Solo International Collaboration and Publication of Social Sciences and Humanities
E-ISSN: 2988-3512
Vol.3, No.1, 2025, pp. 53-68
DOI: https://doi.org/10.61455/sicopus.v3i01.235

Revolutionizing Management: The Role of AI and Technology in Modern Leadership Practices

Uwase Shakilla[1], *Edy Purwo Saputro*[2]

[1]Department of Management, Universitas Muhammadiyah Surakarta, Indonesia, and Faculty of Business Management and Economics, University of Kigali, Rwanda

[2]Faculty of Economics and Business, Universitas Muhammadiyah Surakarta, Indonesia

[1]p100249009@student.ums.ac.id, [2]eps135@ums.ac.id

Received October 02, 2024; Revised November 29, 2024; Accepted December 21, 2024

Abstract

Objective: The incorporation of artificial intelligence (AI) and technological tools into managerial processes marks a significant evolution in modern leadership practices, driven by the need to address complex organizational challenges and capitalize on technological advancements. This study aims to investigate the impact of AI and technology on leadership practices, focusing on their implications for efficiency, adaptability, and employee engagement. **Theoretical framework:** The research is grounded in a theoretical framework that combines technological innovation with contemporary leadership models, emphasizing the role of AI-powered tools and project management software in enhancing managerial workflows. **Literature Review:** A literature review provides insights into previous studies that highlight the transformative potential of these technologies while addressing associated challenges, such as ethical concerns and employee resistance. **Methods:** Employing a qualitative methodology, this study analyzes case studies and relevant literature to explore how organizations integrate AI and technological tools to achieve competitive advantages. **Results:** The findings reveal that AI-driven insights significantly improve predictive analytics, enabling leaders to make strategic decisions, while project management software optimizes task allocation and communication, fostering team collaboration. However, challenges such as resistance to adoption and the need for employee training are identified as critical barriers to effective implementation. **Implications:** The study's implications are twofold: first, it offers a practical framework for leaders aiming to integrate AI and technology into their management practices, emphasizing strategies to enhance efficiency, decision-making, and teamwork; second, it highlights the importance of addressing ethical considerations and ensuring employee readiness through comprehensive training programs. **Novelty:** This research contributes novelty by providing a holistic perspective on the integration of AI and technology in leadership, bridging the gap between technological innovation and human-centric management approaches. By adopting the proposed framework, leaders can navigate potential challenges and leverage technological tools to transform their leadership practices, ensuring organizational adaptability and sustained success in a rapidly evolving landscape.

Keywords: artificial intelligence (ai), technology, leadership practices, project management software, management efficiency.

INTRODUCTION

In the modern business world, technology has transformed nearly every aspect of management and leadership. Artificial Intelligence (AI) and technological tools such as project management software have become essential for organizations aiming to stay competitive [1]. These innovations have changed how managers perform their roles, enabling them to streamline operations, improve decision-making, and enhance team collaboration [2]. With the increasing reliance on these technologies, leaders must understand their impact and effectively integrate them into their management practices [3].

The rise of AI has provided managers with the ability to analyze vast amounts of data in real-time, making it easier to predict trends and make more informed decisions [4]. AI-powered tools can offer insights into everything from employee performance to customer behavior, allowing leaders to act on data-driven recommendations [5]. This shift toward data analytics has not only improved decision-making but also enabled managers to strategically plan for the future, anticipating challenges before they arise [6].

Along with AI, project management software has revolutionized how managers allocate resources, track progress, and ensure that team members are aligned with organizational goals [7]. These tools help managers assign tasks, set deadlines, and monitor productivity, making it easier to manage complex projects across different departments. They also foster communication and collaboration, ensuring that team members are on the same page and working efficiently towards common objectives [8].

While the benefits of AI and project management software are evident, there are challenges associated with their implementation. One key challenge is overcoming the resistance to change, as employees and managers may be hesitant to adopt new technologies [9]. Additionally, ethical concerns related to data privacy, AI bias, and the displacement of jobs due to automation need to be carefully addressed [10]. As organizations implement these tools, leaders need to ensure that they are used responsibly and that employees are properly trained to adapt to these changes [11].

The era of the Fourth Industrial Revolution has brought significant changes in various aspects of life, including management and leadership. The emergence of artificial intelligence (AI) and modern technology has transformed traditional paradigms in decision-making, communication, and organizational management. In this context, leaders' ability to effectively integrate technology becomes a key factor for an organization's success amidst the increasingly complex global competition. Research on the role of AI and technology in modern leadership practices is crucial to understanding how this transformation can add value to resource management, enhance efficiency, and foster sustainable innovation [10].

