

# Artificial Intelligence as a Leader: A Systematic Literature Review of the Status Quo and Future Challenges

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## ABSTRACT

The digital transformation is fundamentally changing traditional leadership processes. In particular, the deployment of Artificial Intelligence (AI) in leadership roles presents organizations with new psychological and organizational challenges. This paper conducts a systematic literature review to examine the current state of research concerning AI as a leader, identifies existing research gaps, and discusses future fields of action. The findings reveal that empirical evidence regarding the perception and acceptance of AI-supported leadership is scarce, especially from a psychological perspective. This underscores a significant need for research on how to effectively design human-AI interaction within leadership contexts.

## 1. Introduction

The ongoing digitalization is leading to a situation in which Artificial Intelligence (AI) increasingly takes on tasks that were traditionally reserved for human leaders (Brynjolfsson & McAfee, 2014). AI can make decisions, coordinate teams, and even generate personalized instructions (Glikson & Woolley, 2020). This shift has implications for various leadership styles. For instance, transformational leadership, which focuses on inspiring and motivating employees through vision, charisma, and individual consideration, may be difficult for AI to emulate authentically (Bass, 1985; Bass & Riggio, 2006). Similarly, transactional leadership, which is based on structured tasks, clear goals, and performancebased rewards, appears to be more compatible with AI systems, as these can be programmed to monitor performance metrics and provide contingent feedback (Burns, 1978; Bass, 1990). In addition, servant leadership, which emphasizes empathy, listening, and the well-being of employees, poses significant challenges for AI implementation, given its inherently human-centric orientation (Greenleaf, 1977; Eva et al., 2019).

On the other hand, aspects of laissez-faire leadership, characterized by a hands-off approach, could unintentionally emerge in AI-supported environments if responsibility is shifted too heavily to autonomous systems without sufficient human oversight (Skogstad et al., 2007). However, it remains unclear how employees respond to AI-supported leadership and which psychological mechanisms are necessary to foster acceptance and trust. Perceptions of authenticity, fairness, empathy and competence play crucial roles in this context and are tightly linked to the leadership style being simulated or enhanced by AI (Glikson & Woolley, 2020;

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Brynjolfsson & McAfee, 2014; Araujo et al., 2020). This paper therefore systematically examines the current state of research and analyzes the challenges and opportunities that arise from AI-based leadership, particularly with respect to its alignment or misalignment with established leadership theories and styles.

## **2. Theoretical Background**

### **2.1. Digitalization and AI in Leadership**

Continual digitization fundamentally transforms organizational structures and leadership processes. In recent years, AI has evolved from a purely supportive technology to an active component of organizational decision-making. Jarrahi (2018) emphasizes that AI systems not only automate operational tasks but increasingly act as independent agents in strategic decision-making processes. His analysis highlights that AI systems are capable of making data-driven decisions, detecting patterns in large datasets, and thereby relieving leaders of complex tasks. He advocates for a symbiotic human-machine collaboration in which the complementary strengths of both actors are deliberately leveraged to manage complex, uncertain, and ambiguous decision-making situations efficiently and effectively. Additionally, the systematic review of the literature by Aziz et al. (2024) offers a comprehensive overview of the role of AI in leadership processes. The authors identify key topics such as ethical dilemmas, challenges in human-AI interaction, and long-term risks associated with the integration of AI into leadership roles.

The study underscores that AI is altering the nature of leadership by transforming decision-making, control mechanisms, and motivational techniques. It calls for more empirical research to better understand the complex relationship between AI and leadership and to develop effective strategies for successfully integrating AI into leadership practices. Frimpong and Wolfs (2024) analyze, through case studies of large organizations such as IBM, Google, and Amazon, how AI influences leadership practices. They demonstrate that AI improves decision-making, automates repetitive tasks, and strengthens employee engagement. At the same time, they point to challenges, including ethical issues and the need for new leadership competencies. These studies illustrate that the integration of AI into leadership roles brings both opportunities and challenges. AI fosters data-driven decision-making, has profound effects on leadership structures and dynamics, and ultimately increases internal process efficiency. Simultaneously, it raises questions about social influence, interpersonal communication, and moral responsibility. Therefore, the successful implementation of AI in leadership requires not only technological adjustments, but also a reevaluation of traditional leadership models and practices, as well as a deep understanding of the psychological and social implications of this transformation.

### **2.2. Trust and Acceptance in AI Systems**

The acceptance of AI systems within organizational contexts is largely dependent on the trust of users. Trust is considered a psychological prerequisite for overcoming uncertainty and perceived loss of control associated with autonomous technologies. Particularly in AI-supported leadership, where decision-making authority is partially transferred to machines, trust becomes a critical determinant for successful implementation (Mayer et al., 1995). Glikson and Woolley (2020), in their review, demonstrate that trust in AI is significantly influenced by how transparent, understandable, and error-tolerant a system is perceived to be. The more clearly users comprehend the functioning of an AI system, the more likely they are to accept its decisions, especially in sensitive contexts such as personnel management, which

traditionally relies on interpersonal trust. McKnight et al. (2011) further emphasize that trust in technological systems is based on three core factors: perceived ability (competence), integrity, and benevolence of the system or its developers.

When these characteristics are not met, due to a lack of transparency, limited explainability, or unexpected behavior, users' willingness to adopt such systems drops significantly. This is particularly true for systems that make autonomous decisions or aim to simulate social interactions. Madhavan and Wiegmann (2007) also stress that technical trust is determined not only by functional reliability, but by the system's ability to cooperate with human actors. In leadership contexts, this means that an AI system must not only make correct decisions, but also act in a socially compatible manner by providing explainable feedback, demonstrating consistent behavior, and communicating in a situationally appropriate way. Overall, trust is a key predictor of the acceptance of AI-supported leadership. It does not arise automatically from technical performance but requires deliberate efforts to ensure explainability, transparency, and human-centered interaction design. A lack of trust is one of the primary reasons for the rejection of such systems by both employees and leaders.

