



From Decision Support to Leadership Transformation: The Role of Artificial Intelligence in UAE Technology Organizations

*Abdulla Alwahhabi, Abdulla Ahmed Alnaqbi, Muaath Mohammed Al Nuaimi, Mounir El Khatib**

Hamdan bin Mohammed Smart University, School of Business and Quality Management, Dubai, UAE

**Corresponding Author*

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ABSTRACT

This study examined the impact of artificial intelligence adoption on leadership styles in UAE technology organizations. The study focused on how AI influences leadership decision-making, leadership transformation, organizational readiness, and barriers linked to AI use. The study was guided by the view that AI is not only a technical tool, but also a factor that can reshape managerial practice, strategic thinking, and organizational culture. An explanatory mixed-method design was used. Quantitative data were collected through a structured questionnaire from 100 respondents working in UAE technology organizations. Qualitative data were then gathered through five semi-structured interviews with managers to explain and deepen the survey results. The quantitative data were analyzed using descriptive statistics, reliability testing, correlation analysis, and regression analysis, while the qualitative data were interpreted thematically. The findings showed high AI adoption in the sampled organizations and strong positive views of AI as a decision-support tool. Decision Support had a strong positive relationship with Leadership Transformation, while Organizational Readiness showed a weaker positive relationship. Barriers and Concerns have a negative effect on leadership transformation. The results also showed that AI use alone was less important than the perceived usefulness of AI in improving decision quality, speed, and confidence. The interview findings supported these results by showing that managers viewed AI mainly as a support tool rather than a replacement for human leadership, especially in ethically sensitive or complex situations. The study concludes that AI can strengthen leadership in UAE technology organizations when it is supported by organizational readiness, relevant skills, and responsible governance.

1. INTRODUCTION

Technology advancement has moved very fast and really changed some things about human life, one of them being the way the organization carries out operations and takes decisions [1]. Artificial intelligence (AI) is one of the technologies in recent years stands out the most, particularly in the engineering industry, enhancing efficiency, accuracy, and ways of making decisions [2]. AI in leadership and organizational management has received much interest among both researchers

and practitioners within so many applications of this [3].

Traditionally leadership would have been a human skill such as emotional intelligence, decision making, communication, and strategic thinking [4]. Yet, the integration of AI driven systems is leading to changing of leadership role shifting it its responsibilities and way of working with employees and in dealing with strategic and other types of decisions to be taken by executives and

managers and consequently enhance performance of the organization [5]. Nowadays, leaders are relying on their ability to navigate the complex business environment using AI powered analytics, machine learning algorithms and data driven decision making [6]. Of course, this shift spark questions about the impact of these shifts in this specific case, especially questions about the interaction between the new leadership paradigms and the new leadership paradigms and the interaction between traditional and new leadership paradigms [7].

AI is being leveraged by various organizations in the world to make the best decisions, improving operational efficiencies, and boosting employee engagement [8]. However, AI driven predictive analytics, Natural Language Processing (NLP) and automated decision support systems are making it possible for leaders to have more accurate data driven decisions [9]. Finance, Health Care, Manufacturing or Technology are industries which in today's world see norm of AI assisted leadership and not exception. Nevertheless, practitioners are struggling to bring AI into the leadership function. Balancing such issues of trust, transparency, ethical consideration and fear of change is important in matters of leadership [10].

But with the rise of AI in leadership, there comes the requirement for new skills within the executive and manager. It is now up to leaders to know about fundamental understanding of AI technologies, their capability as well as their limit to effectively integrate them in the decision-making process [8,11]. Additionally, the impact that AI has on organizational culture, employee morale, and organizational dynamics, must be considered so that the humanistic and human element of leadership is not eliminated in favor of technological efficiency [12].

The aim of this research is to understand the role played by AI in leading, how AI powered tools are transforming decision making process, leadership styles and overall organizational performance. The research will thus study the ethical and operational challenges of AI adoption in leader roles and tips and tricks in integrating it into modern leadership models.

