, and readiness for change and implementation success.

For each category, mean scores (M) and standard deviations (SD) in both groups were presented, as well as the results of the student's t-test (t) and the corresponding p values (p), which indicate the statistical significance of differences between groups. Positive t values indicate higher average leader scores, while negative ones indicate higher average employee scores. The analysis allows us to assess in which areas there are significant differences in the perception of AI between these two groups, which may constitute an important basis for further actions in implementing new technologies in organizations.

The analysis of the results indicates significant differences in the perception of artificial intelligence (AI) between leaders and employees in several key areas. Regarding the level of trust in AI, there was no significant difference in the assessment of the potential of AI to improve organizational performance ($t = -0.98$, $p = 0.328$). Both groups rated this aspect similarly, although the average was slightly higher among employees ($M = 3.9$) than leaders ($M = 3.8$). However, employees were much more likely to perceive AI as an opportunity than leaders ($t = -3.98$, $p < 0.001$), and leaders declare greater trust in AI-supported decisions than employees ($t = 3$, $p = 0.001$). In the area of leader competencies, leaders assess their preparation for managing AI implementation significantly higher ($M = 4.3$) than employees ($M = 3.3$), which was confirmed by high statistical significance ($t = 9.63$, $p < 0.001$).

Table 2.

Comparative analysis of the opinions of leaders and employees

	Leaders		Employees		Student's t-test	
	M	SD	M	SD	t	p
Level of trust in AI						
AI can significantly improve organizational performance	3.8	0.73	3.9	0.88	-0.98	0.328
The use of AI is more of an opportunity than a threat	3.5	0.88	3.9	0.79	-3.98	<0.001
I trust AI-supported decisions	3.4	0.91	3.0	1.02	3.32	0.001
Leadership competencies						
Our leaders are trained enough to manage AI implementation	4.3	0.52	3.3	0.97	9.63	<0.001
Leaders understand the potential of AI technology for our organization	4.5	0.63	3.7	0.84	8.42	<0.001
Leaders actively support AI adoption in the team	4.4	0.57	3.5	0.93	8.88	<0.001

Cont. table 2.

Perception of AI's impact on the organization						
AI is changing the way leaders make decisions	3.7	0.88	4.2	0.72	-5.26	<0.001
AI improves teamwork efficiency	4.1	0.71	4.4	0.62	-3.76	0.002
AI can limit human creativity in an organization	3.4	0.94	3.9	0.84	-4.67	<0.001
Readiness for change						
The organization provided appropriate training related to AI implementation	4.3	0.63	2.9	1.04	12.37	<0.001
The team is open to the changes resulting from the introduction of AI	3.4	0.99	4.1	0.68	-7.18	<0.001
I am ready to work with new AI technologies	4.7	0.43	4.4	0.55	4.77	<0.001
Successful AI implementation						
AI has contributed to improving the efficiency of our work	4.2	0.65	3.6	0.86	6.15	<0.001
AI has reduced the number of operational errors	4.1	0.72	3.3	0.93	7.54	<0.001
The AI implementation process in our organization ran smoothly	4.5	0.52	3.5	0.84	10.90	<0.001

Source: Own elaboration.

Similarly, leaders are more positive about their understanding of AI's potential ($t = 8.41$, $p < 0.001$) and active support for AI adaptation in teams ($t = 8.88$, $p < 0.001$) compared to employees. In the context of AI's impact on the organization, employees are more likely to agree that AI changes the way leaders make decisions ($t = -5.26$, $p < 0.001$), and they appreciate more the impact of AI on improving teamwork efficiency ($t = -3.76$, $p = 0.0002$). At the same time, employees assess the risk of limiting creativity in the organization due to the implementation of AI higher ($t = -4.67$, $p < 0.001$). In terms of readiness for change, leaders have a more positive assessment of providing appropriate training related to AI implementation ($t = 12.37$, $p < 0.001$) and believe that their teams are less open to changes resulting from the introduction of AI than the employees themselves ($t = -7.18$, $p < 0.001$). Moreover, leaders declare greater readiness to work with new AI technologies ($t = 4.77$, $p < 0.001$). Finally, leaders more positively assess the impact of AI on work efficiency ($t = 6.15$, $p < 0.001$), reduction of the number of operational errors ($t = 7.5$, $p < 0.001$) and the course of the AI implementation process in the organization ($t = 10.90$, $p < 0.001$) compared to employees. This indicates clear differences between both groups' perceptions of AI implementation success.

Next, a multiple regression was performed based on the following variables: the number of hours of leader training, leaders' experience with AI technology, and employees' perception of leaders on the success of AI implementation (Table 3).

Table 3.
Multiple regression

Independent variables	Coefficient	Standard error	t-statistic	p-value	Confidence interval 95%
Constant	-1.0043	0.505	-1,990	0.087	(-2.198, 0.189)
Number of hours of leadership training	0.1803	0.087	2.077	0.076	(-0.025, 0.386)
AI Experience	-0.9682	0.487	-1.987	0.087	(-2.120, 0.184)
Employees' perception of leaders	1.5385	0.271	5.672	0.001	(0.897, 2.180)

Source: Own elaboration.