### **2.3. Current State of Research on AI-Supported Leadership**

The academic discourse on the use of Artificial Intelligence in leadership contexts is still in its early stages. Although recent studies show that AI is increasingly involved in decision-making processes, such as data analysis, forecasting models, or personnel planning (Jarrahi, 2018; Wilson & Daugherty, 2018), a systematic examination of AI as an autonomous leader is still lacking. In particular, the psychological and interpersonal demands that characterize traditional leadership remain largely unaddressed. Glikson and Woolley (2020), in their comprehensive literature review, emphasize that trust, emotional resonance, and social perception are central factors for the acceptance of AI in leadership. However, there is a notable lack of empirical studies exploring whether and how AI can exert leadership in the sense of interpersonal influence.

While many studies investigate AI in organizational settings as a supportive tool (e.g., for decision-making assistance), there is a shortage of conceptual frameworks and empirical research that analyze AI as an independent bearer of leadership responsibility. Jarrahi (2018) proposes a model of "augmented intelligence," in which humans and machines make decisions collaboratively. Still, it remains unclear how such systems perform in social leadership situations, such as in motivation, conflict management, or relationship building. Moreover, the research highlights a gap between technological feasibility and human acceptance. Initial conceptual contributions, such as those by Raisch & Krakowski (2021), discuss how AI might assume traditional leadership functions like control, motivation, and goal-setting. However, they also warn of social side effects such as loss of trust, dehumanization, and cognitive dissonance among employees. Overall, there is a clear need for further research: While existing literature provides valuable insights into technical integration and efficiency gains through AI, it neglects the psychological, social, and cultural dimensions of leadership. The role of AI as a leadership subject, in the sense of a socially accepted, empathetic, and trustworthy entity, remains mostly theoretical and empirically underexplored.

### **3. Methodology**

This study is based on a systematic literature review, following the established guidelines by Webster and Watson (2002) and vom Brocke et al. (2009). The objective was to comprehensively capture, analyze, and identify research gaps regarding the role of Artificial Intelligence (AI) in leadership contexts. The literature search was conducted across the

academic databases: Scopus, Web of Science, Google Scholar, EBSCOhost, PsycINFO, Business Source Premier, AIS eLibrary. These databases were selected because they provide comprehensive coverage of peer-reviewed research in management, organizational psychology, information systems, and human factors, thereby ensuring both disciplinary breadth and methodological quality of the included studies. In addition, selected leading journals from the fields of management, organizational psychology, information systems, and human factors were included. The search strategy was based on a combination of relevant keywords and Boolean operators, including:

- “Artificial Intelligence AND Leadership”
- “AI AND Decision-Making”
- “Human-AI Collaboration”
- “Trust in Artificial Intelligence”
- ‘Algorithmic Management AND Leadership’

Search results were initially screened based on title, abstract, and keywords. An iterative screening process was applied to ensure the quality and relevance of the included studies. After removing duplicates, studies were excluded if they did not align with the thematic focus of this review. A total of 72 peer-reviewed articles were ultimately included. These studies were systematically coded and examined in terms of their research design, theoretical framing, thematic focus, and key findings. For the purpose of methodological transparency, all reviewed studies were documented in a structured review chart. The inclusion criteria for the final sample were as follows:

- Peer-reviewed journal articles, academic books, or book chapters
- Published primarily between 2010 and 2024, with relevant foundational works from earlier years also considered
- A thematic focus on AI in decision-making, management, or leadership processes
- Inclusion of empirical, conceptual, or theoretical studies
- A clear reference to psychological, social, or organizational aspects of AI in leadership contexts

Exclusion Criteria:

- Focused exclusively on technical aspects (e.g., algorithmic optimization without social context)
- Were non-academic publications (e.g., reports, opinion pieces)
- Lacked any reference to leadership or its organizational embeddedness
- Duplicate records or inaccessible full texts

The analysis followed an integrative approach, aiming to identify both descriptive patterns and conceptual linkages among the selected contributions. The goal was to generate a nuanced picture of the current research landscape, detect dominant paradigms, and highlight open questions for future inquiry.

### 3.1. Review Chart

To gain a structured overview of key research topics at the intersection of Artificial Intelligence (AI) and leadership, a content-based, qualitative categorization of the contributions according to their respective areas of focus (findings) was conducted. Building on this, recurring thematic priorities were identified that are particularly prominent in the academic discourse on AI. The resulting focus themes serve as column headings in the present Table 1. Each of these categories represents a significant dimension discussed within the analyzed literature. The assignment of each publication to one or more thematic categories was based on a content-analytical interpretation of the individual studies. An "X" in a given cell indicates that the corresponding article makes a substantial contribution to the respective topic. Assignments to multiple categories are not only permissible but often necessary, as many of the research papers address several themes concurrently.

Table 1. Review Chart of the Literature Analysis (own compilation)

Authors (Year)	Key Findings	AI & Organizations	AI Leadership & Teamwork	Human-AI Interaction & Trust	Ethics	Explainable AI	Public Perception of AI
Alharbi (2025)	Empirical study on the influence of AI on transformational leadership in Saudi Arabia		X				
Amershi et al. (2019)	Development of guidelines for effective human-AI interaction			X			
Awad et al. (2018)	Study on moral preferences in algorithmic decision-making				X		
Aziz et al. (2024)	Systematic review on AI-supported leadership		X				
Batool et al. (2025)	Analysis of existing governance frameworks for AI				X		
Bevilacqua et al. (2025)	Overview of AI support in top management	X	X				
Bigman & Gray (2018)	Aversion to moral decisions made by AI				X		
Billings et al. (2012)	Development of trust in robots through design principles			X			
Binns et al. (2018)	Perceptions of fairness in algorithmic decision-making				X		