1.1. Problem Statement

The assimilation of Artificial Intelligence (AI) in organizations has been studied mainly through operational and technological lenses, and previous

studies have supported the idea of automation, efficiency, and workforce transformation instead of leadership styles [13]. Research has also been done on AI-assisted decision-making frameworks and the automation-augmentation paradox, where AI can be used to either supplement or partially displace managerial tasks [14].

Nonetheless, few studies have directly investigated how AI is transforming leadership patterns, executive tasks as well as strategic leadership. The classical leadership approaches like transformational, transactional, and servant leadership focus on emotional intelligence, moral judgment, social impact, and values oriented to humans [15]. Conversely, AI-driven leadership is getting more and more dependent on predictive analytics, algorithms, and data-driven insights to make decisions.

Some researchers believe that AI can make the decision-making process more rational and less biased, but additional researchers caution that overdependence on algorithms can undermine empathy, moral reasoning, and situational awareness in leadership [16]. Such conflicting viewpoints show a paradox in the literature on the topic whether AI enhances or undermines fundamental leadership attributes.

Even though the adoption of AI has also been recognized as having ethical and organizational implications, the lack of empirical research comparing conventional leadership models to AI-based leadership styles and investigating their mutual effect on organizational performance seems rather obvious [17][18][19].

The current study is unlike previous works that emphasize on the effect of AI on the operational performance of a company and not on its leadership styles and decision-making behavior. It bridges this gap by examining the tradeoff between data-driven and human-centered leadership styles and evaluating the impacts of AI-enhanced leadership to the organizational performance without compromising human-centric principles. The inclusion of the developed theory of leadership with AI-based management practices makes this research a valuable contribution to the literature and gives a better perspective on the issue of leadership transformation in the era of AI.

1.2. Research Objectives

1. To examine the impact of Artificial

Intelligence (AI) on leadership decision-making processes within organizations.

2. To analyze how AI influences leadership styles, including the balance between data-driven and human-centered leadership approaches.
3. To evaluate the effect of AI adoption on organizational effectiveness, including productivity, innovation, and employee performance.
4. To identify best practices for integrating AI into leadership processes while maintaining human-centric values.
5. To explore the challenges and opportunities associated with AI-supported leadership in modern organizations.

1.3. Research Questions

1. How does Artificial Intelligence influence leadership decision-making processes in organizations?
2. How does the integration of Artificial Intelligence affect leadership styles and behaviors?
3. What is the impact of Artificial Intelligence-supported leadership on organizational effectiveness?
4. How can Artificial Intelligence be integrated into leadership practices while maintaining human-centric values?
5. What are the best practices for balancing Artificial Intelligence capabilities with human-centered leadership?

2. LITERATURE REVIEW

The advent of Artificial Intelligence (AI) has profoundly impacted organizational leadership, necessitating a revaluation of traditional leadership theories and practices [20]. This literature review aims to synthesize existing research on the intersection of AI and leadership, identify gaps in the literature, and provide a foundation for the study's conceptual framework and hypotheses. The review is structured to progress from broad theoretical foundations to specific applications, ensuring a coherent and comprehensive understanding of the topic [21].

2.1. Digital Transformation and Leadership Challenges

The digital transformation of organizations, largely

driven by advances in information technology and AI, has created new challenges and opportunities for leaders [22]. Leaders are now expected to manage not only human teams but also AI-powered systems that assist in various organizational functions, including decision-making, customer service, and operational efficiency [23]. AI systems can process large amounts of data and provide insights that human leaders cannot easily obtain, thereby transforming decision-making from a human-centered to a data-driven process.

According to [2], digital transformation requires leadership to embrace technology and foster innovation, while simultaneously managing the disruptions and changes it brings [24][25]. This means that leaders must possess both technical expertise and strong leadership skills, as the role now encompasses overseeing both human and machine-based systems. [5][26][27] stated that the digital leaders also have the abilities to grasp the role and capability of AI and data analytics for the business and also have to manage how the working teams and the AI systems can work together in a combined manner [28]-[32].

