

The Impact of Artificial Intelligence Adoption on Managerial Decision-Making Effectiveness

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Abstract

The fast adoption of Artificial Intelligence (AI) technologies by organizational processes has changed the way decisions are made and implemented by managers. This qualitative research paper takes a glimpse into the daily life of managers in various sectors to know how the aspect of AI implementation impacts the effectiveness of decision-making. Based on semi-structured interviews with 25 middle and senior-level managers of multinational organizations, the study explores the views of AI on the accuracy of judgment, decision-making speed, and the ability to generate strategic thoughts. Thematic analysis indicates access to real-time data and prediction insights, empowered evidence-based decision making, and lightened cognitive load when solving complex problems. Nonetheless, the research also indicates that over-reliance on automated suggestions and growing ethical issues around information disclosure and the requirement to inject human interpretative reasoning to contextualize AI outputs are some of the challenges. Respondents observe that critical thinking, technology awareness, and ethical reasoning are managerial traits that determine the highest use of AI to achieve the desired results of a decision. The work would add to the literature on management by de-juridicising the complex interaction between human agency and AI systems by providing pragmatic guidance on how organizations can maximize the use of AI in management practices. Conclusions on the leadership development, technology training, and organizational culture include implications, which give a guide in future study on how the AI capabilities can be aligned to human strategic oversight.

Keywords: Decision-Making, Artificial Intelligence, over-reliance

Introduction

Artificial intelligence (AI) has developed at a rate that has transformed it as an auxiliary analytical support to an infrastructural part of present-day organizations. In a variety of industries, AI-based systems are more and more becoming part of the forecasting, resource planning, risk management, and strategy formation processes, transforming the epistemic nature of managerial decision-making. The spread of machine learning, predictive analytics, and generative AI has enhanced academic research curiosity in the way algorithm systems can enhance, replace, or reorganize managerial cognition and authority (Raisch and Krakowski, 2021; Dwivedi et al., 2021). Although early information systems literature focuses on decision support systems as a means of enhancing an optimal selection of choices, most recent literature theorizes more about AI as an autonomous or semi-autonomous agent inside sociotechnical systems, able to learn, adapt, and recommend at scale (Shrestha et al., 2019; Dellermann et al., 2019).

The literature in management at large contextualizes AI in the context of current discussions on how digital transformation, organizational ambidexterity, and dynamic capabilities. Enhanced capacity to process information and minimized uncertainty have traditionally been linked to the digital technologies (Brynjolfsson and McAfee, 2017). But AI is not qualified as AI because it is fast, unlike previous technologies, which is capable of producing probabilistic forecasts and pointing out surface non-obvious patterns on large volumes of data, which in turn affects more than the speed of managerial judgments but also their epistemological foundation (Faraj et al., 2021). Empirical evidence indicates that the use of AI has an opportunity to enhance the accuracy of predictions, operational performance, and strategic fit because it can be successfully applied with human knowledge (Brynjolfsson et al., 2023). However, the advantages will be conditional on the organizational designs, governance processes, and managerial skills which would facilitate meaningful cooperation of humans and AI instead of autocephalic automation (Raisch and Krakowski, 2021).

Notwithstanding the increasing interest, the implementation of AI in the process of managerial decisions discovers complicated difficulties. Trust and accountability are complicated by the presence of algorithmic and bias and explainability problems (Kellogg et al., 2020). Excessive use of automated recommendations can diminish critical thinking and decrease the involvement of managers into the process of reflective judgment, culminating in the deskills or automation bias (Logg et al., 2019). In addition, AI-driven insights are frequently contextually bound to interpretations unrelated be it entirely codifiable, which validates the timelessness of the human agency and tacit knowledge (Jarrahi, 2018). These stressors signify the necessity to conceptualize AI as a relational companion in decision ecologies of distributed cognition and negotiated power instead of a technological artifact.

