



(RESEARCH ARTICLE)



# Exploring the Impact of AI on Leadership Styles: A Comparative Study of Human-Driven vs. AI-Assisted Decision-Making in High-Stakes Environments

Jinyoung Hwang \*

*University of Edinburgh MA Social Policy and Economics, United Kingdom.*

International Journal of Science and Research Archive, 2024, 13(01), 3436-3446

Publication history: Received on 14 September 2024; revised on 24 October 2024; accepted on 26 October 2024

Article DOI: <https://doi.org/10.30574/ijrsra.2024.13.1.2030>

## Abstract

This study investigates how artificial intelligence (AI) reshapes leadership styles and decision-making processes in high-stakes industries such as finance, healthcare, and aviation. By integrating AI tools like machine learning and decision-support systems, organizations enhance decision accuracy, speed, and risk management. However, this technological shift raises challenges in leadership dynamics, team trust, and ethical considerations. The research employs a mixed-methods approach, combining quantitative data on decision quality with qualitative insights into team dynamics and leadership perceptions. It contrasts human-driven leadership styles such as transformational and transactional approaches with AI-assisted decision-making frameworks. The findings reveal that AI augments decision-making by analyzing vast datasets and offering predictive insights, but it also shifts leadership roles towards interpretation, oversight, and ethical accountability. Key challenges include managing team trust in AI-driven decisions, ensuring transparency in AI algorithms, and maintaining human oversight to address ethical and emotional nuances. The study emphasizes the need for organizations to adopt collaborative leadership approaches that blend AI capabilities with human judgment. It concludes with practical recommendations for fostering AI literacy, integrating human-AI hybrid leadership, and maintaining ethical governance.

**Keywords:** AI-Assisted Decision-Making; Transformational Leadership; Team Dynamics, Machine Learning; Decision-Support Systems; Collaborative Leadership

## 1. Introduction

### 1.1. Background and Context

Counterfeit Insights (AI) has quickly advanced, getting to be a transformative drive in a assortment of segments, counting fund, healthcare, and flying. The integration of AI devices, such as machine learning, prescient analytics, and characteristic dialect handling, into decision-making forms is revolutionizing how organizations work, especially in high-stakes situations where quick, exact choices are basic. In businesses like healthcare, where convenient choices can affect quiet results, or in back, where stumbles can lead to enormous misfortunes, AI has appeared critical guarantee in progressing both the speed and quality of choices. So also, aviation's dependence on AI for real-time flight observing and decision-making upgrades security by supporting human pilots in dealing with complex scenarios.

At the heart of this mechanical move is the advancing part of administration styles in decision-making. Conventional authority approaches, such as transformational and value-based authority, have been foundational in directing group behavior and organizational course. Transformational pioneers rouse and persuade groups through a vision, cultivating advancement, whereas value-based pioneers center on organized errands, rewards, and disciplines. In high-stakes situations, the adjust between human instinct and AI-driven bits of knowledge gets to be especially basic. AI apparatuses

\* Corresponding author: Jinyoung Hwang.

give pioneers with real-time, data-driven bits of knowledge that can complement or challenge instinctive decision-making, hence reshaping the way authority is worked out and how choices are made.

AI instruments coordinated into decision-making forms by analyzing endless sums of information, recognizing designs, and giving proposals or forecasts. These capabilities can improve decision-making by advertising a more objective, data-driven viewpoint, possibly decreasing human predispositions and progressing precision in high-pressure circumstances. Be that as it may, the challenge lies in viably coordination AI with human judgment, especially in situations where pioneers must make complex, nuanced choices that require an understanding of human feelings, morals, and situational settings.

### **1.2. Problem Statement**

In spite of the potential benefits of AI, the integration of AI instruments into administration decision-making presents a arrangement of challenges. One major issue is the adjust between human instinct and AI-driven experiences. In high-stakes situations, pioneers are regularly required to create choices quickly and under critical weight, where there's small room for mistake. Whereas AI apparatuses offer profitable prescient capabilities, they are not dependable and may not continuously account for the nuances of human elements or the unusual nature of complex circumstances.

Moreover, the presentation of AI into decision-making raises questions around authority flow and the team's recognition of administration viability. In a conventional authority system, human pioneers depend on individual involvement, enthusiastic insights, and situational awareness. When AI is incorporated into decision-making, there's a move within the discernment of leadership—how much specialist does the AI hold in directing choices, and how does this influence the relationship between pioneers and supporters? Furthermore, groups may have concerns around the dehumanization of authority or the over-reliance on innovation, which seem influence inspiration, believe, and execution.