Many business leaders depend on artificial intelligence tools in their decision-making processes due to the predictions they offer which enhance the executives' capability to predict future occurrences, assess results, or control for risks [33][34]. However, the use of AI systems presents several challenges to the leaders as indicated below: As [6] explain, when it comes to decision-making, AI is both a boon and a bane. Though AI provides an opportunity to make decisions based on real time data, it also have its limitations in terms of explainability, especially in deciding critical aspects of life such as finance, health and policies [35]-[40].

Also, the case study indicates that digital transformation in leadership does not only concern the technology side but the organizational culture and the staff as well [41]. There is a challenge that is faced, though, where leaders have to implement the use of AI technologies in the workplace, but at the same time have to retain the trust, motivation, and sense of ownership of the employees. According to [15][42], there are several general ethical and operational concerns that relate to the transformation of leadership through the use of AI and some of them include:

In the current complex and dynamic environment,

automation and data-driven strategies are viewed as the concept of the future in organizational management [43]. However, it poses a significant challenge where leaders have to alter the way they view leadership in the age of AI. The development of new forms of leadership in an AI world [11] pose both the benefits and the risks to the established models of leadership and therefore requires a revolution in thinking how leaders may envisage their position [44]-[45].

Being a leader in the AI era means technology is becoming a more significant aspect than it was before, therefore, AI literacy is a must-have skill for any boss [46]. AI literate leaders are able to recognize available tools as well as systems in the organization, learn to coordinate between AI as well as human workers, and create new value in their sectors [47]. Nevertheless, leadership styles should evolve to accommodate the emerging AI issues like AI appropriateness, the company's openness to the use of AI and handling employee resentment against AI-driven layoffs [48].

Moreover, the AI incorporation into leadership roles also shifts power relations and encourages to rethink the concept of power [49]. With more expertise and authority in decision-making processes, it is crucial for leaders to set guidelines on who is liable for particular decision and how algorithms used within the organization are built to prevent biases influencing organizational performance [50]-[55]. The current development of leadership in the age of artificial intelligence involves being as ethical as possible when applying AI and maintaining humanized efficiency in leadership practices [13][56]. Currently leaders are tasked with the roles of rejuvenating leadership by using AI as a tool that enhances human endeavor and not a tool that replaces it.

In conclusion, AI era is the new form of leadership innovation where principles of leadership based on human intelligence have to blend with artificial intelligence [57][58]. AI is not only an adjunct to enhancing organizational capabilities but rather a force that drives organizational leaders to innovate and maintain ethical standards [59]. Business leaders of the present-day era need to accept the change brought about by the application of AI technologies as a positive while at the same ensuring that the implementations of these technologies are done under the right ethical and humane standards [60].

2.2. Applications of AI in Organizational Decision-Making

AI's application in organizational decision-making ranges from operational decisions to strategic choices [61]. Another is in prescriptive analytics where the AI systems use historical data to forecast future occurrences and provide leaders with the way to deal with them, including market trends, customer behavior, or operational issues [14][62]. For example, Netflix and Amazon are using AI technologies to make recommendation based on data analysis that involves the use of prediction models [63]-[66].

In the decision-making processes, risk management is also performed with the help of AI [67]. Through AI, it is possible to model various situations and come up with contingencies before something goes wrong, which is quite helpful to leaders [68]. AI can incorporate information from external environment like the market, regulations and the world to provide better perception of the risks that leaders need to tackle [15][69].

Besides, it is useful to note that AI's ability to analyze real-time data also allows leaders to enhance their operational performance by detecting flaws and delays in different organizational processes [70]-[73]. This is especially useful in industries such as production, distribution, and supply chain where machines help in determining inventories, production process, and schedule, and even predict when a piece of equipment needs maintenance.

2.3. AI Adoption in Organizations and Key Research Variables

The use of Artificial Intelligence has emerged as a mainstream component of organizational change in the present day [74]. The adoption of AI is the degree to which organizations use AI technologies in their operation procedures, organizational decision-making systems and in the process of strategic management. [13][75] assert that the use of AI technologies by organizations is usually a progression by starting with the automation of processes, followed by cognitive insight based on data analytics, and finally cognitive engagement where the AI engages employees and customers directly [76]-[80]. This process of gradual adoption has an impact on the development of leadership practices in organizations [16][81].