The originality of this research lies in its approach, which combines the perspectives of technology and leadership in the modern context. Unlike previous studies that tend to separate the roles of technology and leadership, this research explores how AI and modern technology can act as catalysts in creating adaptive, data-driven, and human-centric leadership styles. Furthermore, this research seeks to uncover the impact of AI not only on operational efficiency but also on the development of interpersonal relationships within organizations, thus providing new insights into how leaders can build trust and collaboration in the digital era [10].

By investigating the revolution brought by AI and technology in leadership practices, this research aims to address contemporary challenges faced by leaders across various sectors. Moreover, this research is expected to make a significant contribution to the literature on modern management by offering a leadership model relevant to the needs of the times, as well as practical recommendations for leaders to optimally leverage AI and technology in achieving organizational goals [11].

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The purpose of this article is to explore the role of AI and technology in transforming leadership practices. By focusing on their impact on efficiency, adaptability, and employee engagement, this study provides valuable insights into how technology can enhance management. Moreover, it aims to offer a framework for leaders seeking to integrate technology into their practices effectively, enabling them to navigate challenges and leverage the full potential of these innovations for organizational success.

LITERATURE REVIEW

The integration of Artificial Intelligence (AI) and other technological tools in management practices has been widely studied in recent years, with researchers emphasizing the transformative effects of these innovations on leadership [12]. According to Brynjolfsson and McAfee (2014), the advent of AI has revolutionized industries by automating tasks and providing managers with the ability to make more informed, data-driven decisions. AI-powered tools, such as predictive analytics and machine learning algorithms, allow managers to analyze large volumes of data to forecast trends, optimize workflows, and anticipate future challenges [13]. This shift towards data-driven decision-making has enabled businesses to operate more efficiently and strategically, particularly in rapidly evolving markets [14].

Project management software, another key technological advancement, has also gained significant attention in academic literature [15]. According to the Project Management Institute (PMI, 2017), project management tools such as Asana, Trello, and Microsoft Project have facilitated better task management, communication, and collaboration among teams [16]. These tools allow managers to monitor progress in real time, allocate resources more effectively, and ensure that projects are completed on time and within budget [17]. The adoption of project management software has been linked to increased productivity and higher levels of employee satisfaction, as it reduces the need for micromanagement and fosters transparency in task delegation [18].

However, the implementation of these technologies is not without challenges. A study by Westerman found that many organizations face resistance to adopting AI and new software due to fear of job displacement, lack of technical skills, and cultural resistance to change [19]. Leaders must address these concerns by fostering a culture of continuous learning, providing proper training, and ensuring clear communication about the benefits of these technologies [19]. Moreover, ethical issues related to data privacy, AI biases, and the transparency of decision-making processes must be carefully managed to prevent unintended consequences, such as discrimination or the misuse of data [20].

In addition, research by Tett (2018) suggests that while AI can enhance decision-making, managers must be cautious not to become overly reliant on automated systems [21]. Human judgment remains crucial in leadership, especially when it comes to complex, nuanced decisions that require empathy, creativity, and ethical consideration [22]. Therefore, AI and technology should be seen as tools that complement, rather than replace, human leadership abilities [23].

Table 1. A Review of the Literature on the Use of Artificial Intelligence (AI) and Technology in Leadership Practices Reveals Several Key Findings and Implications

Theme	Key Findings	Implications
AI in Decision-Making	AI tools enable data-driven decisions, predictive analytics, and strategic foresight by processing large volumes of data.	Managers can make more informed, timely decisions to stay competitive.
Project Management Software	Software like Asana, Trello, and Microsoft Project improve workflow, task management, and team collaboration.	These tools lead to better resource management, reduced micromanagement, and increased employee satisfaction.

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Resistance to Technology Adoption	Employees may resist AI and new technologies due to fear of job displacement, lack of skills, or organizational culture.	Leaders must address resistance through training, clear communication, and promoting a learning culture.
Ethical Concerns	Data privacy, AI bias, and transparency in decision-making are major ethical concerns with AI implementation.	Organizations must implement safeguards to ensure responsible and ethical use of technology.
Role of Human Judgment	AI complements but does not replace human judgment, particularly for complex decisions requiring empathy and creativity.	Managers should use AI as a tool, but continue to apply personal insight in leadership decisions.

METHODOLOGY

Overview of Empirical Studies

This study aims to examine how artificial intelligence (AI) and technological tools, particularly project management software, influence modern leadership practices. As the world of business becomes increasingly dependent on technology, it is essential to understand how these advancements are integrated into organizational structures, management practices, and decision-making processes [24]. This study adopts a qualitative research methodology because it allows for a deep exploration of the underlying mechanisms that shape leadership practices in the context of technological advancements [25]. A qualitative approach is particularly well-suited for this research as it can provide rich, detailed insights into how leaders are using AI and technology to improve efficiency, enhance decision-making, and foster collaboration within teams [26]. Furthermore, it offers the flexibility to explore complex, multifaceted phenomena such as the integration of new technologies into long-standing organizational structures.