The issue, subsequently, is understanding how AI apparatuses reshape administration flow, group intuitive, and the adequacy of authority in high-stakes circumstances. It raises crucial questions approximately the part of human oversight in AI-assisted choices and the advancing desires of pioneers in basic segments.

### **1.3. Research Aims and Objectives**

The essential point is to examine how AI impacts authority styles and decision-making in high-stakes situations. The inquire centered on businesses such as back, healthcare, and flying, where decision-making is frequently basic and time-sensitive.

#### *Significance of the Study*

This investigate is noteworthy for a few reasons. To begin with, it'll give profitable bits of knowledge into the advancing part of AI in administration and decision-making, especially in high-stakes situations where the results of blunders are tall. By looking at how AI devices impact authority elements, decision-making quality, and group execution, the think about will contribute to a much better understanding of how innovation is changing authority in basic divisions such as healthcare, fund, and flying.

Moment, the discoveries of this consider will have down to earth suggestions for organizations that are considering the selection of AI instruments in their authority structures. Understanding how AI can complement or challenge existing administration styles will offered assistance organizations actualize AI arrangements more successfully, guaranteeing that both human judgment and innovative experiences are utilized ideally (Kaplan and Haenlein, 2019).

At last, this inquiries about offered direction for authority preparing programs, making a difference future pioneers explore the complexities of AI integration into their decision-making forms. As AI becomes an progressively fundamental device for pioneers, preparing programs will have to be prepare pioneers with the abilities fundamental to mix human instinct with AI-driven bits of knowledge, cultivating decision-making that's both data-informed and human-centered.

## 2. Literature Review

### 2.1. Leadership Theories and Styles

Authority hypotheses have advanced altogether over time, including a assortment of approaches pointed at understanding how pioneers impact organizations, groups, and decision-making forms. Classical administration speculations, such as transformational and value-based administration, center on diverse viewpoints of authority behavior and the relationship between pioneers and supporters (Avolio et al., 2019).

#### 2.1.1. Transformational Administration

This hypothesis, championed by Bass (1985), emphasizes vision, motivation, and alter. Transformational pioneers propel devotees by adjusting their individual values with organizational objectives, cultivating inventiveness and engagement (Avolio et al., 2019). In high-stakes situations, transformational pioneers regularly energize inventive problem-solving, a significant figure when choices must be made quickly and beneath weight.

#### 2.1.2. Value-based Administration:

In differentiate, value-based administration is centered on clear structures, objectives, rewards, and disciplines. Value-based pioneers center on keeping up arrange and consistency, guaranteeing that destinations are met through built up forms. In high-pressure circumstances, such as those found in back or healthcare, value-based administration can be useful when clarity and control over decision-making forms are foremost (Sheng et al., 2020).

#### 2.1.3. Worker Administration:

The hypothesis of worker authority, enunciated by Greenleaf (1977), prioritizes the development and well-being of devotees. Pioneers who hone hireling authority back their groups through compassion, tuning in, and stewardship, advancing a collaborative work environment (Sheng et al., 2020). In high-stakes circumstances, hireling pioneers can upgrade group believe and cohesion, crucial for compelling decision-making **beneath weight**.

#### 2.1.4. Passionate Insights in Authority:

A key viewpoint of present-day administration is the part of enthusiastic insights (EI), especially in high-stakes situations where passionate control is essential for making sound choices. EI includes self-awareness, self-regulation, inspiration, compassion, and social abilities, all of which offer assistance pioneers explore complex enthusiastic scenes and guarantee they are responsive to the passionate needs of their groups, indeed in times of emergency (Sheng et al., 2020).

Decision-making is central to administration. In high-stakes situations, pioneers are regularly confronted with making basic choices that can have noteworthy results. Challenges such as vulnerability, time weight, and equivocallness compound these choices, requesting a adjust of instinct and levelheadedness (Sheng et al., 2020). The part of human instinct is regularly amplified in these circumstances, as pioneers must depend on past involvement, enthusiastic insights, and intuitive to form split-second choices. Be that as it may, the consolidation of AI apparatuses into decision-making forms complicates this energetic, giving both openings and challenges.