Implementation of AI is not only a technological problem, but it is also closely related to organizational culture, organizational leadership behavior, and employee attitudes [81]. Leaders are playing a major part in defining whether the AI technologies are adopted or they are opposed in an organization [82]-[87]. According to [17], those companies that are capable of successfully implementing AI into their experience can be characterized by the fact that its leaders are willing to endorse technological change and make human employees the focus of experience in the decision-making process. Thus, leadership turns out to be a key aspect that will determine the adoption and use of AI technologies in contemporary organizations [88]-[91].

The reason is that AI-supported decision-making is one of the most influential variables to consider with the adoption of AI [92]. The AI systems allow the leaders to process vast data, draw trends, and provide forecasting information, which can be used in making strategic decisions [93]. According to [11], AI can serve many decision-making frameworks in the company, such as human-assisted decisions based on AI insights, human-AI interaction, and automated decision-making structures [94]-[98]. Most organizations nowadays are working under the hybrid decision-making models in the context of leadership, with the AI offering analytical support and the ultimate decision-making power resting with the leaders [99][100].

Leadership style transformation is another significant variable that is connected with AI adoption [101]. With organizations embracing AI systems in their operations, leadership styles might change to a less humanistic approach to decision making and more data-oriented style of leadership [102]. According to [18], such a phenomenon is called the automation-augmentation paradox, as AI can either automate managerial duties or enhance the competencies of leaders. In augmentation situations, AI information assists leaders in improving the quality of strategic thinking and decision-making without delegating the ethical judgment and organizational orientation [103][104]. This change necessitates that leaders acquire new skills such as data literacy, technological sensitivity and interpretation of algorithm outputs [105].

The use of AI also has the consequences in the field

of organizational effectiveness which is another primary variable in the current study. Organizational effectiveness means how well an organization meets its goals regarding productivity, innovation and performance of the employees [106]. According to some studies, AI technologies have the potential to make organizations quite effective, improving the efficiency of their operations, increasing the accuracy of the forecasts, and providing more informed strategic planning [19][107]. Nonetheless, the beneficial effect of AI on organizational performance can frequently be determined by whether leaders can combine AI knowledge with human judgment and corporate principles [108].

Besides, employee attitudes towards AI are another important variable to examine the effect of AI-assisted leadership [109]. The workers might view AI implementation as the means of helping them increase their outcomes or as the form of threat to their employment and individuality. According to [2], the human-AI collaboration is most effective when employees believe in AI systems and know how these technologies serve them and do not take their jobs [110]. Human-centered leadership principles, such as the ability to be empathetic, to make ethical decisions, and engage employees, are another important variable when it comes to AI adoption [111][112]. However, even though AI technologies offer the possibility of better analytics and efficiency, the leadership still needs emotional intelligence and moral accountability.

2.4. Decision-Making and Analytical Capabilities

It has impacted the leadership decision-making process by improving the analytical function of the company [113]. AI algorithms help leaders to read through vast amounts of data from various sources in real-time and make better informed decisions with higher degrees of speed. The application of Artificial intelligence in decision-making means that human cognitive processes are eliminated hence reducing biases in decision making and providing data-driven decision making to the leaders [114]-[120].

For instance, in the financial industry, AI systems can analyze financial data and determine the possible trend of stock exchange market to enable leaders to invest [121][122]. In health care,

artificial intelligence can help in evaluation of patients' information to recommend the best treatment procedures as well as estimate the possibility of disease in the future, thus assisting leaders in making proper decisions regarding the overall management of patients [20][123][124]. However, the adoption of AI has brought several benefits such as improved decision-making, but at the same time it has posed some problems regarding the explanation of AI models [125]-[128]. Popular leaders must be able to put their faith in these suggestions that are provided by the artificial intelligence algorithms and the data on which these were based [129][130]. [5] notes that opacity constitutes as one of the issues that make it difficult to design ethical AI outcomes in an organization.

