



The Future of Leadership: Integrating AI Technology in Management Practices

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Article history

Submitted: 2025/06/01; Revised: 2025/07/11; Accepted: 2025/07/21

Abstract

With the rapid advancement of artificial intelligence (AI) technology, organizations face a paradigm shift in leadership and management practices. This research aims to explore the integration of AI technology in leadership, focusing on its impact, challenges, and opportunities. This research uses a systematic literature review (SLR) method; this research synthesizes existing knowledge and identifies key findings regarding the role of AI in decision-making, ethical considerations, organizational readiness, and required leadership skills. These findings highlight the potential benefits of AI in improving decision-making processes and organizational efficiency while emphasizing the importance of addressing ethical issues, improving organizational readiness, and developing new leadership competencies. This research contributes to understanding the future leadership landscape in AI technology integration.

Keywords

Future Leadership; AI Technology; Management Practices

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INTRODUCTION

In recent years, the rapid advancement of artificial intelligence (AI) technology has significantly impacted various aspects of human life, including leadership and management practices (Khaskheli et al., 2023; Marfan & Pascual, 2018). As organizations increasingly adopt AI technologies to streamline operations and enhance decision-making processes, the role of leaders in navigating this technological landscape becomes paramount (O'Connor et al., 2023; Sudiana & Sudirgayasa, 2020). However, despite the growing integration of AI in management, several challenges and issues persist, necessitating a deeper exploration and understanding of its implications.

One of the primary issues facing the integration of AI technology in leadership is the potential displacement of human workers by automated systems. The fear of job loss and the need to upskill or reskill the workforce are pressing concerns that leaders

must address (Kamis et al., 2017; Rakhmawati & Mustadi, 2022); (García-Peñalvo, 2016; Nugraha et al., 2022). Additionally, ethical considerations surrounding AI, such as bias in algorithms and data privacy concerns, raise complex dilemmas for leaders to navigate effectively. Amidst these challenges lie intriguing opportunities for research and exploration. Understanding how AI can complement human leadership qualities rather than replace them is a fascinating area of study (Alén et al., 2017; Nasution et al., 2021). Exploring how AI can augment decision-making processes, improve efficiency, and foster innovation within organizations presents a compelling avenue for research.

Previous research in the field has primarily focused on the technical aspects of AI implementation, such as algorithm development and system integration. While these studies are valuable, there is a notable gap in research concerning the intersection of AI technology and leadership practices (Almeida et al., 2022; Asfahani et al., 2022; Krisnawati et al., 2022; Nursalim et al., 2022; Rohman et al., 2023; Sain et al., 2022). This gap presents an opportunity to contribute novel insights into how leaders can effectively leverage AI to enhance organizational performance and drive strategic outcomes.

The novelty of this research lies in its emphasis on human-AI collaboration within leadership frameworks. By exploring how AI can empower leaders rather than diminish their roles, this study aims to shed light on innovative approaches to management practices in the era of AI-driven transformation. The primary objective of this research is to identify best practices and strategies for integrating AI technology into leadership roles, ultimately leading to improved decision-making, increased productivity, and sustainable organizational success.

The anticipated impact of this research extends beyond theoretical contributions to practical implications for organizations and leaders. By providing actionable insights and guidelines, this study aims to equip leaders with the knowledge and tools necessary to harness the full potential of AI technology while addressing the associated challenges responsibly. Ultimately, integrating AI in leadership practices can revolutionize organizations' operations, paving the way for a future where human intelligence and AI capabilities work synergistically towards common goals.

METHODS

This article uses the Systematic Literature Review (SLR) research method to collect, filter, and analyze various scientific publications relevant to integrating AI technology in management and leadership practices. The first step in this method is to determine clear inclusion and exclusion criteria for selecting studies to be included in the systematic review. These criteria include a specific period, language, type of

publication, and relevance to the assigned research topic. After that, we systematically searched scientific databases such as PubMed, IEEE Xplore, Google Scholar, and other databases to identify articles that met the inclusion criteria. The data collection technique in the SLR method involves thoroughly analyzing articles selected for inclusion in a systematic review. We used systematic and targeted search techniques to ensure the completeness of the data obtained. Next, we used standardized data retrieval techniques to extract key information from each article, including the main findings, methodology used in the studies, findings relevant to integrating AI in management practice, and evaluation of the quality of the selected studies. Data analysis was conducted through narrative and thematic synthesis to identify patterns, trends, and key findings from the reviewed studies.

FINDINGS AND DISCUSSION

Findings

This research reveals various findings relevant to integrating AI technology in management and leadership practices. One of the key findings is that the use of AI in a leadership context is not only associated with operational efficiency but also with fundamental changes in the role and function of leaders. AI can be used to optimize decision-making, identify complex patterns in data, and predict trends that can help leaders in strategic planning.