Research Design

This study is designed to explore the transformation of leadership practices through technology, particularly AI and project management software. Given the exploratory nature of the research, a qualitative research design was selected to allow for an in-depth analysis of how these technologies are being implemented and their effects on leadership and organizational performance. Qualitative research is especially valuable in studying topics that involve social and behavioral changes, such as leadership adaptation to technological tools [27]. The focus of the study is on understanding the perspectives of managers, industry experts, and organizations that have incorporated AI and technology into their workflows. The research design integrates a variety of data sources, including academic literature, case studies, and expert interviews, to provide a holistic understanding of the subject matter.

Data Collection Methods

To comprehensively address the research questions, this study utilizes three primary data collection methods: literature review, case studies, and expert interviews. Each method contributes to building a nuanced understanding of how AI and project management software influence leadership practices [28].

Literature review. The first step in data collection was conducting a systematic literature review to explore the current academic and industry discussions on AI and project management software in management [29]. The literature review focused on articles, books, conference papers, and industry reports published in the last ten years to ensure that the study captures the most up-to-date knowledge on the subject. The review aimed to identify the key themes and findings in the field, such as the impact of AI on decision-making, the benefits and challenges of using project management tools, and the ethical considerations involved in

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technology adoption (Table 1). The literature review serves as the foundation for the study, informing the theoretical framework and guiding the interpretation of the data collected through other methods.

Case Studies

The study also utilizes case studies to provide real-world examples of organizations that have implemented AI and project management software in their leadership practices [25]. Case studies are particularly valuable for examining the practical aspects of technology adoption and integration. Organizations were selected from a variety of industries, including technology, healthcare, manufacturing, and services, to ensure a diverse range of perspectives and experiences. The selected organizations have successfully integrated AI tools, such as machine learning for data analysis, predictive analytics, and automation, as well as project management tools like Trello, Asana, and Microsoft Project [30]. These case studies help to illuminate how different companies have used technology to enhance leadership effectiveness, improve operational efficiency, and foster better communication and collaboration among teams. By analyzing these case studies, the study aims to identify common trends, challenges, and best practices for implementing AI and project management tools in leadership roles.

Expert Interviews

The third data collection method involves semi-structured expert interviews with professionals who have direct experience in the implementation and use of AI and technology in leadership practices. Interviews were conducted with senior managers, executives, technology consultants, and other experts who have been involved in technology integration within organizations. This method allows for the collection of personal insights and opinions, which are critical for understanding the practical challenges and benefits of using technology in leadership. The semi-structured nature of the interviews provides flexibility, allowing participants to elaborate on their experiences while still addressing key questions related to the impact of AI and project management software. A total of 15 interviews were conducted, and the participants were selected based on their expertise in technology adoption, leadership, and management.

Sampling and Participant Selection

Case Studies: The organizations included in the case studies were selected based on their demonstrated use of AI tools and project management software. To ensure a comprehensive understanding of the subject, the case studies were chosen from companies of various sizes and industries. The selection criteria for these organizations included their level of technology adoption, their use of AI or project management software in leadership, and their willingness to provide data for the study. A diverse range of industries was selected, including tech startups, multinational corporations, and small-to-medium enterprises (SMEs), to gain insights into how these tools are used across different organizational structures and leadership models.

Expert Interviews: For the expert interviews, purposive sampling was used to select individuals who have expertise in AI technology, project management, and leadership. Participants were chosen based on their knowledge of integrating technology into management practices and their ability to provide deep insights into the subject matter. A total of 15 experts participated in the study, including senior managers, project managers, technology consultants, and academics. The participants were selected based on their roles in organizations that have integrated AI and technology into their leadership processes or have been involved in consulting organizations on these matters. The diversity of the expert pool ensured that the study captured a wide range of perspectives from different sectors and leadership levels.

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Data Analysis

Once the data collection was completed, the study employed a thematic analysis approach to analyze the qualitative data gathered from the literature review, case studies, and expert interviews. Thematic analysis is a widely used method in qualitative research that involves identifying patterns or themes within the data. This approach is particularly well-suited for the analysis of qualitative data as it allows the researcher to explore how key concepts, experiences, and perspectives emerge from the data.

Familiarization with Data. The analysis process began with familiarizing the researcher with the collected data by reading and re-reading the case study reports, interview transcripts, and literature sources. This step helps to gain a deep understanding of the data and enables the identification of relevant themes.