2.5. Mitigating Bias and Ensuring Fairness in AI Decision-Making

In order to avoid such problems, one has to ensure the methods developing AI employ diverse data in the process of training [130][131]. This way, the organizations can be able to balance up the effect of the use of AI on the particular group who is advantaged or disadvantaged in a particular way [132]-[136]. Besides, AI systems should be audited at least once a year and tested for bias that the model may unknowingly have developed in the course of learning [137][138].

Leaders need to also promote the usage of fairly-selected algorithm that has been developed to avoid; prejudiced decision making [139]-[142]. Some examples of up-to-date, formal techniques include counterfactual fairness where artificially generated data with certain fixed bias is presented to the model to determine how outcome discrimination is affected [143]-[145].

Last but not the least, there is a need to have some control of artificial intelligence while making decisions [146]. It must be noted that AI is helpful in providing insights and decision-making but final judgements should be done manually because they affect people's lives such as premier, loans, hiring or even criminal charges [147][148]. Human intervention is employed to transform the decisions made by AI to check if there is any bias or any discrepancy in the process and if the decision made is ethical or not.

3. METHODOLOGY

Research design is the general approach to research questions and objectives of the research. A mixed method explanatory sequential design is followed in this study, in which quantitative data is first gathered by use of surveys and qualitative data is subsequently gathered by use of interviews to give comprehensions of the statistical results. The research question of the study is how adoption of Artificial Intelligence is connected to the leadership practices in technology organizations in the UAE.

The adoption of Artificial Intelligence is considered the independent variable in this research, and the leadership decision-making processes and leadership styles are the dependent variables. The adoption of Artificial Intelligence is a term that is used to denote the adoption level of AI tools and technologies in managerial and leadership processes including data analytics, decision-support systems, and automated processes. The extent to which leaders base their strategic and operational decisions on data-driven insights and AI-assisted tools in making decisions. Leadership styles are behavioral patterns applied by leaders in leading employees and running activities in an organization.

These can be the conventional human-focused leadership methods and the new data-driven leadership practices. The aim of the research design is thus to investigate the effect of changes in AI adoption on leadership behaviors and managerial decision-making practices of technology organizations. The research can afford to concentrate on one industry setting and, thus, give a more specific and succinct analysis of the connection between AI technologies and leadership transformation.

3.1. Data Collection Methods

The research employs primary and secondary sources of data because they are used to obtain quality and extensive data pertaining to Artificial Intelligence adoption and leadership practices. The data used as primary will be gathered through the participants themselves working in technology organizations within the UAE and secondary data will be taken through academic literature and other industry sources.

The primary data collection will be done in two phases. The collection of quantitative data in the initial stage is done using a structured survey that

will be issued to managers who are employed in technology organizations. The primary method of data collection is the survey that will be used to assess the opinion of participants on the adoption of AI and the leadership practices. The questionnaire will contain Likert scale questions that can enable the respondents to state the degree to which they agree with the statements regarding the use of AI, the process of leadership decision making, and leadership behavior.

The survey is targeted at three key areas of measurement. To start with, it quantifies the level of the adoption of Artificial Intelligence tools in managerial practice. Second, it analyses the impacts of AI technologies on the decision-making process by leaders. Third, it determines whether the implementation of AI has resulted in the changes of leadership styles and management practices. The survey can help the researcher to gather quantitative data on a comparatively high number of managers, which will allow statistically analyzing the correlation between AI adoption and the outcome of leadership. The survey size would be 100-200 managers in the technology using organizations in the UAE.

The second phase of data collection involves collection of qualitative data in the form of semi-structured interviews of a smaller sample of managers. The participants of the survey will be contacted and about five to eight managers will be chosen to take part in these interviews. The interviews will serve to offer more information on the impact of the Artificial Intelligence technologies on managerial decision-making processes and leadership behavior.

The interviews will enable the participants to talk about their experiences using AI tools, elaborate on the challenges and opportunities linked to the adoption of AI and how such technologies impact on their leadership positions.

3.2. Sampling and Data Analysis Tools

The paper employs purposive sampling, which will be used to identify those participants who possess pertinent exposure to the Artificial Intelligence technologies and leadership roles in their respective organizations. The sampling method to use in this study is purposive, as it enables the researcher to identify participants with direct involvement in managerial decision making and have experience in AI-assisted organizational

practices [12].