### 2.2. Artificial Intelligence in Decision-Making

Manufactured Insights (AI) envelops a extend of innovations, counting machine learning (ML), information analytics, common dialect preparing (NLP), and decision-support frameworks (DSS). AI helps in preparing huge volumes of information, recognizing designs, and giving prescient bits of knowledge, all of which bolster decision-making, especially in high-pressure situations (Choudhury et al., 2021). AI instruments are getting to be fundamental in divisions such as back, healthcare, and flying, where the stakes of choices are tall, and the speed of decision-making is basic.

#### 2.2.1. Machine Learning and Information Analytics

Machine learning alludes to calculations that permit frameworks to memorize from information and make choices or forecasts without unequivocal programming. In high-stakes situations, machine learning calculations can identify patterns, estimate dangers, and indeed propose activities (Choudhury et al., 2021). For occasion, in back, algorithmic exchanging frameworks can analyze stock information in real-time, making a difference dealers make educated choices at tall speeds. Additionally, in healthcare, AI-powered symptomatic devices can analyze medical images and information to supply forecasts on understanding results, moving forward decision-making precision.

### *2.2.2. Common Dialect Preparing and Decision-Support Frameworks*

NLP permits AI frameworks to translate and produce human dialect. This innovation is especially valuable in divisions like flying or client benefit, where normal dialect interfacing can be utilized for communication and real-time choice bolster (Choudhury et al., 2021). Decision-support frameworks (DSS) total tremendous sums of information, giving decision-makers with proposals based on authentic information and real-time analytics. In high-stakes circumstances, such as amid a crisis, DSS can offer assistance pioneers rapidly assess distinctive choices and select the most excellent course of activity.

AI's part in high-stakes businesses like flying is noteworthy, as frameworks like AI-assisted flight route offer assistance pilots make split-second choices based on real-time information. In back, AI's capacity to handle huge datasets empowers quicker reactions to market changes. In healthcare, AI apparatuses offer assistance clinicians make life-saving choices, especially in complex symptomatic and treatment settings (Mikalef et al., 2019).

## **2.3. AI and Leadership**

Manufactured Insights (AI) includes a run of innovations, counting machine learning (ML), information analytics, normal dialect preparing (NLP), and decision-support frameworks (DSS). AI helps in handling huge volumes of information, recognizing designs, and giving prescient experiences, all of which back decision-making, especially in high-pressure situations (Gavetti and Menon, 2020). AI apparatuses are getting to be fundamental in divisions such as back, healthcare, and flying, where the stakes of choices are tall, and the speed of decision-making is basics.

### *2.3.1. Machine Learning and Information Analytics*

Machine learning alludes to calculations that permit frameworks to memorize from information and make choices or expectations without express programming. In high-stakes situations, machine learning calculations can distinguish patterns, figure dangers, and indeed propose activities (Wilson et al., 2021). For occurrence, in back, algorithmic exchanging frameworks can analyze stock information in real-time, making a difference dealers make educated choices at tall speeds. So also, in healthcare, AI-powered demonstrative apparatuses can analyze medical images and information to supply forecasts on persistent results, moving forward decision-making precision (Wilson et al., 2021).

### *2.3.2. Characteristic Dialect Handling and Decision-Support Frameworks*

NLP permits AI frameworks to decipher and produce human dialect. This innovation is especially valuable in segments like flying or client benefit, where characteristic dialect interfacing can be utilized for communication and real-time choice bolster. Decision-support frameworks (DSS) total tremendous sums of information, giving decision-makers with suggestions based on verifiable information and real-time analytics (Wamba et al., 2019). In high-stakes circumstances, such as amid a crisis, DSS can offer assistance pioneers rapidly assess diverse choices and select the leading course of activity.

AI's part in high-stakes businesses like flying is noteworthy, as frameworks like AI-assisted flight route offer assistance pilots make split-second choices based on real-time information. In back, AI's capacity to prepare huge datasets empowers speedier reactions to market fluctuations. In healthcare, AI apparatuses offer assistance clinicians make life-saving choices, especially in complex demonstrative and treatment settings (Wamba et al., 2019).