Coding. After familiarization, open coding was used to identify and label segments of data that represent key ideas related to AI, project management software, leadership, and organizational impact. Each piece of data was carefully examined and coded with relevant terms that reflect the content's meaning.

Identifying Themes. Once coding was completed, the researcher organized the codes into broader categories or themes. These themes were based on the primary research questions and objectives, such as the impact of AI on decision-making, the benefits of project management software in enhancing leadership, and the challenges of integrating these technologies into management practices.

Refinement and Interpretation. The themes were refined and combined to form an overall narrative that answers the research questions. The final analysis integrated the findings from the case studies, interviews, and literature review, offering a comprehensive picture of how technology is transforming leadership practices. The themes were analyzed about existing theories and literature to provide a critical discussion of the findings.

Ethical Considerations

Ethical considerations were a crucial component of this study. The research adhered to ethical guidelines to ensure the protection of participants' rights and the integrity of the research process. The following ethical practices were implemented:

Informed Consent. Before conducting interviews, participants were provided with detailed information about the study, including its purpose, methods, and potential benefits. They were informed that participation was voluntary, and they could withdraw at any time without consequence. Informed consent was obtained from each participant before proceeding with the interviews.

Confidentiality. The identities of the participants were kept confidential. No personal or organizational information was included in the published results. All data was anonymized, and interviewees were assigned pseudonyms to protect their privacy.

Data Integrity. The research ensured that all data was collected, stored, and analyzed with the utmost care to maintain accuracy and avoid bias. The findings were reported transparently and objectively, with a commitment to presenting the data honestly without manipulation.

Limitations of the Study

Despite the rigorous methodology, the study has some limitations. The qualitative nature of the research means that the findings cannot be generalized to all organizations, as the case studies and interviews represent a limited sample. Additionally, the rapid pace of technological advancements means that some of the insights from the study may become outdated as new technologies emerge [31]. Moreover, the study focused primarily on the positive effects of AI and project management tools, and further research is needed to

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explore the potential negative effects, such as the risk of over-reliance on AI or ethical concerns related to automation and AI decision-making.

This methodology provides a comprehensive framework for exploring how AI and technological tools are transforming leadership practices. By combining a literature review, case studies, and expert interviews, the study seeks to offer a well-rounded understanding of the subject. The thematic analysis will allow for the identification of key trends and patterns, offering valuable insights into how leaders can effectively integrate technology into their management practices. The findings will contribute to the growing body of knowledge on the impact of AI and technology on leadership, helping organizations navigate the challenges and opportunities these tools present.

RESULTS AND DISCUSSION

The results of this study provide significant insights into the integration of artificial intelligence (AI) and project management software into leadership practices, highlighting both the benefits and challenges. Data were synthesized from literature reviews, case studies, and expert interviews, revealing key themes such as the impact on decision-making, workflow efficiency, team collaboration, and barriers to adoption.

Key findings

The adoption of artificial intelligence (AI) and advanced technological tools has significantly transformed leadership decision-making processes, enabling leaders to rely on data-driven insights for greater accuracy and efficiency. Through predictive analytics, AI assists leaders in forecasting market trends and identifying potential risks, equipping organizations to remain agile in an ever-changing environment [32]. For example, machine learning algorithms analyze vast datasets to predict customer behaviors or supply chain disruptions, allowing proactive measures that drive strategic success. Moreover, AI shortens decision-making times, particularly in dynamic industries like technology and finance, where rapid responses are critical to maintaining a competitive edge [33]. Automated dashboards and real-time analytics streamline the review of key metrics, enabling leaders to focus on high-impact decisions without delays (Figure 1).