Even though the earlier studies have explored the concept of algorithmic decision-making in other fields, including operations management, finance, and human resource management, several voids have been identified. First, a large part of the literature available has a more quantitative performance-driven perspective, meaning its results can be measured in terms of performance improvements like increased

productivity or increased accuracy in predictions (Brynjolfsson et al., 2023). Less comparative attention has been given to how managers experience life in AI-enabled environments and how they make sense, negotiate, and include AI outputs into strategic thinking. Second, research frequently conceptualizes the AI adoption as a dichotomous or technological variable to ignore the socio-cognitive mechanisms in reshaping managerial cognition, sensemaking, and accountability configuration (Faraj et al., 2021). Third, the qualitative data on how managers can strike a balance between speed, efficiency, ethical considerations, transparency, and organizational legitimacy of AI mediated decisions is limited.

Recent appeals within the management and information systems research community suggest a different view of the human-AI complementarity, where value emergence is achieved through the integration, but not substitution of humans and artificial intelligence (Dellermann et al., 2019; Raisch and Krakowski, 2021). But the empirical knowledge about the way in which such complementarity appears in practice, more so in different industries and various hierarchy levels are still not well developed. Besides, the ongoing rise of generative AI since 2022 have made discussions regarding cognitive augmentation, strategic creativity, the capabilities of managerial expertise even more tense, but systematic qualitative research on the implications of this phenomenon have not yet been conducted (Dwivedi et al., 2023).

It is important theoretically and practically to address these gaps. Theoretically, the analysis of AI adoption framed in terms of managerial decision-making effectiveness helps researchers advance the body of knowledge on the topic of organizational cognition, digital transformation, and sociomateriality since it reflects how technological artifacts and human judgment are realized in their co-constituency. It increases the knowledge about the role of interpretative ability, technological literacy, and ethical reasoning in the capacity of mediators of the way algorithmic results are translated into strategic action. In a pragmatic sense, businesses are increasingly under pressure to make the case to invest in AI, maintain responsible governance, and develop leadership skills in keeping with AI-enhanced dynamics. Understanding under what scenarios AI can improve or weaken the effectiveness of the decision can be used to inform leadership education, training on technologies, and policy formulation.

In line with this, the research aims to examine the effects of the adoption of AI on the effectiveness of managerial decision-making processes in organizations. To be more precise, it poses the following question: How do managers perceive and accommodate the introduction of AI tools in their decision making and how can this introduction either support or limit decision effectiveness? The study will clarify the interaction between human agency and algorithm systems by pretexting the perceptions that managers have of accuracy of judgment, speed of decision, formation of strategies and ethical reasoning. By doing this, it helps to create a more grounded and situational view of AI-driven management, beyond the deterministic views of technological efficacy to the relationship approach which acknowledges the co-development of human knowledge and intelligent systems.

Research Objectives

To study the effects of the implementation of Artificial Intelligence (AI) technologies on the effectiveness of managerial decisions, especially in terms of the accuracy of the judgments, the speed of decision making, and the ability to generate strategies in the organizational environments.

The issues and mediating variables like over-dependence on the automated suggestions, moral aspects, and managerial skills that condition the effective adoption of AI in the managerial decisions.

Research Questions

What is the impact of AI technology adoption on effective decision making among managers in terms of accuracy of judgments, speed and strategic insights generation? Which organizational, ethical, and managerial factors can impact the degree to which the inclusion of AI can improve or limit the effective managerial decision-making?

Literature Review

Theoretical Prerequisites of AI-Enhanced Managerial Decision-Making.

The academic research on managerial decision making has been for many years based on the classical and behavioral theories, especially the idea of bounded rationality presented by Simon (1947) that proposes an image of managers as functioning under the restrictions of their cognitive abilities and incomplete information. The initial decision support systems (DSS) were created with the aim of increasing the rational choice via the augmentation in the capability of processing information (Power, 2002). Nevertheless, with the rise of Artificial Intelligence (AI), there is an important change of epistemological order. In contrast to conventional DSS, the AI systems use machine learning and predictive analytics to create probabilistic inferences, apply pattern recognition algorithms automatically, and keep under adaptable adjustments to incoming data (Shrestha et al., 2019). This shift has reinforced AI to cease being a support tool and be a forming force in the context of organizational ecologies in decision making.