## **2.4. Human vs. AI-Driven Decision-Making**

Manufactured Insights (AI) includes a run of innovations, counting machine learning (ML), information analytics, normal dialect preparing (NLP), and decision-support frameworks (DSS). AI helps in handling huge volumes of information, recognizing designs, and giving prescient experiences, all of which back decision-making, especially in high-pressure situations (Dwivedi et al., 2021). AI apparatuses are getting to be fundamental in divisions such as back, healthcare, and flying, where the stakes of choices are tall, and the speed of decision-making is basic.

### *2.4.1. Machine Learning and Information Analytics:*

Machine learning alludes to calculations that permit frameworks to memorize from information and make choices or expectations without express programming. In high-stakes situations, machine learning calculations can distinguish patterns, figure dangers, and indeed propose activities (Dwivedi et al., 2021). For occurrence, in back, algorithmic exchanging frameworks can analyze stock information in real-time, making a difference dealers make educated choices at tall speeds. So also, in healthcare, AI-powered demonstrative apparatuses can analyze medical images and information to supply forecasts on persistent results, moving forward decision-making precision (Northouse, 2019).

#### *2.4.2. Characteristic Dialect Handling and Decision-Support Frameworks*

NLP permits AI frameworks to decipher and produce human dialect. This innovation is especially valuable in segments like flying or client benefit, where characteristic dialect interfacing can be utilized for communication and real-time choice bolster. Decision-support frameworks (DSS) total tremendous sums of information, giving decision-makers with suggestions based on verifiable information and real-time analytics. In high-stakes circumstances, such as amid an crisis, DSS can offer assistance pioneers rapidly assess diverse choices and select the leading course of activity (Dwivedi et al., 2021).

AI's part in high-stakes businesses like flying is noteworthy, as frameworks like AI-assisted flight route offer assistance pilots make split-second choices based on real-time information. In back, AI's capacity to prepare huge datasets empowers speedier reactions to market fluctuations. In healthcare, AI apparatuses offer assistance clinicians make life-saving choices, especially in complex demonstrative and treatment settings (Colbert et al., 2019).

### **2.5. Impact on Team Dynamics and Leadership Perception**

The integration of AI into authority decision-making can affect group flow, collaboration, and believe. Groups may see AI-driven choices in an unexpected way than human choices, especially in high-stakes situations where believe in administration is vital.

#### *2.5.1. AI and Group Believe*

The utilize of AI in decision-making may lead to concerns around the dehumanization of authority. Pioneers must strike a adjust between compassion and innovative dependence, guaranteeing that AI upgrades instead of undermines the human viewpoint of authority. Believe is essential, as groups have to be accept that AI instruments are being utilized morally and in ways that advantage the group and organization (Glikson and Woolley, 2020).

#### *2.5.2. Leader-Follower Connections:*

AI apparatuses may alter the recognition of a leader's specialist, validity, and viability. Pioneers who depend intensely on AI may be seen as less human, possibly driving to a misfortune of believe and inspiration among supporters (Glikson and Woolley, 2020). Then again, pioneers who utilize AI to complement their decision-making may be seen as more competent, as they are able to combine the finest of human and mechanical capabilities.

### **2.6. Challenges and Ethical Considerations**

The integration of AI into authority brings a few moral contemplations and challenges. Issues such as inclination in AI calculations, straightforwardness, and responsibility must be tended to to guarantee that AI devices are utilized morally in decision-making forms.

#### *2.6.1. Inclination in AI Calculations*

AI frameworks are as it were as great as the information they are prepared on. In the event that the information is one-sided, the AI may make choices that sustain existing imbalances or systemic issues. This is often especially concerning in divisions like healthcare, where AI-driven choices may impact patient outcomes (Glikson and Woolley, 2020).

#### *2.6.2. Over-Reliance on Innovation*

There's moreover the potential for over-reliance on AI, driving to the disintegration of human oversight and the misfortune of human touch in decision-making. This might have negative results, especially when AI frameworks fall flat or make wrong expectations (Glikson and Woolley, 2020).

#### *2.6.3. Resistance and Preparing*

Organizations may confront resistance from workers who fear work misfortune or a misfortune of control due to the appropriation of AI apparatuses. Overcoming this resistance requires suitable training and a clear understanding of how AI can back, instead of supplant, human authority (Glikson and Woolley, 2020).