The analysis results show that Employees' perception of leaders has the strongest impact on the success of AI implementation, confirmed by a statistically significant coefficient of 1.5385 ($p = 0.001$). This means that employees' positive perception of leaders significantly improves the effectiveness of AI implementation. In the context of leadership in the AI era, where technology is still a novelty, leaders perceived as competent, supportive, and open to innovation become crucial for successfully integrating new technologies with teams. Leaders who build trust and are authorities in the eyes of their employees have a better chance of effectively managing the process of implementing AI technology. About hours of leader training, the results indicate a moderate, although not fully significant, effect on AI implementation success. The coefficient of 0.1803 ($p = 0.076$) suggests that more hours of leader training may support their readiness to implement AI technologies. However, the evidence for the full significance of this effect is somewhat weaker, as the p -value is borderline significant. In contrast, Leaders' experience with AI technology shows a negative coefficient (-0.9682, $p = 0.087$), suggesting that leaders' greater experience with AI technology may be associated with slightly lower AI implementation success. However, this result is not statistically significant, and its negative nature may indicate that excessive dependence on previous experience and established work methods may limit leaders' flexibility in adapting to new technologies and approaches.

In summary, the analysis's results confirm that the key to the success of AI implementation in organizations is employees' perception of leaders and their ability to build trust and support in the team. Although the number of hours of leader training has some positive impact, leaders' experience with AI technology is not a key factor. Leadership in the AI era requires flexibility, openness to innovation, and employee trust, the foundation for effectively integrating technology with teams.

7. Summary and conclusions

The conducted research provided valuable information on the differences in the perception of artificial intelligence by leaders and employees and their impact on the success of implementing this technology. The research indicates the key role of leaders in implementing AI and the need to adapt implementation strategies to employees' various expectations and concerns. The results showed that the key factor in the success of AI implementation is employees' positive perception of leaders and their ability to build trust and support the team in adapting to new technologies. The research indicates that leaders' trust in AI is greater than employees' trust in this technology. Leaders responsible for the management and decisions regarding the implementation of AI are more convinced of its potential and benefits for the organization. They are more likely to see it as a tool that can improve operational efficiency

and enable better decision-making. Although generally open to technology, employees show greater concerns about its impact on their daily work and the potential loss of control over decision-making processes. Moreover, employees' perception of AI as a threat to creativity is also a significant factor that can inhibit the full adaptation of this technology in the organization. In the context of leadership competencies, the research results indicate that leaders assess their preparedness for AI implementation significantly higher than employees. Leaders assess themselves as well-trained and competent in implementing AI technologies, which may be due to their more direct involvement in decision-making processes and greater knowledge of AI applications in the organization. Employees not involved in the implementation feel less confident about how AI technology will affect their roles and tasks. These differences may also result from employees' lack of training and information about AI, indicating the importance of providing appropriate educational resources for both groups. In terms of the perceived impact of AI on the organization, leaders and employees showed different opinions on the impact of this technology on decision-making processes and teamwork effectiveness. Leaders were more convinced that AI significantly improves teamwork effectiveness and helps decision-making.

On the other hand, employees were more likely to fear that AI would limit their creativity and autonomy in decision-making. This may result from the fear that technology will replace them in creative processes, which often arouses resistance to its implementation. Interestingly, research results indicate that employees are more likely to perceive AI-related changes as threatening organizational culture and the way of working. At the same time, leaders see it as an opportunity to improve processes. Research also indicates significant differences in the perception of AI implementation success between leaders and employees. Leaders have a more positive assessment of the impact of AI on improving work efficiency and reducing operational errors, which may result from their better access to the results and data on the functioning of technology in the organization.

On the other hand, employees are less convinced of AI's effectiveness, which may result from the lack of full information about the implementation and its actual effects. Therefore, there is a need for transparency in the implementation process so that leaders and employees have a full picture of the benefits and challenges of AI. Regression analysis has shown that employee perceptions of leaders have the greatest impact on the success of AI implementation. Positive perceptions of leaders perceived as competent, open to innovation, and supporting implementation processes are crucial for the effectiveness of AI implementation. This confirms that the role of leaders in building trust and supporting teams in adapting to new technologies is extremely important. In addition, the number of hours of training leaders receive positively impacts AI implementation success. However, this effect is not fully statistically significant, suggesting that other factors, such as leader experience or organizational structure, may be equally important. In contrast, leaders' experience with AI technology hurts implementation success, suggesting that excessive attachment to previous experience and traditional working methods may limit leaders' flexibility in adapting to new technologies.

The study's findings emphasize the key role of employees' positive perception of leaders in the effective implementation of artificial intelligence. To translate these observations into practical actions, it is worthwhile to recommend specific solutions that support leaders. First and foremost, training that develops both digital competencies and soft skills, such as empathetic communication and managing resistance to change, is essential. Additionally, it is worth implementing programs that foster trust in AI, such as workshops on the ethical use of technology that encourage open dialogue among employees. These activities should be complemented by the use of tools to assess the organization's readiness to implement AI, which will enable better planning of the transformation process and tailoring support to the actual needs of teams.

However, these results should be treated with caution, as the study had some limitations to consider when interpreting the results. First, the study was conducted in organizations that have already implemented or are in the process of implementing AI, which may limit the sample's representativeness. The results could differ in organizations that are just considering implementing this technology. Second, the subjective nature of the responses of both leaders and employees may affect the reliability of the results. Each group may have had different expectations and experiences, which could have distorted their assessments.

Future research should consider expanding the sample to include organizations from different industries, sizes, and regions. This would allow for more diverse results and provide a better understanding of how different factors affect the AI implementation process in different contexts. In addition, it is worth conducting long-term studies to assess changes in AI perceptions and implementation effectiveness over time when the technology is fully adopted. Another direction is to analyze the impact of the AI implementation stage on the success of the technology, as organizations may encounter different challenges in different implementation phases. Additionally, future research could consider the impact of external factors, such as legal regulations, organizational culture, or support from external technology consultants, which can significantly impact the AI implementation process in an organization. These research directions can contribute to deepening knowledge on the effective implementation of AI in organizations, allowing for better adjustment of implementation strategies to the needs of both leaders and employees.

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