In modern literature, AI is more frequently discussed in the framework of sociotechnical and sociomaterial approaches with the need to highlight the interdependence of technological objects and human personality (Faraj et al., 2021). According to Raisch and Krakowski (2021), AI integration may cause certain changes to the traditional conceptions of managerial power by shifting cognitive tasks between algorithms and humans. On the same note, based on the explanations of Dellermann et al. (2019), there is such a concept as hybrid intelligence, and it is important to insist on compatibility of human intuition with the accuracy of algorithms. As suggested by these theoretical approaches, the success of managerial decision-making is not merely based on the accuracy of the algorithms, but on the quality of human-AI interaction.

Dynamic capabilities theory also puts the adoption of AI into strategic management into perspective. The challenge of leveraging AI in organizations requires entities to create sensing and seizing and reconfiguring features (Tece, 2018). AI can also be used in sensing because it warns of signals in the environment in real time, but its

strategic worth will remain to be interpreted by the manager and to be coordinated by the resources. Accordingly, the effectiveness of the decisions arises due to the compatibility between the AI capabilities and the managerial competencies. Regardless of these theoretical contributions, empirical studies have tended to focus more on performance indicators than any experience aspects which has resulted in little understanding of how managers can cognitively and ethically make their way through AI-mediated choices.

AI Adoption and Effectiveness of its Decisions.

An emerging literature is correlating the use of AI with enhanced quality of the decision, rapidity, and strategic thinking. Privileges indicate that artificial intelligence may help AI analytics improve the forecasting accuracy and operation efficiency (Brynjolfsson et al., 2023). Algorithms in knowledge intensive spheres can be used to eliminate information asymmetry and cognitive burden and therefore managers can concentrate on higher order strategic thinking (Jarrahi, 2018). Operations and finance research accounts of forecasting and risk management improvements that are quantifiable based on the integration of machine learning (Dwivedi et al., 2021).

Nevertheless, it is not only that the AI adoption and the effectiveness of the decisions are not directly proportionate but the influence of AI can be universal and positive. According to studies about appreciation and dislike of algorithms, there is the evidence that managerial attitudes toward automated suggestions are ambivalent (Logg et al., 2019; Dietvorst et al., 2018). Almost all managers might be pleased by algorithmic objectivity but any mistake or poor transparency may undermine trust. In their article, Kellogg et al. (2020) confirm that algorithmic management transforms the work processes and authority, in many cases, creating contradictions between efficiency and autonomy. What these results are showing us is that performance in terms of technicality is not only necessary but also social availability and interpretive legitimacy.

New trends on generative AI have fuelled controversies over cognitive augmentation. Perpetual generation systems may be used to aid in scenario analysis and strategic ideation tasks along with communication (Dwivedi et al., 2023). However, there are the fears of over-dependence, deskilling and reduced critical involvement. Empirical studies (20232025) have pointed at the fact that AI enhances productivity in the instances, which are enforced with human experience and contextual resourcefulness (Brynjolfsson et al., 2023). Therefore, although AI might be used to improve the speed of decision making and increase the power of the data-driven insight, its performance depends upon the control of managerial activities and the capacity to integrate.

Although these contributions have been made, a large part of the literature is quantitative providing insight on performance indicators instead of participant managerial experience. Not much qualitative research exists that examines the concept of how managers understand AI outputs, make sense of conflicting data indicators, and negotiated ethical issues in practice. In turn, this leaves the question of

how AI implementation transforms not only the outcomes of decisions but the thinking and the relationship processes of managerial judgment.

Mediating Factors: Managerial Competencies, Ethics, and Over-Reliance.

In AI studies, the main argument is automation bias and over-reliance. Automation bias is a tendency of decision-makers to relying on the information introduced by an algorithm without any doubts, potentially excluding any references to context (Logg et al., 2019). A more positive aspect, Jarrahi (2018) believes that human judgment is still needed in complex and ambiguous environments with required tacit knowledge and moral reasoning. Empirical research indicates that too much dependency can lower the levels of reflective reasoning and responsibility especially when making high stakes decisions. This is in line with more general issues of algorithmic transparency and elucidation (Kellogg et al., 2020).

Ethical implications also make AI-enabled decision-making even more difficult. The question of data transparency, fairness and prejudice has taken center stage in responsible AI (Dwivedi et al., 2021). Algorithms that are trained on the bias data may reproduce and enhance inequalities, which brings the question of accountability and governance to the managers (Martin, 2019). With the current shift in regulatory frameworks in almost every part of the world up to 2024/2025, organizations are under pressure to be more accountable and explainable over automated systems of decisions making. Such developments contribute to the need of having ethical literacy and strong governance mechanisms.