In addition, this research highlights the importance of paying attention to the ethical aspects of the use of AI in management practices. It found that risks such as algorithmic bias, unethical use of data, and information security are key concerns that leaders must address. Therefore, leaders need to develop clear ethical frameworks and practical guidelines for responsibly integrating AI technologies.

Another finding is that the successful integration of AI in management practices depends not only on the technology itself but also on organizational aspects such as company culture, internal policies, and employee readiness. Organizations adopting a holistic approach and involving the entire organizational ecosystem in the AI integration process tend to achieve more optimal results. Additionally, the research identified that education and training for leaders and employees are key to ensuring successful AI integration. Leaders who understand AI technology well and have the skills to manage the relationship between humans and machines will likely lead organizations to a competitive advantage in the digital era.

Thus, the results of this research provide valuable insights for leaders and management practitioners in integrating AI technology effectively and responsibly. It

also underscores the importance of technology, ethics, and organizational policy collaboration in building an AI-integrated leadership future.

Table 1. Some aspects of AI technology

No	Aspect	Findings	Implications
1	AI Impact on Decision-making	Enhances decision accuracy and speed.	Improve strategic planning and agility
2	Ethical Considerations	AI introduces biases and privacy concerns	Develop ethical frameworks and policies.
3	Organizational Readiness	Culture and policies affect AI integration success.	Foster a culture of innovation and adaptability.
4	Leadership Skills	AI requires new leadership skills like AI literacy and human-AI collaboration.	Invest in leadership training and development.

This table outlines key aspects of integrating AI technology in management practices, along with corresponding findings and implications.

Discussion

The findings from the research align with and expand upon previous research and theoretical studies in several key areas. One of the significant findings is the impact of AI on decision-making processes within organizations. This finding resonates with previous studies highlighting AI's potential to enhance decision accuracy and speed. However, our research delves deeper into the implications of this impact, emphasizing how improved decision-making can lead to better strategic planning and organizational agility (Herlina & Suryana, 2020). This aligns with the theoretical understanding that effective leadership involves leveraging technology to drive strategic outcomes (Jamiah et al., 2019; Mie Augier, 2018).

Moreover, our research underscores the importance of ethical considerations in integrating AI technology, corroborating existing literature on AI ethics. The findings regarding biases in algorithms and privacy concerns echo concerns raised in previous studies (Al Ka'bi, 2023; Xu et al., 2021). However, our analysis further emphasizes the need for clear ethical frameworks and policies to guide AI integration (Rane, 2023; Wirtz et al., 2020). This aligns with theoretical perspectives that advocate for ethical leadership practices in the era of technological advancement.

Another key area of analysis is organizational readiness for AI integration. Our findings echo previous research that has emphasized the role of organizational culture and policies in shaping the success of technology adoption (Nazir & Khan,

2022; Sulaiman et al., 2022). However, our research adds nuance by highlighting the specific impact of these factors on AI integration success (Judijanto et al., 2022; Sari et al., 2020). This aligns with theoretical frameworks that emphasize the importance of organizational readiness and adaptability in navigating technological change (Alhawsawi & Jawhar, 2021; Bertheau, 2020; Bright et al., 2021).

Furthermore, our research sheds light on the evolving leadership skills required in the age of AI, which builds upon theoretical discussions around leadership competencies (Abbas et al., 2022; Molenaar, 2021; Nugraha et al., 2022). The findings regarding the need for AI literacy and human-AI collaboration skills align with theoretical perspectives emphasizing the importance of continuous learning and adaptability in leadership roles (Buil et al., 2019; Widodo & Mawarto, 2020). This analysis reinforces the notion that effective leadership in AI integration requires a combination of technical understanding and interpersonal skills. Overall, the analysis of research findings in this article demonstrates a synthesis of empirical evidence with theoretical frameworks, providing valuable insights into the evolving landscape of leadership in the digital age.

CONCLUSION

In conclusion, the analysis of the research findings highlights the complex interplay between AI technology and leadership practices. The findings underscore the potential benefits of AI in enhancing decision-making, improving organizational efficiency, and fostering innovation. However, they also emphasize the importance of addressing ethical considerations, ensuring organizational readiness, and developing new leadership skills to effectively integrate AI into management practices. Future research should focus on several areas to deepen our understanding and guide practical implementation. Firstly, there is a need for longitudinal studies to assess the long-term impact of AI integration on organizational performance and leadership dynamics.

Additionally, further research is needed to develop and evaluate ethical frameworks and guidelines specifically tailored for AI integration in management. Moreover, exploring the role of AI in fostering diversity, equity, and inclusion within organizations is another promising avenue for future research. Lastly, investigating the potential societal implications of widespread AI adoption in leadership and management contexts can provide valuable insights for policymakers and industry leaders.

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