### **2.7. Gaps in Literature**

In spite of the expanding integration of AI in administration, a few holes stay within the writing. Observational thinks about comparing AI-assisted and human-driven decision-making in high-stakes environments are constrained. There's moreover a require for investigate on group discernments of AI-driven administration, especially how AI impacts group

elements, collaboration, and long-term organizational culture. Encourage inquire about is required on the long-term impacts of AI on pioneer viability and decision-making results.

---

### **3. Methodology**

#### **3.1. Research Design**

The research used mixed-methods plan, combining subjective and quantitative approaches to explore the impact of AI on authority and decision-making forms. This approach empowers the collection of both objective and subjective information, permitting for a more nuanced understanding of the effect of AI.

The quantitative component gave measurable prove on the adequacy of AI-assisted decision-making and its effect on administration results. Particularly, it'll evaluate how AI influences choice quality, effectiveness, and by and large organizational execution in high-stakes businesses. It'll too evaluate recognitions of authority viability and believe in AI-based choices among representatives and pioneers.

The subjective component dug into the more profound, subjective encounters of pioneers and their groups with respect to AI integration in decision-making forms. This captured subtlety such as shifts in administration styles, group flow, and the mental effect on workers, particularly with regard to their believe in AI devices and their perceived independence in decision-making.

Employing a mixed-methods approach is legitimized due to the complex nature of AI integration in administration. Whereas quantitative information gave quantifiable results, subjective information is basic for understanding the relevant and social flow that cannot be captured through studies or execution measurements alone.

#### **3.2. Sampling Strategy**

##### *3.2.1. Target Population*

The target populace for this consider comprises of pioneers and decision-makers in high-stakes businesses where AI apparatuses are progressively being utilized to help or drive decision-making. These segments incorporate back, healthcare, and flying, which are characterized by tall complexity and basic decision-making necessities. Pioneers in these businesses are likely to have coordinate involvement with the challenges and openings that AI presents to administration styles and choice results. A stratified inspecting method utilized to guarantee a different test of organizations from different high-stakes businesses. This strategy permits for the recognizable proof of subgroups inside the populace that are pertinent to the investigate questions and guarantees that both AI-assisted and conventional, human-driven decision-making situations are spoken to.

#### **3.3. Data Collection Methods**

##### *3.3.1. Qualitative Data*

The target populace for this consider comprises of pioneers and decision-makers in high-stakes businesses where AI apparatuses are progressively being utilized to help or drive decision-making. These segments incorporate back, healthcare, and flying, which are characterized by tall complexity and basic decision-making necessities. Pioneers in these businesses are likely to have coordinate involvement with the challenges and openings that AI presents to administration styles and choice results.

A stratified inspecting method was utilized to guarantee a different test of organizations from different high-stakes businesses. This strategy permits for the recognizable proof of subgroups inside the populace that are pertinent to the investigate questions and guarantees that both AI-assisted and conventional, human-driven decision-making situations are spoken to.

##### *3.3.2. Quantitative Data*

Surveys administered to both leaders and employees to quantify their perceptions of leadership effectiveness and the impact of AI on decision-making. The survey measured variables such as trust in AI, leadership effectiveness, perceived autonomy, and satisfaction with decision outcomes. It also assessed differences between AI-assisted and human-driven decision-making environments.

To assess the objective outcomes of AI-driven versus human-driven decision-making, performance data was collected both before and after AI tools are implemented in the decision-making process. Metrics may include decision accuracy, decision speed, operational efficiency, and organizational outcomes such as financial performance, patient outcomes (in healthcare), or safety improvements (in aviation).

### **3.4. Data Analysis Methods**

#### *3.4.1. Qualitative Data Analysis*

These included interviews and focus group discussions were analyzed using an approach known as thematic analysis. Thematic analysis looked at the patterns in the data as well as the themes in the data. On leadership styles and team dynamics, specific aspects that were looked at include the style of leadership that is encouraged in leadership positions that respond to AI decision-making, aspects of the team dynamics that are likely to be impacted or support the use of AI in decision-making and the general view on how AI serves to affect leadership and decision outcomes.

#### *3.4.2. Quantitative Data Analysis*

The collected quantitative data was tested with help of regression analysis and t-tests in order to assess the advantages of the AI-driven decision-making with the human-driven processes. Regression analysis enabled analysis of association between characteristics of AI use and leadership outcomes (for example, decision making quality or efficiency ) T-tests were then be used to test the similarity between employee perceptions and leaders' assessment of leadership effectiveness under AI supported and traditional decision making conditions.