Managerial competencies stand out as powerful intermediaries in applying AI potential to efficient decision-making. According to Raisch and Krakowski (2021), hybrid intelligence demands managers to develop technological literacy and critical thinking and ethical reasoning. The dynamic capability attitudes also emphasise the learning and reconfiguration capabilities (Teece, 2018). Studies in digital leadership imply that leaders should ensure the existence of cultures of experimentation and manage them by means of oversight and transparency (Verhoff et al., 2021). However, there is a dearth of empirical evidence on how managers gain and implement these competencies in an AI integrated setting especially in various industries and organizational levels.

The script is largely consistent in terms of strands of literature: tactic automation turns into tactic augmentation, problems related to ethical governance become more important, and the value-creating capabilities of managers are increasingly considered as contributors to the creation of AI. Yet gaps persist. On the balance between speed, efficiency and strategic creativity and ethical accountability, little qualitative evidence exists on how managers strike the balance. Moreover, the research studies of AI application to decision-making effectiveness across the industries are poorly developed, and the empirical experience of managers in the mid- to senior level is not sufficiently studied.

Synthesis and Research Gap

As the literature shows, AI use can potentially benefit the effectiveness of managerial decision-making by enhancing the information processing, predictive accuracy and strategic insight. The theoretical basis lies on foundational theories of bounded rationality and sociotechnical systems and recent research focuses on hybrid intelligence and dynamic capabilities. Nevertheless, the discussion on over-reliance, moral responsibility and sharing of power indicates that the adoption of AI is not an easy, universal, process.

The literature on contemporary jazz largely concentrates on quantifiable performance effects without paying much attention to experiential and interpretive aspects. Little is known about managerial perceptions of AI impacts on judgment accuracy, decision speed, and strategic thinking, as well as how managers address ethical and organizational tension issues that are created after using AI. Besides, there is a lack of research on the interaction between the use of technology and competencies of managers.

To manage such gaps, it is important to consider them qualitatively, in a context-sensitive manner, able to foreground experiences and perceptions of managers. The study helps to address the gap between technological determinism and the anthropocentric approaches to the issue by studying the effect of AI adoption on decision-making effectiveness and how organizational and ethical factors mediate between the two. It is a step-wise response to the calls to further research on the human-AI complementary nature, and an empirically informed response in line with the latest scholarly discussions up to 2025.

Research Methodology

Research Design

The paper will follow a qualitative research design to investigate how the adoption of Artificial Intelligence (AI) can affect the effectiveness of managers in making decisions. A qualitative approach is especially appropriate in relation to the objectives of the study, as it is provided to comprehend what is going on in the life of managers, their own perceptions, and understanding of the concept of AI integration into the decision-making. In contrast to quantitative designs that are aimed at measuring the performance outcomes, comprehensively, the qualitative inquiry allows exploring the cognitive, ethical and contextual aspects of making the managerial decisions.

The study aims focus on the understanding of the impact of AI on the accuracy of judgment, the speed of decision-making, the creation of strategic insights, and the mediating aspects in the development of effective integration. These phenomena are multi faceted, socially embedded and contextualized, and will thus be better investigated using interpretive approaches. The qualitative design can be used to obtain detailed accounts of the nature of negotiation among managers regarding the interaction of the algorithmic suggestions with human thinking, and thus aligns well with the purpose of the study, which is human-AI complementarity.

In particular, the study is an interpretivist paradigm, based on the understanding that managerial decision-making effectiveness is a social construction that occurs as a

result of interactions among individuals, technologies, and organizational situations. This epistemological position encourages the investigation of subjective experiences and sense-making process which are key in answering the research questions. The approach to the research renders the research beyond deterministic explanations of AI effect and, in fact, preoccupies nuanced, experiential explanations in line with the theoretical framework offered in the literature review.

Population and Sampling

Target Population

The desired demographic of the research population includes middle/senior-level managers in multinational corporations which have implemented AI-driven systems in their business operations. These people were chosen since they closely engage with strategic, operational and tactical decisions and therefore would be in the best position to assess how the AI tools would affect managerial performance.