<b>Authors (Year)</b>	<b>Key Findings</b>	<b>AI &amp; Organizations</b>	<b>AI Leadership &amp; Teamwork</b>	<b>Human-AI Interaction &amp; Trust</b>	<b>Ethics</b>	<b>Explainable AI</b>	<b>Public Perception of AI</b>
Bock & von der Oelsnitz (2025)	Structured review of leadership competencies in the context of AI	X	X				
Burton et al. (2020)	Overview of reasons for the rejection of algorithmic decision aids				X		
Buschmeyer et al. (2024)	Evaluation of the effectiveness of AI-supported decision systems in the workplace	X					
Castelo et al. (2019)	Rejection of algorithms depending on the nature of the task				X		
Coeckelbergh (2020)	Comprehensive introduction to ethical issues of AI				X		
Dorner (2024)	Study on public attitudes toward AI-supported leadership		X				X
Dwivedi et al. (2021)	Multidisciplinary perspectives and challenges of AI in business and politics	X					
Estherita & Shanmugam (2024)	Contribution on the role of AI in transformational leadership		X				
Frangos (2022)	Analysis of organizational prerequisites for the use of AI in leadership roles	X	X				
Frimpong & Wolfs (2024)	Case-study-based analysis of AI and leadership in organizations	X	X				
Georganta & Ulfert (2024)	Trust in AI team members and implications for teamwork		X	X			
Gillespie et al. (2025)	Global study on trust, attitudes, and usage of AI			X			X
Glikson & Woolley (2020)	Systematic review of empirical studies on trust in AI			X			

Authors (Year)	Key Findings	AI & Organizations	AI Leadership & Teamwork	Human-AI Interaction & Trust	Ethics	Explainable AI	Public Perception of AI
Gomez et al. (2024)	Taxonomy of interaction patterns in AI-assisted decision-making			X			
Gunning & Aha (2019)	Overview of DARPA's XAI initiatives for explainability in AI systems					X	
Guo et al. (2024)	Influence of cognitive load on trust in human-AI collaboration			X			
Gursoy et al. (2019)	Consumer acceptance of AI-supported services						X
Haefner et al. (2021)	Link between AI application and innovation management	X					
Hammerschmidt et al. (2024)	Influence of leadership competencies on organizational AI capabilities	X	X				
Hancock et al. (2011)	Meta-analysis of factors influencing trust in robots			X			
Hemmer et al. (2024)	Study of complementarity between humans and AI in collaborative settings	X		X			
Hougaard et al. (2024)	Argument that core human leadership qualities remain irreplaceable by AI		X				
Huang & Rust (2018)	Examination of AI's role in the service industry	X					
Jarrahi (2018)	Concept of human-AI symbiosis in decision-making processes	X		X			
Jussupow et al. (2021)	Influence of AI on decision-making processes in medical contexts	X					
Kandasamy (2024)	Development of a framework for ethical		X		X		

<b>Authors (Year)</b>	<b>Key Findings</b>	<b>AI &amp; Organizations</b>	<b>AI Leadership &amp; Teamwork</b>	<b>Human-AI Interaction &amp; Trust</b>	<b>Ethics</b>	<b>Explainable AI</b>	<b>Public Perception of AI</b>
	leadership in the context of AI						
Kaushal et al. (2023)	Bibliometric analysis of AI's relationship with Human Resource Management	X					
Keding (2021)	Overview of four decades of AI research in strategic management	X					
Kendall Roundtree (2024)	Review of public perceptions and attitudes toward AI						X
Lee & See (2004)	Fundamentals for designing trustworthy automated systems			X			
Logg et al. (2019)	Under certain conditions, people prefer algorithmic over human judgment				X		
Longoni et al. (2019)	Study on why people reject AI in medical contexts	X		X	X		
Lu & Jiang (2024)	Reassessment of trust in human-AI collaboration with a focus on generative AI			X			
Madhavan & Wiegmann (2007)	Comparative analysis of trust between humans and automated systems			X			
McGrath et al. (2024)	Process framework for actively managing trust in human-AI collaboration			X			
McKnight et al. (2011)	Analysis of components and measurement of trust in technology			X			
Mehrotra et al. (2023)	Systematic review on fostering appropriate trust in AI			X			
Mittelstadt et al. (2016)	Overview of ethical challenges in algorithmic decision-making				X		

<b>Authors (Year)</b>	<b>Key Findings</b>	<b>AI &amp; Organizations</b>	<b>AI Leadership &amp; Teamwork</b>	<b>Human-AI Interaction &amp; Trust</b>	<b>Ethics</b>	<b>Explainable AI</b>	<b>Public Perception of AI</b>
Moor (2006)	Discussion of fundamental challenges in machine ethics				X		
Nguyen & Elbanna (2025)	Overview and research agenda on human-AI augmentation in professional settings	X		X			
Pago (2024)	Systematic review of the positive impacts and applications of AI in leadership		X				
Parasuraman & Riley (1997)	Categorization and analysis of human behavior in relation to automation	X			X		
Peifer et al. (2022)	Effects of AI on leadership behavior and roles		X				
Raftopoulos & Hamari (2023)	Opportunities and challenges in implementing AI in the workplace	X					
Rahwan et al. (2019)	Call for a new interdisciplinary science to analyze machine behavior			X	X		
Rai (2020)	Importance of explainability in AI systems for trust and acceptance			X		X	
Raisch & Krakowski (2021)	Analysis of the tension between automation and augmentation through AI			X	X		
Ribeiro et al. (2016)	Methods for explaining ML model predictions to foster trust			X		X	
Riley & Dixon (2024)	Framework for analyzing emotional and cognitive trust in AI			X			
Schmitt (2024)	Role of the Chief AI Officer in executive leadership	X	X				

<b>Authors (Year)</b>	<b>Key Findings</b>	<b>AI &amp; Organizations</b>	<b>AI Leadership &amp; Teamwork</b>	<b>Human-AI Interaction &amp; Trust</b>	<b>Ethics</b>	<b>Explainable AI</b>	<b>Public Perception of AI</b>
Seeber et al. (2020)	Research agenda for integrating AI as team members	X	X				
Shamim et al. (2023)	Empirical study on trust in AI among frontline employees in emerging economies			X			
Siau & Wang (2018)	Discussion of factors that foster trust in AI systems			X			
Sposato (2024)	New requirements and approaches for leadership training in the age of AI		X				
Sposato (2025)	Systematization of AI applications in educational leadership	X	X				
Syam & Sharma (2018)	Use of AI and ML in sales research and practice	X					
Taddeo & Floridi (2018)	Potential of AI as an ethical and societal opportunity				X		
Vagas Portillo (2025)	Analysis of how AI transforms traditional leadership approaches		X				
Wilson & Daugherty (2018)	Advocacy for human-AI collaboration (“Collaborative Intelligence”)	X		X			
Xu et al. (2019)	Overview of the history, challenges, and research in explainable AI					X	
Yuan et al. (2024)	Systematic review of AI’s impact on organizational performance	X					
Zaman (2025)	Theoretical contribution on autonomy in AI-supported leadership		X				
Zywiołek (2024)	Building trust between humans and AI in industrial contexts	X		X			
<b>Summary</b>		<b>25</b>	<b>20</b>	<b>27</b>	<b>16</b>	<b>4</b>	<b>4</b>