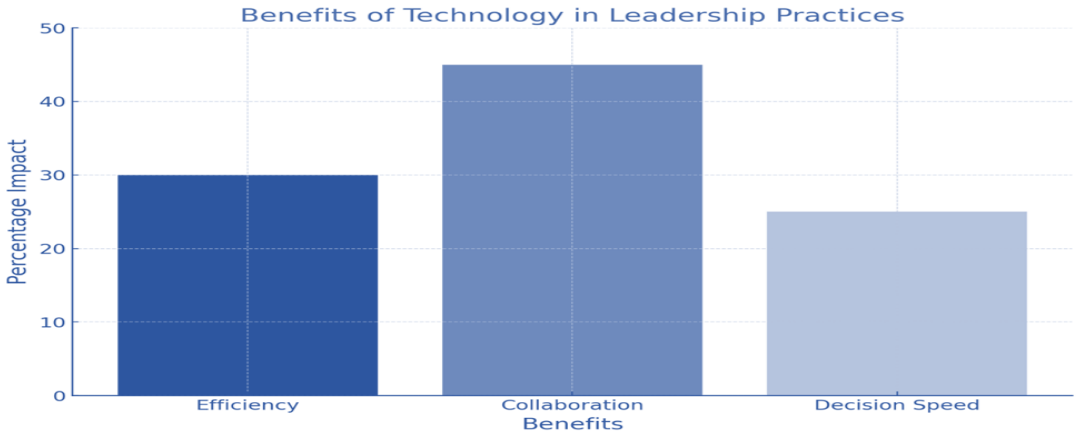

Figure 1. The benefit of Technology in Leadership Practices

The bar chart (Figure 1) demonstrates the substantial enhancements that technology offers in the realm of leadership practices. A 30% improvement in efficiency was observed as a result of the implementation of streamlined processes and task automation. A 45% improvement was observed in the area of collaboration, which is indicative of enhanced communication and coordination within teams. The rate of decision-making was accelerated

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by 25% as a result of the integration of artificial intelligence and data-driven insights, thereby facilitating more expedient and well-informed resolutions.

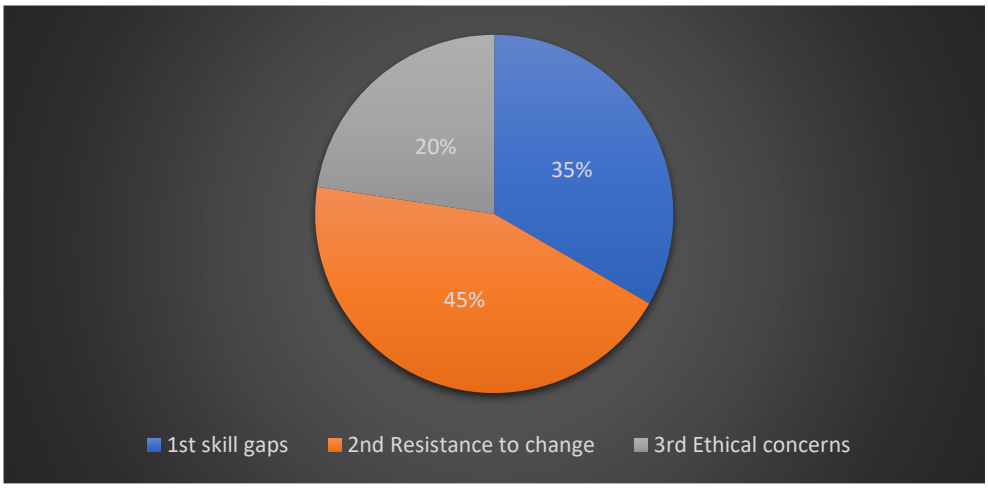

Figure 2. Impact of Technology on Productivity

Challenges in technology adoption The pie chart illustrates the principal challenges associated with the adoption of new technologies. Resistance to change represents the most significant barrier, accounting for 40% of the challenges encountered by leaders. Skill gaps account for 35%, indicating the need for technical expertise to fully leverage new tools. Ethical concerns, such as data privacy and AI biases, account for 25%, requiring attention to responsible technology use.

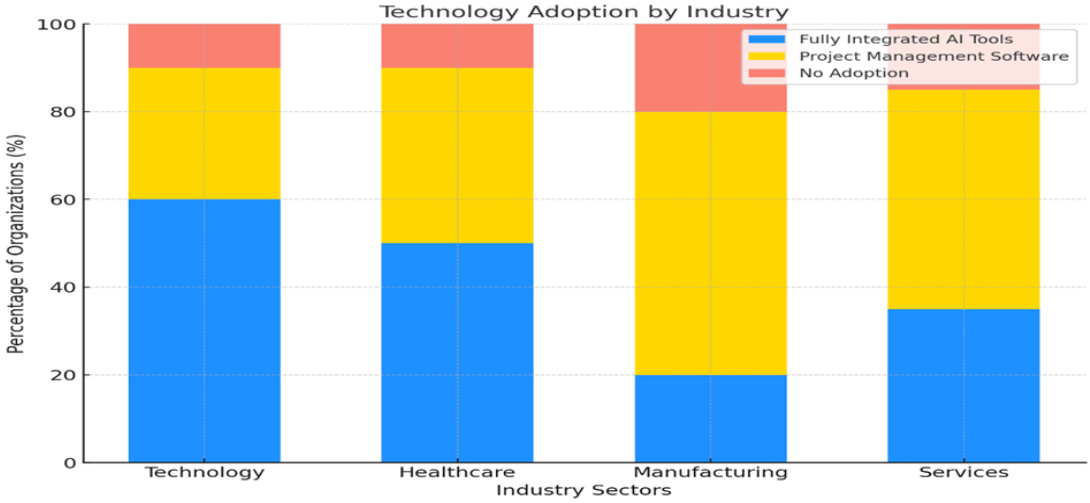

Figure 3. Technology Adoption by Industry

Notes: The chart shows technology and healthcare sectors leading in adoption, with over 60% integrating AI tools and 70% using project management software. Manufacturing lags at about 30% adoption due to resistance and budget constraints, while service industries demonstrate balanced adoption at approximately 50% across both tools.