Technology organizations that operate in the United Arab Emirates are the participants of the study. To make sure that the data gathered is pertinent to the research goals, the participants should be in a managerial position or a leading role at the present moment, as well as possess the experience with AI-based technologies or data-driven decision-making systems. The given target population of direct users of AI tools will provide the study with the satisfaction of including practice-based leadership experiences as they pertain to technology-driven organizational setting.

The survey sample will comprise about 100-200 managers of the technology organizations in the UAE. The sample size is deemed to be suitable to perform quantitative analysis and provides an opportunity to the researcher to study the connection between AI adoption and leadership practices. Besides the survey participants, there will be a smaller sample of five to eight managers who will take part in qualitative interviews so that they can give more insights on the subject of the research. The data analysis is supported by a number of analytical tools.

Quantitative survey data can be analyzed using SPSS software to conduct a statistical test like descriptive statistics, correlation analysis, and regression analysis. These data will allow the researcher to determine trends and links between the adoption of AI and leadership performance.

4. ANALYSIS AND DISCUSSION OF FINDINGS

Based on quantitative data, the findings of the qualitative studies, collected through in-depth interviews with five senior managers from technology organizations in the UAE, correlate to the quantitative findings and offer a deeper, sophisticated understanding of the contribution AI has on leadership. The interviews provided additional layers of understanding of how AI serves to bolster rather than supplant leadership, which serves as a tool to support decision-making and decision-making processes [149].

Many themes were identified in the analysis of the interview data. These were rigorously coded to yield a clear thematic structure that maps to the patterns present in the data. One of the thematic themes, for instance, is AI as an instrument for decision making. One interviewee said:

"AI helps us analyze large amounts of data quickly and make better forecasts. It doesn't replace our judgment, but it definitely makes decision-making more efficient and accurate."

This sentiment was echoed by other managers, who saw AI as a helpful assistant in handling large volumes of data but insisted that human oversight was paramount for key decision-making situations. One manager noted:

"While AI gives us the speed and structure, there's no way it can handle the ethical dilemmas or the personal judgment required in some situations. We still need to make the final call."

These verbatim quotes corroborate this insight that AI is used as a supplement and not as an alternative to human leadership. As highlighted throughout the coding process, this was part of one of the main themes: AI is an enabler of leadership, particularly in the areas of decisions, planning, and interpreting data [150].

A second key concern from the interviews is over dependence on AI. Managers were reluctant to over-dependence on AI, as it may lead to a shortage of skills in interpreting AI outputs. As one interviewee shared:

"I think we're getting too comfortable with AI. But the truth is, if the system fails or if it's misused, we might not have the skills to get back on track."

This challenge to skills shortages and accountable use of AI also correlates with what was found in the quantitative regression analysis, which identified Barriers and Concerns as one of the most significant negative predictors of leadership transformation. There was also a fear of losing decision-making over the control, as mentioned by yet another manager:

"It's important that we use AI in a controlled manner, with the right checks and balances. It should support us, not make us passive."

Additionally, ethical considerations were a recurring theme in the interviews. Managers pointed out that although AI can deliver enormous benefits related to data analysis and support for decision-making, the usage of the technology has to be carefully controlled to prevent ethical failures. One manager pointed out:

"We have to be careful about bias in the data AI is trained on. Without the right governance, we risk making decisions based on flawed or biased data."

The qualitative findings correlate with the ethical concerns mentioned in the Barriers and Concerns

variable. This interlink of these concerns such as over-dependence, lack of skills, and ethical problems, became a major limiting factor to AI efficiency in leadership positions.

The coding framework informed by [3] highlight the value of qualitative data to explain and expand the meaning of quantitative findings in applied mixed-methods. This model facilitated the systematic formation of the themes with the empirical support provided by the interviewee quotations, thereby enriching the statistical analysis.