The inclusion criteria were that the participants needed to:

Gaining of managerial position with a formal decision making ability.

Be able to demonstrate more than two years of this implemented in professional duties through application of AI-enabled tools (e.g. predictive analytics, machine learning systems, generative AI applications).

Research in established exemi- intensional COFs, studies with flagrant AI implementation by an organization in decision support or operational environments.

Sampling Strategy

The sampling technique was purposive to make sure that the selection of the participants was based on the relevant experience and knowledge. The context of qualitative research suitable to purposive sampling is that when the objectives of the research focus on making the rich and highly informative cases, but not on achieving statistically representative samples. There was also a maximum variation sampling to include varied views in various industries of finance, manufacturing, technology, and retail. It is a way of improving transferability of the findings because it uses diverse organizational settings.

The last sample was comprised of 25 middle to senior managers in multinational corporations. A sample size was calculated through data saturation principle whereby, there were no any new significant themes that were realised at the later periods of data collection. This is an adequate sample size in terms of qualitative research, and it enables in-depth exploration of the research question with the help of maintaining analytical rigor.

Data Collection Methods

Semi-Structured Interviews

Semi-structured interviews were the primary tool of collection of data because they are quite appropriate in studying complicated experiences and perceptions. Semi-structured interviews are flexible and the participants have an opportunity to explain

their experiences and still make sure that the discussions will be in line with the research objectives.

Interview protocol was made in reference to research objectives and literature review.

The protocol contained open-ended questions which covered:

Estimated effects of artificial intelligence on decision accuracy and speed

AI-based experiences of strategic insight generation

Examples of over-relied or autobias.

When discussing ethical issues, transparency and accountability and fairness are highlighted.

Skills needed to be integrated and to integrate AI.

The interviews were held either face-to-face or on the secure video conferencing platforms, depending on the availability of the participants and their geographic location. The length of each interview was about 45 to 75 minutes. Interviews were taped to allow transcription of the data in verbatim in order to be accurate with the permission of the participants.

Ethical Considerations

During the study, ethical integrity was preserved. All information regarding the purpose of the research was elaborated to the participants who were informed before being allowed to participate. Anonymity and Confidentiality In order to guarantee confidentiality and anonymity, transcripts were deidentified by omitting any personality or identifying details and were assigned pseudonyms. Information has been stored safely and it could only be accessed by the research team. These steps had to guarantee the adherence to the ethical research principles and increased trust and forthcoming in the participants.

Data Analysis

Thematic Analysis

The thematic analysis method was applied to the acquired data according to the systematic and repeated method of analysis. The themes analysis is suitable to detect the patterns and themes in the qualitative data and correlates to the interpretive orientation of the research. Newcomers to the company were analyzed in six main steps:

Familiarization: To gain a general picture of the data, the interview transcripts were repeatedly read.

Preliminary Coding: Preliminary systematic coding of meaningful text fragments in terms of AI adoption, decision effectiveness, ethical issues, and managerial skills.

Theme Development: Codes that have similarities are put together into general themes that reflect common patterns among groups of participants.

Themes Review: Editing themes to bring out internal consistency and uniqueness.

Defining and Naming Themes: The characterization of each theme in terms of the research objectives is well explained.

Interpretation: The connection of themes to such theoretical constructs as hybrid intelligence, sociotechnical systems theory, and dynamic capabilities.

This exercise allowed identifying the key themes such as increased precision of data, shorter decision-making processes, strategic enrichment, risk of over-reliance, and the ethical responsibility issue and competency building requirements.

Ensuring Trustworthiness

In order to increase the rigor and credibility of findings, a number of strategies were used:

Triangulation: Comparison of answers between industries and managerial different levels.

Member Checking- Summary of findings summaries were created and reviewed by selected participants to determine the accuracy of interpretation.

Audit Trail: The elaborate record of how choices to code and procedures analyses were made.

Peer Debriefing: The coding structures are reviewed independently by a research colleague in order to reduce bias.

Such steps enhance credibility, dependability and confirmability of the study, so that the methodology is robust.