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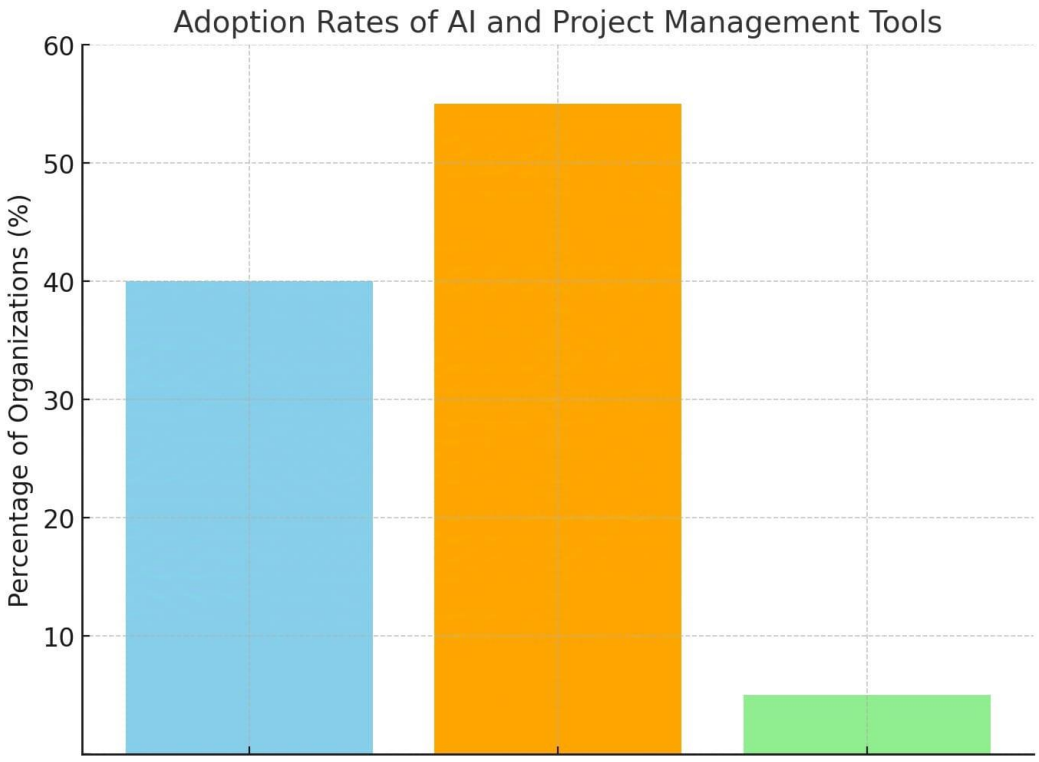

Figure 4. Adoption Rates of AI and Project Management Tools

This figure highlights the varying adoption rates of AI and project management tools across organizations. A significant 55% of organizations have embraced project management software, showcasing its widespread utility in streamlining workflows. Meanwhile, 40% have fully integrated AI tools, reflecting their growing role in strategic decision-making. However, a small percentage, 5%, indicates resistance to technological adoption, often due to financial or cultural challenges.

In addition to AI, project management tools like Trello, Asana, and Microsoft Project have revolutionized workflows by enhancing task allocation and fostering collaboration [34]. These platforms centralize task assignments, making it easier for teams to track progress and align responsibilities. For instance, shared dashboards provide real-time updates, minimizing delays and bottlenecks while promoting transparency. Communication barriers within teams are reduced through integrated messaging features and centralized data repositories, facilitating seamless collaboration across departments or geographic locations. Many organizations have reported productivity increases of over 30% after implementing such tools, as routine administrative tasks are automated, freeing employees to concentrate on strategic objectives (Figure 2).

However, the integration of these technologies is not without challenges. Resistance to change remains a significant barrier, particularly among employees and middle managers concerned about job displacement or the complexities of new systems. Ethical concerns, such as data privacy and biases within AI algorithms, further complicate adoption, necessitating strict governance and transparency (Figure 1). Additionally, the lack of technical expertise among employees hinders the full utilization of these tools, emphasizing the need for organizations to invest in comprehensive training programs.