4.1. Analysis and Interpretation of Findings

These inferential results reinforce the descriptive previous results. The percentages already showed that respondents were almost universally positive about AI. The coefficient, correlation, and regression analysis now tells us that this positive trend is indeed statistically significant. The most evident conclusion is that AI decision-support role is robustly associated with leadership transformation. This suggests that AI also impacts leadership most where it enables management to improve quality, pace and confidence in decision making. This suggests a perspective the AI tends to function as a complement or enhancement of managerial judgments as opposed to having the opposite effect [10].

The results support the argument that leadership change is not a result of AI availability or deployment within an organization. The independent variable that had a weak effect on leadership transformation was whether the organization is using AI. The point of this is that it indicates the adoption issue is not formal but pragmatic. Leaders seemingly respond better when AI aids them in doing something concrete: quickly analyze large data, increase decision accuracy, lower uncertainty or support strategic decision making [151].

The findings also demonstrate that barriers and reservations concerning AI use are important. For the first regression model, Barriers and Concerns had a negative effect on transformational leadership. This implies that ethical concern, skillslessness and fear of becoming too reliant on AI can lessen the positive effects of AI on leadership. That is, AI adoption should not be referred solely to a technical approach but instead seen as an organizational and managerial approach and development influenced by trust, competence

and responsible use, which is indicative of the questions raised in prior studies on AI governance and the automation-augmentation paradox [13].

Another important finding is that Decision Support was the only significant predictor of Strategic Planning in the second regression model. There is implication here that strategic planning is more influenced by AI's usefulness in decision-making than overall readiness or change in leadership [20]. In other words, respondents seem to value AI most when it produces practical insight that can guide action.

The qualitative findings add more credence to these conclusions and confirm that managers do not deny AI has a role itself, even though they view it as another (replacement) resource for leadership. Instead, we view them as tools to improve decision quality while still needing humans to review it. And that point helps clarify why Decision Support turned out to be so powerful quantitatively, while Barriers still made a difference. Combined, the quantitative and qualitative findings indicate that AI exerts the stronger effects on leadership where it enhances managers' capacity for information analysis, interpretation and action while relying on confidence, expertise and judicious implementation.

4.2. Practical Implications

The study's empirical results indicate that incorporating AI should not just be conceived as the implementation of a new technology system and should also be perceived as a strategic change. The key determinant of success is if AI enhances decision making in a manner that provides visible organizational benefits. Consequently, organizations must have AI tools that improve the data analysis experience, reduce uncertainty (the measurement element of decision making), improve accuracy and support strategic planning more widely (Raisch & Krakowski, 2021). And such frameworks should be relevant to AI adoption efforts at a strategic level to maximize any impact achieved.

Critical Steps to be taken:

1. Develop a Decision Support Strategy: Formulate a clear strategy which contains AI tools that will guide decisions in supporting decision making based on your strategic AI technologies like: predictive

analytics, risk analysis, and forecasting. Assign specific teams responsible for managing AI tools so that they are set up in line with leadership's goals.

- Key Performance Indicators (KPIs): Track decision-making speed, accuracy improvements, and reduction in uncertainty after AI integration.
2. Create a Governance Framework for AI: Ethical governance in AI use is a critical condition for adoption. This framework should ensure data privacy, transparency, and accountability in AI decisions. Organizations need to lay out ethical standards and risk management protocols.
 - Actionable Steps: Form an AI ethics committee to review AI applications, train teams on ethical decision-making with AI, and develop a code of conduct for AI usage.
 - KPIs: Monitor ethical breaches, incidents of bias, and staff compliance with AI governance protocols.
 3. Invest in Continuous Training and Upskilling: AI systems will only succeed if the people in charge run them. Organizations need to keep training and empowering their leaders and teams so they have both technical and leadership skills to translate those outputs into action from AI.
 - Training Framework: Implement a three-tier training program: basic (introduction to AI), intermediate (AI integration into decision-making), and advanced (AI ethics, governance, and leadership).
 - KPIs: Measure the percentage of employees completing each training level, and assess post-training improvements in AI-related decision-making.
 4. Promote Cross-Functional Collaboration: AI should not be a thing by itself. Bolster collaboration across leadership, IT, ethics committees, and front-line teams to enable cross-functional collaboration to meet real-world problems that drive the solutions in the real world that make AI solutions and help us approach them ethically grounded.
 - Actionable Steps: Organize quarterly

strategy sessions where cross-functional teams discuss AI performance, challenges, and ethical considerations.