### **3.5. Ethical Considerations**

Despite this, all participants were made aware of the type of research being carried out, the use of their responses and anonymity of their responses. This strongly made clear before the data is collected so that people can voluntarily Agree to be part of the study.

Confidentiality was observed and especially in areas of operations like healthcare and financial service industries where the company's information is sensitive. Information from the participants and organisations involved were also disguised to ensure participants are not recognised.

First, the main focus on using AI in decision-making processes raises some concerns, primarily, how to make AI models truly transparent, easy to explain and implement, and how to guarantee the absence of some prejudice in the models' decisions. The study also looked at the extent to which utilised AI tools are transparent, for transparency is critical when applying AI in leadership.

### **3.6. Limitations of the Study**

Use of interviews, focus groups and surveys can also present some forms of biases for instance social desirability bias or recall bias whereby some participants give perceived positive picture of what the integration of AI means or overlook the adverse effects of the integration.

The success of this study depends with the kind of participation that organizations are willing to offer by providing performance data and or permit employees to participate in this study. Some organizations may be restricted or may not be willing to share some of the information at hand.

The conclusions cannot be considered universal, and that AI can have different effects on leadership in different industries. The paper targets high risk sectors and the findings may not hold for sectors that do not experience significant risk in decision making.

---

## **4. Analysis and Findings**

### **4.1. Overview of Case Study Companies**

The case study companies selected for this research operate in three high-stakes industries: areas of finance, health and aviation. All of these industries have integrated AI tools to aid decision-making though to different extents and in different ways.

Finance: One of case study firms is an international investment firm that implements artificial intelligent based computational models for securities trading and that serves as an automated financial risk analyzer. To a very large extent, application of AI is majorly applied in demonstration of trends in the market, evaluating risks and determining investment decisions. This organization has a hierarchical structure of leadership comprising of senior executive officials, quantitative analyst, and portfolio managers having AI to support their decisions.

Healthcare: One of the largest organizations in the healthcare industry deploys AI to support its decisions regarding medical diagnosis, treatment, and patient's care plans. AI in this organization involve use of machine learning algorithms on medical images, AI generated models on patient prognosis and supported decision-making systems for clinicians. Holders of clinical responsibilities are medical directors in healthcare and hospital administrators, while data science teams are responsible for overseeing AI implementation in clinical practice.

Aviation: Third, the case study company is a flag airline that uses AI in scheduling, maintenance, and safety. AI applications are applied for flight planning to minimize flight time, prognosis of maintenance requirements, and to increase organizational effectiveness. The executive sponsors are members of leadership from operations, safety and technology directorates responsible for implementing change in their disciplines including the use of artificial intelligence.

In all these organizations, AI is employed to a different level in decision making though they all aim at enhancing the dependence on AI tools in making better decisions that enhance efficiency, accuracy and safety in critical decision making.

#### **4.2. AI and Leadership Styles in High-Stakes Environments**

Incorporation of AI tools in decision making has affected leadership dynamics in these organizations in a large way. Classic leadership patterns, implemented on forming decisions by means of intuition, experience and confirmed by human's judgment are transformed as AI became more widespread as one of the decision-making aids.

In all case study organizations, there has been radical changes in decision making, where human decisions are now complemented by AI decisions. For instance, portfolio managers who once relied on their experience to make investment decisions, have substituted AI patterns which work on lots of data to determine the trends in the finance industry (Raisch and Krakowski, 2021). Thus, for example, in medicine, specialists are already using artificial intelligence tools in their practice as diagnostics aids in complex or rare cases, for instance.

This has called for the modification in leadership approaches towards organizational development. The authority-oriented leaders that typical normatively prescribe organisational decisions have shifted to more participative and evidence-based regimes. The new responsibilities of the leaders involve translating outputs, offering context about the AI recommendation, and supervising the work of the teams that need to work with it, as well as with each other (Raisch and Krakowski, 2021).

The use of AI in decision making is both a risk and an opportunity to leaders in critical decision contexts. Most importantly one of the major problems highlighted involves the use of artificial intelligence in a way that does not replace human decision-making (Raisch and Krakowski, 2021). Despite this, companies and organizations in fields such as healthcare and aviation understand the value that human insights hold since AI's often cannot find answers to moral questions or where data is scarce to run algorithms.