### **3.2. Key Findings of the Literature Review**

Academic engagement with Artificial Intelligence (AI) encompasses a wide array of questions and thematic focal points. At the center are both specific applications and limitations of AI systems, as well as overarching research trends and thematic clusters derived from recent literature. The following summarizes the central problem areas and developmental trajectories in six subfields.

#### **3.2.1. Bias, Prejudice, and Ethical Challenges**

One major tension in AI research concerns algorithmic bias and perceptions of unfair treatment. Studies such as Binns et al. (2018) and Awad et al. (2018) show that algorithmic decisions are often perceived as unfair, particularly when they reduce human complexity to numerical categories. Mittelstadt et al. (2016) further highlight systematic transparency deficits that can lead to ethical dilemmas. This issue is exacerbated by cultural differences in evaluating fairness and moral preferences, as shown by Awad et al. Research into “machine behavior” (Rahwan et al., 2019) calls for AI to be regarded as autonomously acting entities, raising fundamental questions of control and accountability.

#### **3.2.2. Limitations and Explainability of AI Systems**

Another area of tension involves the technical and conceptual limits of explainability in AI systems. Gunning & Aha (2019), Ribeiro et al. (2016), and Rai (2020) advocate for increased efforts in the field of Explainable AI (XAI) to foster trust and ensure accountability. However, Xu et al. (2019) demonstrate that explainability often comes at the cost of model accuracy, making practical implementation challenging.

#### **3.2.3. Public Perception and Acceptance of AI**

Public attitudes toward AI are strongly shaped by skepticism and bias, especially in sensitive applications. Studies such as Longoni et al. (2019), Burton et al. (2020), and Castelo et al. (2019) examine the phenomenon of “algorithm aversion,” where people reject AI-based decisions even when they are objectively superior. Acceptance is also context-dependent and influenced by emotional, cultural, and moral factors (Gillespie et al., 2025; Roundtree, 2024; Dorner, 2024).

#### **3.2.4. Application Areas and Organizational Perspectives**

The practical application of AI is broad but domain-specific. Key fields of use include:

- 1 Leadership and management (Frangos, 2022; Schmitt, 2024)
- 2 Human Resource Management (Kaushal et al., 2023)
- 3 Medical diagnostics (Jussupow et al., 2021)
- 4 Sales and service (Syam & Sharma, 2018; Huang & Rust, 2018)
- 5 Education and training (Sposato, 2025; Kandasamy, 2024)

Other contributions analyze the organizational prerequisites for successful AI implementation (Nguyen & Elbanna, 2025; Yuan et al., 2024) as well as the opportunities and risks in traditional work contexts (Raftopoulos & Hamari, 2023). The concept of “collaborative intelligence” between humans and AI is emphasized by Jarrahi (2018).

#### **3.2.5. Trust and Human-AI Interaction**

A significant research strand is dedicated to understanding how trust in AI can be cultivated. Empirical studies (e.g., Hancock et al., 2011; McKnight et al., 2011) and systematic reviews (Glikson & Woolley, 2020; Mehrotra et al., 2023) identify key factors influencing trust in AI systems. Special emphasis is placed on transparency, explainability, and emotional intelligence (Riley & Dixon, 2024; Shamim et al., 2023).

### **3.2.6. AI in Leadership and Teamwork**

The impact of AI on leadership and teamwork is another central cluster. Studies on AI-supported leadership (Alharbi, 2025; Estherita & Shanmugam, 2024) show potential for AI to serve in a supportive leadership role, particularly in transformational leadership. However, it remains unclear whether AI merely supplements or potentially replaces human leadership (Hougaard et al., 2024; Zaman, 2025). The use of AI in teams also raises questions about role distribution, perceived autonomy, and effective collaboration (Seeber et al., 2020; McGrath et al., 2024).

### **3.2.7. Summary**

- The acceptance of technological systems and trust in AI are generally well-researched.
- Theoretical and ethical considerations of AI as a leader exist, but there is a lack of empirical studies.
- Human-AI collaboration is examined primarily at the operational level, not in leadership relationships.
- The psychological mechanisms underlying leadership are largely neglected in the context of AI-supported leadership.
- Although there are empirical studies on psychological conditions for building trust in AI, these do not focus specifically on AI in leadership roles.

## **3.3. Research Gap**

Despite increasing academic interest in the integration of Artificial Intelligence (AI) into business and management, empirical research on AI in explicit leadership functions remains limited. While conceptual papers highlight the potential of AI-supported leadership (Glikson & Woolley, 2020; Jarrahi, 2018; Berente et al., 2021), there is a lack of robust empirical studies that validate these ideas in practice. Initial questions remain regarding the acceptance, effectiveness, and psychological impact of AI in leadership roles. A deeper understanding requires interdisciplinary approaches that consider psychological, organizational, and technological perspectives to explore the implications of AI-enabled leadership for practice and theory.