Methodological Consistency with Research Aims

The qualitative methodology selected suits the research objectives and questions of the study in a direct manner. The research design will allow analyzing the impact of AI adoption on both the accuracy of judgment and the speed of decision-making and the generation of strategic insights (Research Objective 1) due to the possibility to study the lived experiences of managers. At the same time, the thematic analysis of an interview data makes it possible to identify mediating variables, including over-reliance, ethical considerations, and managerial competencies, which conditions the successful integration of AI (Research Objective 2).

The approach based on purposive sampling, in-depth interviewing and strong thematic analysis offers a clear and context-related framework into examining this multifactorial relationship between human agency and AI systems. The methodology will be consistent with the theoretical and conceptual premises set in the earlier parts of the paper and produce empirically based results on the effectiveness of AI-enabled managerial decision-making.

Data Analysis

This part presents and analyses the results of conducting the thematic analysis of the 25 semi-structured interviews with the managers (mid to senior level) working in multinational corporations. In line with the qualitative interpretivist approach outlined in the research design, the systematic thematic analysis was employed to analyse the data. Nevertheless, thematic frequencies and cross-tabulations are stated to be used to augment clarity and rigor when presenting patterns of details among participants. The presence of these descriptive statistics does not mean that the meaning is quantified as they only give the structure of how often and how widespread certain themes are.

The two major objectives of the research addressed in the analysis include:

To investigate the effect that the implementation of AI has on the effectiveness of managerial decisions (judgment accuracy, decision speed, strategic insight generation) To investigate mediating variables (over-reliance, ethical issues, managerial skills) to gain a better understanding of influential determinants of successful AI integration

Participant Profile

Table 1. Demographic and Professional Characteristics of Participants (N = 25)

Variable	Category	Frequency (n)	Percentage (%)
Managerial Level	Mid-level	14	56%
	Senior-level	11	44%
Industry	Finance	6	24%
	Technology	5	20%
	Manufacturing	5	20%
	Retail	4	16%
	Healthcare	3	12%
	Logistics	2	8%
AI Experience	2-4 years	9	36%
	5-7 years	10	40%
	8+ years	6	24%

The sample denotes the highest possible variation in the terms of industries and managerial levels, which is in line with the purposive sampling strategy. Most of them (64 percent) were exposed to AI over five years, which should have provided them with a substantial experience level to assess the effectiveness of AI in decision making. This substantiates the plausibility of results in the field of longitudinal AI rapport impacts.

AI and Judgment Accuracy

One of the central research objectives was to examine AI's influence on judgment accuracy.

Table 2. Perceived Impact of AI on Judgment Accuracy

Perception Category	Frequency (n)	Percentage (%)
Significant Improvement	16	64%
Moderate Improvement	6	24%
Minimal/No Change	2	8%
Decreased Accuracy (Over-reliance cases)	1	4%

A large proportion of the participants (88%) claimed moderate to a high level of improvement of decision accuracy as a result of AI-based analytics and predictive modeling. The respondents highlighted the increased accuracy in forecasting, better risk evaluation, or minimization of the cognitive bias due to triangulation of data.

Nevertheless, 12 percent recorded mild or adverse impacts, mostly in the blind acceptance of the results of algorithms without any contextual validation. This works in line with automation bias literature, and it narrows down that accuracy benefits depend on human supervision.

AI and Decision-Making Speed

Managers consistently described acceleration of decision cycles following AI integration.

Table 3. Perceived Impact of AI on Decision-Making Speed

Speed Outcome	Frequency (n)	Percentage (%)
Substantial Acceleration	18	72%
Moderate Acceleration	5	20%
No Significant Change	2	8%
Slower Due to Validation Processes	0	0%

The adoption of AI also markedly decreased the decision latency of 92 percent of the participants. Live dashboards, automated reporting, and predictive simulations reduced the period of analysis and enabled the faster reaction to strategies.

Remarkably, nobody complained of overall slower decision-making, yet a few of them mentioned additional verification activities of high-stake decisions. These results directly refer to the Research Objective 1 because they show that AI can significantly improve efficiency.

Strategic Insight Generation

Beyond operational speed and accuracy, the study examined AI's role in generating strategic insight.