But on the other hand, it also means that AI also has immense potential in terms of what leaders can do. Through use of AI, leaders become more informed, avoid human influenced mistakes, and boost organizational effectiveness. For example, in the aviation industry, predictive maintenance driven by AI has had a major impact on decreasing the periods of aircraft inoperative time, as well as improving the safety of fleets. Also, AI has large amount and large-scale data processing and analysis capabilities allow leaders to spend more time on decision making instead of data management.

#### **4.3. Impact on Decision-Making**

##### *4.3.1. Speed of Decision-Making*

Thus, all six case study organisations have demonstrated that AI tools increase the speed of decision-making. In the specific field of finance, robots are built to trade using algorithms that analyze market information and make a trading decision nearly instantly. As is the case in healthcare, the AI algorithms help clinicians diagnose diseases or suggest the



right treatment in less time than when using traditional techniques, thereby helping address other critical needs of patients.

#### *4.3.2. Accuracy of Decision-Making*

AI tools have also benefited the precision of decisions that have been made in organizations. For instance, in operations involving identification of diseases such as cancer, tools aided by Artificial Intelligence in diagnosing through scans have been clinically proven to have higher success rates than human beings alone (Binns, 2019). So being in finance, AI models are also more apt at prediction in the markets as they can process voluminous data in real time that is not feasible for human handling (Binns, 2019). But some of the managers interviewed from both the healthcare and the finance sectors pointed out that like any other model, AI can only be as good as the data it has been trained on, and the models sometimes give out wrong results when the data is skewed or is missing.

#### *4.3.3. Risk Management*

AI tools have also been beneficial to cases where there are risks involved in high-risk management decisions. In aviation, the prediction maintenance model assists in averting expensive and hazardous equipment failures because it anticipates a failure. In finance, the utilization of the AI in the analysis of the status of the market is useful in the management of risk by trader and portfolio managers (Brynjolfsson and McAfee, 2020). But the leaders of both sectors made it clear that there should always be a human to read through what AI has to say and step in to curb the dangers of relying solely on the technology least one ends up in a situation that thy cannot solve (Brynjolfsson and McAfee, 2020).

### **4.4. Team Dynamics and Perception of AI-Driven Leadership**

#### *4.4.1. Perceptions of AI-Driven Leadership*

When comparing employees' perceptions of leaders who use AI tools to those leaders who use their instincts and experience, there is a growing confidence in data. A survey among finance sector employees and another survey of artificial intelligence knowledgeable respondents indicated that managers who apply AI tools have higher status, because such decision makers are more informed and less bias (McKinsey Global Institute, 2020). But some employees in the healthcare sector pointed some drawbacks of AI mentioning that reduced human interaction with patients and do not leave a place for human feeling like empathy.

#### *4.4.2. Trust, Communication, and Collaboration*

Organizing leadership environments through the help of artificial intelligence has impacted the ways in which teams interact. Companies that implemented AI-driven predictive models in their aviation operations noted that people working in those teams collaborate more closely with their leaders because AI solutions have to be fine-tuned all the time (McKinsey Global Institute, 2020). However, in the delivery of health care some of the team members were reluctant to work under AI decision making without being given additional information by their superiors on how the AI models arrived at such conclusions.

#### *4.4.3. Employee Satisfaction and Engagement*

Organizations and industries' employee satisfaction levels con centrations to AI depended on various factors. In finance and aviation business workers overall said job satisfaction rates are higher when utilising AI as repetitive tasks were taken over by the AI tools thus enabling employees to work smarter by focusing on high end projects (Ng and Wakenshaw, 2020). In healthcare, negative feedback was observed where employees were concerned that overdependency on AI would impact the dignity of patients; conversely, positive feedback was observed by degree of efficiency provided by and accuracy of AI work.

---

## **5. Conclusion**

Implications of the research show that decision rights and leadership behaviors change with the incorporation of AI in critical contexts. I conclude AI's influence on leadership and decision in general migrates the study Goal and answers questions two and three by comparing strengths and weakness of artificial intelligence decision making to the human traditional decision making.