## **4. Discussion**

This paper has examined the role of AI-supported leadership and the conditions under which it may be meaningfully integrated into organizational contexts. The findings indicate that AI has the potential to enhance leadership by increasing efficiency and fairness, reducing human biases and errors in decision-making, and enabling more data-informed and individualized approaches to employee development. However, these opportunities are counterbalanced by notable challenges. Among them are the potential erosion of the social and relational dimensions of leadership, ethical concerns related to responsibility and transparency, and the

risk of emotional distancing or alienation among employees. These results partially confirm the expectations laid out in the research questions. While the analysis provides valuable insights into how AI can contribute to leadership and under what conditions it may be accepted, it also reveals that AI should not be understood as a replacement for human leaders. Instead, the evidence supports the need for hybrid leadership models, in which human and artificial agents complement one another. Such models require careful attention to role clarity, communication dynamics, and ethically grounded design to ensure both psychological safety and team acceptance. That said, several methodological limitations should be acknowledged. Although the literature review was conducted systematically, there remains a non-negligible risk that relevant studies, particularly recent or interdisciplinary ones, may have been overlooked. This limitation should be taken into account when interpreting the breadth of the conclusions. Ultimately, the successful integration of AI into leadership practice requires more than technological competence; it demands a deep understanding of human behavior and social interaction. AI systems must not only deliver accurate decisions but also exhibit emotional and social intelligence in order to be perceived as trustworthy and legitimate. Without intentional, psychologically informed design, AI-driven leadership risks being met with skepticism or passive resistance. Therefore, future research and practice should prioritize human-centered, empirically grounded approaches to ensure that the transformative potential of AI in leadership can be realized without undermining motivation, cohesion, or well-being within teams.

## **5. Conclusion and Perspectives**

Artificial Intelligence is set to play an increasingly important role in leadership processes in the future. For AI to be successfully accepted and utilized as a leader, it must integrate classical psychological leadership principles such as trust, communication, motivation, and empathy. These human-centered aspects are critical for shaping AI systems that are not only functionally competent but also socially and emotionally aligned with organizational values and employee expectations. For future research, several areas are particularly important:

- Empirical investigations into the perception of AI leadership How do employees and leaders experience, evaluate, and respond to AI in leadership positions?
- Development of psychological models for human-AI interaction in leadership Which mechanisms drive trust, motivation, and resistance, and how can they be positively influenced?
- Design of hybrid leadership models (Human + AI) How can responsibilities be shared meaningfully between humans and AI in leadership contexts?

From a practical standpoint, the insights of this review suggest that organizations should begin to reflect on the potential integration of AI into leadership practices. This does not necessarily mean replacing human leaders but rather identifying areas where AI can complement leadership by enhancing transparency in decision-making, supporting unbiased evaluations, or improving the timeliness of feedback. Such applications remain context-dependent and must be carefully aligned with organizational culture and employee expectations. In this regard, organizational “code of conduct,” which today primarily focus on human leadership and employee relations, may in the future need to be extended to explicitly address the role of AI in leadership. This includes clarifying potential areas of application, defining boundaries for AI involvement, and outlining procedures for employees to voice concerns when dissatisfied with AI-supported leadership. While concrete implementation strategies require further empirical evidence, the review highlights that preparing organizations for hybrid forms of

leadership, combining human judgment with AI-supported functions, can serve as an initial, low-risk pathway toward leveraging the potential of AI in leadership.

## References

- Alharbi, B. F. (2025). The role of artificial intelligence and transformational leadership in the digital era: A study in Saudi Arabia. *International Journal of Innovative Research and Scientific Studies*, 8(1), 2213–2220. <https://doi.org/10.53894/ijirss.v8i1.4932>
- Amershi, S., Weld, D., Vorvoreanu, M., Fournery, A., Nushi, B., Collisson, P., Suh, J., Iqbal, S., Bennett, P. N., Inkpen, K., Teevan, J., Kikin-Gil, R., & Horvitz, E. (2019). Guidelines for Human-AI Interaction. *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*, 1–13. <https://doi.org/10.1145/3290605.3300233>
- Araujo, T., Helberger, N., Kruijemeier, S., & de Vreese, C. H. (2020). In AI we trust? Perceptions about automated decision-making by artificial intelligence. *AI & SOCIETY*, 35, 611–623. <https://doi.org/10.1007/s00146-019-00931-w>
- Awad, E., Dsouza, S., Kim, R., Schulz, J., Henrich, J., Shariff, A., Bonnefon, J.-F., & Rahwan, I. (2018). The Moral Machine experiment. *Nature*, 563(7729), 59–64. <https://doi.org/10.1038/s41586-018-0637-6>
- Aziz, M. F., Rajesh, J. I., Jahan, F., McMurray, A., Ahmed, N., Narendran, R., & Harrison, C. (2024). AI-powered leadership: A systematic literature review. *Journal of Managerial Psychology, ahead-of-print*(ahead-of-print). <https://doi.org/10.1108/JMP-05-2024-0389>
- Bass, B. M. (1985). *Leadership and performance beyond expectations*. The Free Press. <http://archive.org/details/leadershipperfor0000bass>
- Bass, B. M. (1990). From transactional to transformational leadership: Learning to share the vision. *Organizational Dynamics*, 18(3), 19–31. [https://doi.org/10.1016/0090-2616\(90\)90061-S](https://doi.org/10.1016/0090-2616(90)90061-S)
- Bass, B. M., & Riggio, R. E. (2006). *Transformational leadership* (2. Aufl.). Lawrence Erlbaum Associates Publishers. <http://archive.org/details/transformational0000bass>
- Batool, A., Zowghi, D., & Bano, M. (2025). AI governance: A systematic literature review. *AI and Ethics*. <https://doi.org/10.1007/s43681-024-00653-w>
- Bevilacqua, S., Masárová, J., Perotti, F. A., & Ferraris, A. (2025). Enhancing top managers' leadership with artificial intelligence: Insights from a systematic literature review. *Review of Managerial Science*. <https://doi.org/10.1007/s11846-025-00836-7>
- Bigman, Y. E., & Gray, K. (2018). People are averse to machines making moral decisions. *Cognition*, 181, 21–34. <https://doi.org/10.1016/j.cognition.2018.08.003>
- Billings, D. R., Schaefer, K. E., Chen, J. Y. C., & Hancock, P. A. (2012). Human-robot interaction: Developing trust in robots. *Proceedings of the Seventh Annual ACM/IEEE International Conference on Human-Robot Interaction*, 109–110. <https://doi.org/10.1145/2157689.2157709>
- Binns, R., Van Kleek, M., Veale, M., Lyngs, U., Zhao, J., & Shadbolt, N. (2018). „It's Reducing a Human Being to a Percentage“; Perceptions of Justice in Algorithmic Decisions. 1–14. <https://doi.org/10.31235/osf.io/9wqxr>
- Bock, T., & Oelsnitz, D. von der. (2025). Leadership-competences in the era of artificial intelligence – a structured review. *Strategy & Leadership*, 53(3), 235–255. <https://doi.org/10.1108/SL-09-2024-0100>