- KPIs: Track the number of cross-functional workshops held, and measure improvements in inter-departmental collaboration on AI projects.

4.3. Governance and Ethical Guidelines:

The study highlights that AI systems fail to reach their potential when there is a lack of trust, skills, or willingness to integrate AI into decision-making. Managers who were interviewed repeatedly made reference to the need for human supervision, in particular in challenging or ethically sensitive contexts. AI, then, should be perceived as auxiliary, not a substitute to leadership. There must be active action against ethical issues such as data bias or interpretability.

Practical Framework:

Develop an AI leadership model that outlines how AI can support leadership decisions in various organizational contexts. In particular, this model should carefully explain the limits of AI use and prevent leaders from losing their active role in the decision-making process, particularly in domains that involve ethical judgment.

5. CONCLUSION

This study highlights the significant potential of artificial intelligence (AI) in enhancing leadership decision-making, yet it also uncovers critical tensions that challenge existing leadership models. The findings confirm that AI can support leaders by providing data-driven insights, thereby improving the efficiency and accuracy of strategic decisions. However, despite the promise of AI, the role of human leadership remains indispensable, especially when decisions involve complex ethical considerations or require a nuanced understanding of organizational dynamics. This tension between AI adoption and trust concerns, particularly in areas such as data privacy and algorithmic bias, calls for a more nuanced view of AI as a complementary tool rather than a replacement for leadership. The research also reveals that the effectiveness of AI adoption is heavily contingent on leadership readiness and organizational culture. While AI is viewed as a catalyst for improved performance, its success is

determined by leaders' ability to leverage AI tools in ways that align with their leadership style and organizational goals. This observation challenges the transformational leadership theory, which presupposes that technology can drive leadership transformation in a linear way. In contrast, the study suggests that AI adoption must be accompanied by a balanced approach that integrates both human and technological capabilities.

It is possible to make several important conclusions based on the findings of this study. To begin with, artificial intelligence will improve the decision-making process in leadership to a great extent by offering data-driven information to facilitate strategic planning and decision-making on operations. AI technologies allow leaders to process more complex information in a short period of time that contributes to the effectiveness of decision-making.

Second, the research concludes that the use of AI can help organizations improve their performance as leaders can make better decisions and timely. The predictive analytics and real-time data help companies to achieve this goal by detecting opportunities and reacting to the market changes more appropriately.

Third, the results point to the significance of leadership support and organizational preparedness to implement AI successfully. Managers with a proactive attitude towards innovation and the use of technology have higher chances of adopting AI tools in management.

Lastly, the paper concludes that artificial intelligence is not to be used as a substitute of human leadership, but as a decision-support tool. Making a good decision needs a balance between technical knowledge and intuition, especially where the matter at hand is ethically important or difficult to comprehend within the organization.

5.1. Practical Recommendations

Organizations should implement tiered training programs focusing on both AI literacy for all staff and advanced leadership training for senior managers. These programs should be rolled out in phases, starting with basic AI awareness and progressing to more specialized training on data interpretation and ethical AI governance for leadership teams. Additionally, organizations should consider adopting a phased AI

implementation framework, beginning with pilot projects to integrate AI in decision-making processes, followed by a full-scale roll-out once initial results are evaluated and challenges are addressed. Due to the final results of this paper, a number of recommendations can be developed in practical terms to be used by companies that are interested in implementing artificial intelligence technologies.

Organizations ought to invest in AI systems that aid in the making of data-driven decisions and also make the managerial process more efficient. Such technologies are capable of assisting leaders to analyze information in a better way and enhance the quality of the organizational decision making.

Organizations should also have training programs that build digital skills of the managers and employees. The leaders should learn to use and decode AI-generated insights to gain maximum advantages of technological systems.

Moreover, the responsible use of artificial intelligence should be formed by clear governance systems by organizations. The policies that should be conducted regarding data privacy, ethical decision-making, and transparency are necessary to establish trust and reduce possible risks related to the implementation of AI.

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