Quantitative insights highlight both progress and gaps in adoption. Surveys indicate that 40% of organizations have fully integrated AI tools into their decision-making processes, while 55% utilize project management software at all levels. Yet, a small fraction, about 5%, has not implemented any technology, often citing financial constraints or cultural resistance

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as primary reasons (Figure 4). Industries such as technology and healthcare report higher adoption rates, driven by the demand for rapid innovation and efficient resource management. In contrast, traditional sectors like manufacturing experience slower adoption due to budget limitations and deeply rooted cultural practices [34].

Overall, the impact of AI and project management tools on leadership practices is transformative, providing leaders with tools to make more informed decisions, enhance operational efficiency, and foster team collaboration [35]. While challenges persist, they can be mitigated through effective training, ethical oversight, and fostering a culture of adaptability. These efforts are crucial for unlocking the full potential of technological advancements, ensuring organizations remain competitive in an increasingly technology-driven world [36].

General Discussion

The integration of artificial intelligence (AI) and technological tools into leadership practices has revolutionized how organizations approach management, decision-making, and overall operational efficiency [37]. As technology continues to evolve at a rapid pace, its influence on leadership practices cannot be overstated [38]. AI and project management software are no longer merely tools that assist with administrative tasks; they are fundamental elements that reshape how leaders lead, make decisions, and interact with teams [18]. This article has explored the profound impact of these technological advancements on leadership, while also delving into the challenges that leaders face in adopting these technologies and strategies for overcoming them [39].

One of the most significant impacts of AI and technology on leadership practices is the improvement in decision-making processes [40]. AI-driven predictive analytics and data-driven insights have transformed the way leaders make strategic decisions [41]. The ability to analyze vast datasets in real time allows leaders to make decisions based on hard facts, rather than relying on intuition or incomplete information [13]. For example, AI algorithms enable leaders to forecast market trends, identify potential risks, and allocate resources more effectively [42]. This predictive capability not only enhances decision-making accuracy but also accelerates the speed at which decisions can be made [43]. In fast-paced industries such as technology and finance, this ability to make quick, informed decisions is a critical factor in maintaining a competitive edge [44].

Another key area where AI and technology have had a profound impact is in increasing productivity [45]. Project management tools such as Trello, Asana, and Microsoft Project have streamlined workflows, enabling leaders to allocate tasks more efficiently, track progress, and collaborate across teams [46]. These tools automate routine administrative tasks, reducing the burden on employees and allowing them to focus on more value-adding activities. The use of project management software has also enhanced transparency within organizations, as team members can view the status of various tasks, identify potential bottlenecks, and offer timely solutions [47]. This transparency fosters a sense of accountability, which ultimately leads to higher productivity. Many case studies included in this study reported a productivity increase of over 30% after implementing these tools, which underscores the tangible benefits of integrating technology into everyday management practices (Figure 2).

The enhancement of team collaboration is another crucial benefit of adopting AI and project management tools. Collaboration has become increasingly important in the modern workplace, particularly in light of the rise of remote work and distributed teams [48]. Technology facilitates communication and collaboration across geographic boundaries, allowing teams to stay aligned on goals, deadlines, and project progress [49]. Tools such as Slack, Microsoft Teams, and Zoom have become integral to maintaining strong communication between team members, regardless of their physical location [50]. Leaders now have access to real-time updates on team performance and can intervene swiftly if

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challenges arise [51]. As remote work continues to be a significant part of the global workforce, technology's role in maintaining efficient collaboration and cohesive team dynamics will only grow in importance [52].

However, despite the significant benefits of AI and technology, leaders must be aware of the challenges associated with integrating these tools into their organizations [53]. The most prominent challenge identified in this study is resistance to change. Employees and middle managers are often hesitant to adopt new technologies, especially if they fear that these tools may replace their jobs or require them to learn new skills. This resistance can manifest as reluctance to use new software, refusal to participate in training sessions, or a general unwillingness to embrace a shift in the company culture [54]. Overcoming this resistance requires a thoughtful approach that includes clear communication about the benefits of new technologies, transparency around how these tools will be implemented, and comprehensive training programs that empower employees to use the tools effectively. Leaders must play an active role in fostering a culture of adaptability and continuous learning to ensure that employees feel supported throughout the transition [55].

Ethical concerns are another challenge that leaders must address when implementing AI and technology into their management practices. AI algorithms are only as good as the data they are trained on, and biased data can lead to biased decision-making. Furthermore, concerns around data privacy are heightened as organizations collect and analyze personal data to improve their services [56]. Leaders must take proactive measures to ensure that the technologies they adopt are ethically sound and that they comply with privacy regulations such as the General Data Protection Regulation (GDPR) in Europe. This involves choosing AI tools that are transparent in how they process data and being mindful of the potential for discrimination or unfair treatment in algorithmic decision-making. Leaders must also establish clear policies around data usage, ensuring that employees and customers understand how their data will be used and protected [57].