- Brynjolfsson, E., & McAfee, A. (2014). *The Second Machine Age: Work, progress, and prosperity in a time of brilliant technologies*. W.W. Norton & Co.
- Burns, J. M. (1978). *Leadership*. Harper & Row.
- Burton, J. W., Stein, M. K., & Jensen, T. B. (2020). A Systematic Review of Algorithm Aversion in Augmented Decision Making. *Journal of Behavioral Decision Making*, 33(2), 220–239. <https://doi.org/10.1002/bdm.2155>
- Buschmeyer, K., Zenner, J., & Hatfield, S. (2024). Effectiveness of AI-based decision support systems in work environment: A systematic literature review. *International Journal of Human Factors and Ergonomics*, 11(5), 1–54. <https://doi.org/10.1504/IJHFE.2024.142761>
- Castelo, N., Bos, M. W., & Lehmann, D. R. (2019). Task-Dependent Algorithm Aversion. *Journal of Marketing Research*, 56(5), 809–825.
- Coeckelbergh, M. (2020). *AI Ethics*. MIT Press.
- Dorner, F.-C. (2024). *Public Perception of Artificial Intelligence in Leadership: Trust, Skills, and Desirability*. Universidade Católica Portuguesa.
- Dwivedi, Y. K., Hughes, L., Ismagilova, E., Aarts, G., Coombs, C., Crick, T., Duan, Y., Dwivedi, R., Edwards, J., Eirug, A., Galanos, V., Ilavarasan, P. V., Janssen, M., Jones, P., Kar, A. K., Kizgin, H., Kronemann, B., Lal, B., Lucini, B., ... Williams, M. D. (2021). Artificial Intelligence (AI): Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. *International Journal of Information Management*, 57. <https://doi.org/10.1016/j.ijinfomgt.2019.08.002>
- Estherita, A., & Shanmugam, V. (2024). Influence of artificial intelligence on transformational leadership. *AIP Conf. Proc.* 3112, 020013. <https://doi.org/10.1063/5.0211330>
- Eva, N., Robin, M., Sendjaya, S., van Dierendonck, D., & Liden, R. C. (2019). Servant Leadership: A systematic review and call for future research. *The Leadership Quarterly*, 30(1), 111–132. <https://doi.org/10.1016/j.leaqua.2018.07.004>
- Frangos, P. (2022). An Integrative Literature Review on Leadership and Organizational Readiness for AI. *International Conference on AI Research*, 4(1), Article 1. <https://doi.org/10.34190/icaire.4.1.834>
- Frimpong, V., & Wolfs, B. (2024). Predictive Effect of AI on Leadership: Insights From Public Case Studies on Organizational Dynamics. *International Journal of Business Administration*, 15(3), 39–48. <https://doi.org/10.5430/ijba.v15n3p39>
- Georganta, E., & Ulfert, A.-S. (2024). Would you trust an AI team member? Team trust in human–AI teams. *Journal of Occupational and Organizational Psychology*, 97(3), 1212–1241. <https://doi.org/10.1111/joop.12504>
- Gillespie, N., Lockey, S., Ward, T., Macdade, A., & Hassed, G. (2025). *Trust, attitudes and use of artificial intelligence: A global study 2025*. The University of Melbourne and KPMG. <https://doi.org/10.26188/28822919>
- Glikson, E., & Woolley, A. W. (2020). Human Trust in Artificial Intelligence: Review of Empirical Research. *Academy of Management Annals*, 14(2), 627–660. <https://doi.org/10.5465/annals.2018.0057>
- Gomez, C., Cho, S. M., Ke, S., Huang, C.-M., & Unberath, M. (2024). *Human-AI collaboration is not very collaborative yet: A taxonomy of interaction patterns in AI-assisted decision making from a systematic review* (arXiv:2310.19778). arXiv. <https://doi.org/10.48550/arXiv.2310.19778>