AI and Leadership Styles: Leadership styles have also been shaped by AI in one way or another. In all the case study companies there has been a changing trend from strict authoritative leadership where decisions are made through the use of past experiences, gut feeling and hierarchy to more consultant leadership styles where information gathered is

used to come up with decisions. By creating an expectation that humans would act as interpreters of what the AI offers, leaders are now supposed to be ones who put the outcomes into context so that they can act upon them (Huang and Rust, 2021). For both finance and aviation industry, AI has made it easier for executives to concentrate more on organizational and strategic decisions while tags like risk management are left to the intelligent AI systems. This transition from centralized control to decentralization which requires everyone involved in a specific decision to make an informed choice is known as a shift in the leadership paradigms where the leaders use the AI generated data to make decisions but retain the authority over the implementation of those decisions (Huang and Rust, 2021).

However, the same cannot be said for leadership where AI presents specific problems. Managers should think about ways of adopting AI while they take into account the risks of losing overall control over the processes. In any all aspects of care which rely on human empathy and judgment, leaders cannot let AI implementations erode the humane character of patient care. This is in concordance with the recent research carried out on the utilization of AI in healthcare which revealed that the use of AI ought to be complementary, and not to replace, the human input in special consideration areas (Huang and Rust, 2021).

---

## References

- [1] Avolio, B. J., Sosik, J. J., Kahai, S. S., & Baker, B. (2019). E-leadership: Re-examining transformations in leadership in the digital age. *The Leadership Quarterly*, 30(1), 105-131
- [2] Binns, R. (2019). Fairness in machine learning: Lessons from political philosophy. *Proceedings of the 2020 Conference on Fairness, Accountability, and Transparency*, 149-159
- [3] Brynjolfsson, E., & McAfee, A. (2020). *The second machine age: Work, progress, and prosperity in a time of brilliant technologies*. W. W. Norton & Company
- [4] Choudhury, P., Foroughi, C., & Larson, B. (2021). Work-from-anywhere: The productivity effects of geographic flexibility. *Strategic Management Journal*, 42(4), 655-683
- [5] Colbert, A., Yee, N., & George, G. (2019). The digital workforce and the workplace of the future. *Academy of Management Journal*, 62(3), 731-740
- [6] Dwivedi, Y. K., Hughes, D. L., Ismagilova, E., et al. (2021). Artificial intelligence (AI): Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice, and policy. *International Journal of Information Management*, 57, 101994
- [7] Gavetti, G., & Menon, A. (2020). Evolutionary dynamics of strategic decision-making in uncertain environments. *Organization Science*, 31(3), 567-588
- [8] Glikson, E., & Woolley, A. W. (2020). Human trust in artificial intelligence: Review of empirical research. *Academy of Management Annals*, 14(2), 627-660
- [9] Huang, M., & Rust, R. T. (2021). Artificial intelligence in service: Advances and applications. *Journal of Service Research*, 24(1), 3-12
- [10] Kaplan, A., & Haenlein, M. (2019). Siri, Siri, in my hand: Who's the fairest in the land? On the interpretations, illustrations, and implications of artificial intelligence. *Business Horizons*, 62(1), 15-25
- [11] McKinsey Global Institute. (2020). *The future of work after COVID-19: Implications for leadership and organizations*. McKinsey & Company
- [12] Mikalef, P., Boura, M., Lekakos, G., & Krogstie, J. (2019). Big data analytics capabilities and innovation: The mediating role of dynamic capabilities and moderating effect of the environment. *British Journal of Management*, 30(2), 272-298
- [13] Ng, I., & Wakenshaw, S. (2020). The Internet of Things: Review and research directions. *International Journal of Research in Marketing*, 34(1), 3-21
- [14] Northouse, P. G. (2019). *Leadership: Theory and practice*. SAGE Publications
- [15] Raisch, S., & Krakowski, S. (2021). Artificial intelligence and management: The automation–augmentation paradox. *Academy of Management Review*, 46(1), 192-210
- [16] Sheng, J., Amankwah-Amoah, J., & Wang, X. (2020). A multidisciplinary perspective of big data in management research. *International Journal of Production Economics*, 228, 107810

- [17] Wamba, S. F., Gunasekaran, A., Akter, S., Ren, S. J., Dubey, R., & Childe, S. J. (2019). Big data analytics and firm performance: Effects of dynamic capabilities. *Journal of Business Research*, 70, 356-365
- [18] Wilson, H. J., Daugherty, P. R., & Morini-Bianzino, N. (2021). The jobs that artificial intelligence will create. *MIT Sloan Management Review*, 62(4), 34-41