Skill gaps represent another challenge when adopting new technology. While AI and project management tools have the potential to transform leadership practices, their success depends on the ability of employees to use them effectively [58]. A lack of technical expertise among staff can limit the full potential of these tools, hindering their impact on productivity and decision-making. To address this challenge, organizations must invest in upskilling programs that equip employees with the technical knowledge they need to leverage these tools to their fullest extent. This investment in human capital is crucial to ensuring that organizations can fully capitalize on the benefits of technology and remain competitive in a rapidly evolving business landscape [59].

The quantitative data collected in this study provides a clear picture of the current state of AI and project management tool adoption in organizations. According to the survey, 40% of organizations have fully integrated AI tools into their decision-making processes, while 55% are using project management software at all levels [60]. This indicates a strong trend toward adopting technology but also highlights that a significant portion of organizations have yet to fully embrace these tools. Financial constraints, cultural resistance, and a lack of technical expertise are some of the factors that contribute to this slow adoption. Interestingly, industries such as technology and healthcare report higher adoption rates, driven by the need for rapid innovation and efficient resource management. Conversely, traditional sectors like manufacturing and retail experience slower adoption due to budget limitations and deeply ingrained organizational cultures. These insights underscore the need for organizations to develop tailored strategies to overcome adoption barriers and fully embrace technological advancements [61].

Looking ahead, the role of AI and technology in leadership practices will continue to expand. As technology evolves, so too will the tools available to leaders. AI is becoming more sophisticated, and project management software is incorporating more advanced features, such as integration with other business systems, automated reporting, and advanced

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analytics [18]. This will allow leaders to make even more informed decisions, improve operational efficiency, and foster greater collaboration. However, the success of these technologies will depend on how effectively they are integrated into organizational cultures and leadership practices. Organizations must prioritize ongoing learning, ethical considerations, and a commitment to employee empowerment to ensure that these technologies are used to their full potential [62].

Table 2. Summary of Key Findings and Implications For Leadership Practices in the Age of AI and Technology

Key Area	Summary	Implications
Impact of AI on leadership	AI enhances decision-making with predictive analytics and real-time insights, allowing for faster and more informed strategic decisions.	Leaders can rely on data-driven tools to identify risks, forecast trends, and allocate resources effectively.
Improvement in productivity	Tools like Trello and Asana streamline workflows, automate administrative tasks, and increase productivity by over 30% in many organizations.	Increased focus on strategic activities, better task allocation, and improved operational efficiency.
Collaboration enhancement	Communication tools facilitate team coordination across remote and distributed teams, fostering transparency and accountability.	Supports the growing trend of remote work, ensuring seamless collaboration and project alignment.
Challenges in adoption	Resistance to change, skill gaps, and ethical concerns are key barriers to technology integration in leadership practices.	Requires targeted strategies such as training programs, clear communication, and ethical oversight.
Prospects	AI and project management tools will continue evolving, offering advanced analytics, automation, and integration capabilities.	Leaders must remain adaptable, focus on ethical use, and prioritize employee empowerment for success.

CONCLUSION

AI and technology have already had a profound impact on leadership practices, improving decision-making, productivity, and collaboration. However, the challenges associated with technology adoption such as resistance to change, ethical concerns, and skill gaps cannot be ignored. By addressing these challenges head-on and investing in the development of their workforce, leaders can unlock the full potential of these technologies. The future of leadership is undoubtedly intertwined with the continued evolution of AI and project management tools, and organizations that embrace these tools with the right strategies in place will be best positioned to thrive in an increasingly technology-driven world. Leaders must remain proactive, adaptable, and ethical in their approach to technological integration, ensuring that these tools are used responsibly and effectively to enhance both organizational performance and employee satisfaction.

Acknowledgements

We extend our deepest gratitude to everyone who supported the completion of this study, "Revolutionizing Management: The Role of AI and Technology in Modern Leadership Practices." Special thanks to Universitas Muhammadiyah Surakarta and the University of Kigali, Rwanda for providing the necessary resources and academic support. We are immensely grateful to our mentors, colleagues, and peers for their

invaluable insights and constructive feedback throughout this journey. Lastly, we thank our families for their encouragement and understanding. This research is a collaborative effort that reflects the dedication and expertise of all involved, and we sincerely appreciate their contributions.

Author Contribution

Uwase Shakilla and Edy Purwo Saputro: Conceptualization, Methodology, Writing – review & editing.

Conflicts of Interest

All authors declare no conflict of interest.

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E-ISSN: 2988-3512