- Greenleaf, R. K. (2002). *Servant leadership: A journey into the nature of legitimate power and greatness* (L. C. Spears, Hrsg.; 25th anniversary ed., S. x, 370). Paulist Press.
- Gunning, D., & Aha, D. W. (2019). DARPA's Explainable Artificial Intelligence Program. *AI Magazine*, 40(2), 44–58. <https://doi.org/10.1609/aimag.v40i2.2850>
- Guo, H., Wu, B., Li, Q., Ding, Z., Jiang, F., & Yi, C. (2024). *Impact of Cognitive Load on Human Trust in Hybrid Human-Robot Collaboration* (arXiv:2412.20654). arXiv. <https://doi.org/10.48550/arXiv.2412.20654>
- Gursoy, D., Chi, O. H., Lu, L., & Nunkoo, R. (2019). Consumers acceptance of artificially intelligent (AI) device use in service delivery. *International Journal of Information Management*, 49, 157–169. <https://doi.org/10.1016/j.ijinfomgt.2019.03.008>
- Haefner, N., Wincent, J., Parida, V., & Gassmann, O. (2021). Artificial intelligence and innovation management: A review, framework, and research agenda. *Technological Forecasting and Social Change*, 162. <https://doi.org/10.1016/j.techfore.2020.120392>
- Hammerschmidt, T., Stolz, K., & Posegga, O. (2024). How Leaders' Ambidexterity and Literacy Impact the AI Capabilities of Organizations. *ECIS 2024 Proceedings*, 1–17. <https://fis.uni-bamberg.de/handle/uniba/95652>
- Hancock, P. A., Billings, D. R., Schaefer, K. E., Chen, J. Y. C., de Visser, E. J., & Parasuraman, R. (2011). A meta-analysis of factors affecting trust in human-robot interaction. *Human Factors*, 53(5), 517–527. <https://doi.org/10.1177/0018720811417254>
- Hemmer, P., Schemmer, M., Köhl, N., Vössing, M., & Satzger, G. (2024). *Complementarity in Human-AI Collaboration: Concept, Sources, and Evidence* (arXiv:2404.00029). arXiv. <https://doi.org/10.48550/arXiv.2404.00029>
- Hougaard, R., Carter, J., & Stembridge, R. (2024). The Best Leaders Can't Be Replaced by AI. *Harvard Business Review*. <https://hbr.org/2024/01/the-best-leaders-cant-be-replaced-by-ai>
- Huang, M.-H., & Rust, R. T. (2018). Artificial Intelligence in Service. *Journal of Service Research*, 21(2), 155–172. <https://doi.org/10.1177/1094670517752459>
- Jarrahi, M. H. (2018). Artificial intelligence and the future of work: Human-AI symbiosis in organizational decision making. *Business Horizons*, 61(4), 577–586. <https://doi.org/10.1016/j.bushor.2018.03.007>
- Jussupow, E., Spohrer, K., Heinzl, A., & Gawlitza, J. (2021). Augmenting Medical Diagnosis Decisions? An Investigation into Physicians' Decision-Making Process with Artificial Intelligence. *Information Systems Research*, 32(3), 713–735. <https://doi.org/10.1287/isre.2020.0980>
- Kandasamy, U. C. (2024). *Ethical Leadership in the Age of AI Challenges, Opportunities and Framework for Ethical Leadership* (arXiv:2410.18095). arXiv. <https://doi.org/10.48550/arXiv.2410.18095>
- Kaushal, N., Kaurav, R. P. S., Sivathanu, B., & Kaushik, N. (2023). Artificial intelligence and HRM: Identifying future research Agenda using systematic literature review and bibliometric analysis. *Management Review Quarterly*, 73, 455–493. <https://doi.org/10.1007/s11301-021-00249-2>
- Keding, C. (2021). Understanding the interplay of artificial intelligence and strategic management: Four decades of research in review. *Management Review Quarterly*, 71, 91–134. <https://doi.org/10.1007/s11301-020-00181-x>

- Kendall Roundtree, A. (2024). Public Perception of AI: A Review. In H. Degen & S. Ntoa (Hrsg.), *HCI International 2024 – Late Breaking Papers* (Bd. 15382). Springer Nature Switzerland. [https://doi.org/10.1007/978-3-031-76827-9\\_5](https://doi.org/10.1007/978-3-031-76827-9_5)
- Lee, J. D., & See, K. A. (2004). Trust in Automation: Designing for Appropriate Reliance. *Human Factors*, 46(1), 50–80. [https://doi.org/10.1518/hfes.46.1.50\\_30392](https://doi.org/10.1518/hfes.46.1.50_30392)
- Logg, J. M., Minson, J. A., & Moore, D. A. (2019). Algorithm appreciation: People prefer algorithmic to human judgment. *Organizational Behavior and Human Decision Processes*, 151, 90–103. <https://doi.org/10.1016/j.obhdp.2018.12.005>
- Longoni, C., Bonezzi, A., & Morewedge, C. K. (2019). Resistance to Medical Artificial Intelligence. *Journal of Consumer Research*, 46(4), 629–650. <https://doi.org/10.1093/jcr/ucz013>
- Lu, Y., & Jiang, B. (2024). *Rethinking Trust in Human-AI Collaboration in the Generative AI Era*. International Conference on Computers in Education (ICCE). <https://doi.org/10.58459/icce.2024.4836>
- Madhavan, P., & Wiegmann, D. A. (2007). Similarities and differences between human–human and human–automation trust: An integrative review. *Theoretical Issues in Ergonomics Science*, 8(4), 277–301. <https://doi.org/10.1080/14639220500337708>
- Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An Integrative Model of Organizational Trust. *The Academy of Management Review*, 20(3), 709–734. <https://doi.org/10.2307/258792>
- McGrath, M. J., Duenser, A., Lacey, J., & Paris, C. (2024). *Collaborative human-AI trust (CHAI-T): A process framework for active management of trust in human-AI collaboration* (arXiv:2404.01615). arXiv. <https://doi.org/10.48550/arXiv.2404.01615>
- McKnight, D. H., Carter, M., Thatcher, J. B., & Clay, P. F. (2011). Trust in a specific technology: An Investigation of its Components and Measures. *ACM Transactions on Management Information Systems*, 2(2), 1–25. <https://doi.org/10.1145/1985347.1985353>
- Mehrotra, S., Degachi, C., Vereschak, O., Jonker, C. M., & Tielman, M. L. (2023). *A Systematic Review on Fostering Appropriate Trust in Human-AI Interaction* (arXiv:2311.06305). arXiv. <https://doi.org/10.48550/arXiv.2311.06305>
- Mittelstadt, B. D., Allo, P., Taddeo, M., Wachter, S., & Floridi, L. (2016). The ethics of algorithms: Mapping the debate. *Big Data & Society*, 3(2), 1–21. <https://doi.org/10.1177/2053951716679679>
- Moor, J. H. (2006). The Nature, Importance, and Difficulty of Machine Ethics. *IEEE Intelligent Systems*, 21(4), 18–21. <https://doi.org/10.1109/MIS.2006.80>
- Nguyen, T., & Elbanna, A. (2025). Understanding Human-AI Augmentation in the Workplace: A Review and a Future Research Agenda. *Information Systems Frontiers*. <https://doi.org/10.1007/s10796-025-10591-5>
- Pago, L. M. (2024). Artificial Intelligence Empowerment in Leadership: A Systematic Review of Positive Impacts and Applications. *International Journal of Multidisciplinary Research and Analysis*, 7(8), 4118–4125. <https://doi.org/10.47191/ijmra/v7-i08-57>
- Parasuraman, R., & Riley, V. (1997). Humans and Automation: Use, Misuse, Disuse, Abuse. *Human Factors*, 39(2), 230–253. <https://doi.org/10.1518/001872097778543886>

- Peifer, Y., Jeske, T., & Hille, S. (2022). Artificial Intelligence and its Impact on Leaders and Leadership. *Procedia Computer Science*, 200, 1024–1030. <https://doi.org/10.1016/j.procs.2022.01.301>
- Raftopoulos, M., & Hamari, J. (2023). *Artificial Intelligence in the Workplace: Implementation Challenges and Opportunities*. Americas Conference on Information Systems (AMCIS), Panama.
- Rahwan, I., Cebrian, M., Obradovich, N., Bongard, J., Bonnefon, J.-F., Breazeal, C., Crandall, J. W., Christakis, N. A., Couzin, I. D., Jackson, M. O., Jennings, N. R., Kamar, E., Kloumann, I. M., Larochelle, H., Lazer, D., McElreath, R., Mislove, A., Parkes, D. C., Pentland, A. ‘Sandy’, ... Wellman, M. (2019). Machine behaviour. *Nature*, 568(7753), 477–486. <https://doi.org/10.1038/s41586-019-1138-y>
- Rai, A. (2020). Explainable AI: from black box to glass box. *Journal of the Academy of Marketing Science*, 48, 137–141. <https://doi.org/10.1007/s11747-019-00710-5>
- Raisch, S., & Krakowski, S. (2021). Artificial Intelligence and Management: The Automation–Augmentation Paradox. *Academy of Management Review*, 46(1), 192–210. <https://doi.org/10.5465/amr.2018.0072>
- Ribeiro, M. T., Singh, S., & Guestrin, C. (2016). „Why Should I Trust You?“. Explaining the Predictions of Any Classifier. *Proceedings of the 22nd ACM SIGKDD International Conference on Knowledge Discovery and Data Mining*, 1135–1144. <https://doi.org/10.1145/2939672.2939778>
- Riley, B. K., & Dixon, A. (2024). Emotional and cognitive trust in artificial intelligence: A framework for identifying research opportunities. *Current Opinion in Psychology*, 58. <https://doi.org/10.1016/j.copsyc.2024.101833>
- Schmitt, M. (2024). *Strategic Integration of Artificial Intelligence in the C-Suite: The Role of the Chief AI Officer* (arXiv:2407.10247). arXiv. <https://doi.org/10.48550/arXiv.2407.10247>
- Seeber, I., Bittner, E., Briggs, R. O., de Vreede, T., de Vreede, G.-J., Elkins, A., Maier, R., Merz, A. B., Oeste-Reiß, S., Randrup, N., Schwabe, G., & Söllner, M. (2020). Machines as teammates: A research agenda on AI in team collaboration. *Information & Management*, 57(2). <https://doi.org/10.1016/j.im.2019.103174>
- Shamim, S., Yang, Y., Ul Zia, N., Khan, Z., & Shariq, S. M. (2023). Mechanisms of cognitive trust development in artificial intelligence among front line employees: An empirical examination from a developing economy. *Journal of Business Research*, 167. <https://doi.org/10.1016/j.jbusres.2023.114168>
- Siau, K., & Wang, W. (2018). Building Trust in Artificial Intelligence, Machine Learning, and Robotics. *Cutter Business Technology Journal*, 31(2).
- Skogstad, A., Einarsen, S., Torsheim, T., Aasland, M. S., & Hetland, H. (2007). The destructiveness of laissez-faire leadership behavior. *Journal of Occupational Health Psychology*, 12(1), 80–92. <https://doi.org/10.1037/1076-8998.12.1.80>
- Sposato, M. (2024). Leadership training and development in the age of artificial intelligence. *Development and Learning in Organizations*, 38(4), 4–7. <https://doi.org/10.1108/DLO-12-2023-0256>

- Sposato, M. (2025). Artificial intelligence in educational leadership: A comprehensive taxonomy and future directions. *International Journal of Educational Technology in Higher Education*, 22(20). <https://doi.org/10.1186/s41239-025-00517-1>
- Syam, N., & Sharma, A. (2018). Waiting for a sales renaissance in the fourth industrial revolution: Machine learning and artificial intelligence in sales research and practice. *Industrial Marketing Management*, 69, 135–146. <https://doi.org/10.1016/j.indmarman.2017.12.019>
- Taddeo, M., & Floridi, L. (2018). How AI can be a force for good. *Science*, 361(6404), 751–752. <https://doi.org/10.1126/science.aat5991>
- Vagas Portillo, P. (2025). The transformative role of artificial intelligence in leadership and management development: An academic insight. *Development and Learning in Organizations*, ahead-of-print(ahead-of-print). <https://doi.org/10.1108/DLO-10-2024-0301>
- vom Brocke, J., Simons, A., Niehaves, B., Riemer, K., Plattfaut, R., & Cleven, A. (2009). Reconstructing the Giant: On the Importance of Rigour in Documenting the Literature Search Process. *ECIS 2009 Proceedings*. European Conference on Information Systems (ECIS), Verona.
- Webster, J., & Watson, R. T. (2002). Analyzing the Past to Prepare for the Future: Writing a Literature Review. *MIS Quarterly*, 26(2), 13–23.
- Wilson, H. J., & Daugherty, P. R. (2018). Collaborative Intelligence: Humans and AI Are Joining Forces. *Harvard Business Review*.
- Xu, F., Uszkoreit, H., Du, Y., Fan, W., Zhao, D., & Zhu, J. (2019). Explainable AI: A Brief Survey on History, Research Areas, Approaches and Challenges. In J. Tang, M.-Y. Kan, D. Zhao, S. Li, & H. Zan (Hrsg.), *Natural Language Processing and Chinese Computing* (S. 563–574). Springer International Publishing. [https://doi.org/10.1007/978-3-030-32236-6\\_51](https://doi.org/10.1007/978-3-030-32236-6_51)
- Yuan, Q., Jin, Z., Zha, D., & Dennis, C. (2024). Artificial Intelligence and Firm Performance: A Systematic Literature Review and Future Research. *Academy of Management Proceedings*, 2024(1), 18903. <https://doi.org/10.5465/AMPROC.2024.18903abstract>
- Zaman, K. (2025). *Agentic Leadership*. Self-published.
- Żywiołek, J. (2024). Trust-Building in AI-Human Partnerships Within Industry 5.0. *System Safety: Human - Technical Facility - Environment*, 6(1), 89–98. <https://doi.org/10.2478/czoto-2024-0011>