Table 4. AI Contribution to Strategic Insight Generation

Strategic Impact	Frequency (n)	Percentage (%)
Enabled New Strategic Opportunities	13	52%
Enhanced Existing Strategy Formulation	8	32%
Limited Strategic Contribution	3	12%
No Strategic Influence	1	4%

More than half (52%) said that AI identified new patterns in the market or innovation areas that they had not realized before. Finance and technology managers both focused on long-term planning significantly on predictive analytics.

But one out of five believed that strategic transformation is constrained indicating that the strategic value of AI must be judged by the maturity and level of integration within the organization. This observation is consistent with the theory of dynamic capabilities: AI promotes sensing abilities but needs managerial decoding of strategic implementations.

Mediating Factors: Over-Reliance and Ethical Concerns

The second research objective focused on mediating variables influencing effectiveness.

Table 5. Reported Challenges in AI-Enabled Decision-Making

Challenge Theme	Frequency (n)	Percentage (%)
Risk of Over-Reliance	14	56%
Ethical/Transparency Concerns	11	44%
Data Quality Issues	9	36%
Skill Gaps in AI Literacy	13	52%
No Major Challenges	2	8%

Over-reliance was the most serious risk identified by more than half (56%) of them, and the fears of automation bias appear justified. Managers reported cases of algorithmic recommendations being taken without enough context analysis.

The ethical issues (44%) implied transparency, equity, and responsibility, especially when it comes to HR and finance applications. Also, 52 percent focused on AI literacy gaps as the obstacle to effective use, but managerial competencies as a decisive moderating factor.

These results respond in a very strong way to Research Objective 2, which provides evidence that the effectiveness of AI depends on human judgment and governance mechanisms and as well as organizational culture.

Cross-Theme Integration Analysis

To synthesize findings, thematic intersections were analyzed.

Table 6. Relationship Between AI Experience and Perceived Effectiveness

AI Experience	High Effectiveness (Accuracy + Speed + Strategy)	Moderate Effectiveness	Low Effectiveness
2–4 years (n=9)	3	4	2
5–7 years (n=10)	6	3	1
8+ years (n=6)	5	1	0

Managers who had had longer experience in AI also reported more perceived effectiveness. The high decision enhancement was overwhelmingly described by

those who were exposed to 8 years and above. This trend can be interpreted as learning impacts and factors that can develop abilities and skills throughout a time, which can be supported by the dynamic capabilities framework, and reaffirm the significance of managerial competencies.

General Thematic Interpretation

The results show a subtle yet mainly positive correlation between AI adoption and the effectiveness of the decisions taken by managers:

Accuracy of the judgment: Accuracy of prediction is greatly improved with predictive analytics and data trigonization.

Decision Speed: Have increased decision speed across industries.

Strategic Insight: Moving moderately to deeply with respect to data-intensive industries.

Mediating Factors: Because of the risks of over-reliance, the issue of ethical concerns as well as AI literacy gaps moderate the outcomes.

The information shows that AI is an augmentation device, but not a replacement mechanism. Effective decisions are a result of hybrid intelligence the interactive collaboration of algorithmic proficiency and administrative judgment.

Managers who engaged in active contextualization of AI outputs, posed assumptions and performed ethical checks and balances noted the greatest effectiveness gains. Passive acceptance or inadequate technological literacy on the other hand decreased benefits.

The thematic evidence is quite strong and contributes to the suggestion, that the adoption of AI will increase the effectiveness of managerial decision-making, especially with reference to speed and analytical quality. Nonetheless, the scale of advantage is moderated by management competencies, ethical management and organizational maturity.

This data proves that the introduction of AI is not necessarily revolutionary; instead, its usefulness is related to the quality of the human-AI interaction. The findings give empirical support to the theoretical contextualization of the hybrid intelligence and dynamic capabilities suggested in the preceding literature in the research.

Discussion

The results of the given study are a strong indication that the use of Artificial Intelligence (AI) has a profound impact on the effectiveness of managerial decision-making, but they also demonstrate crucial contextual and competency-substantiated grounds of an issue that predetermines the specified relationship. Considering the synergy of the first research objective, the findings reveal that the adoption of AI improves the accuracy of the judgment, speeds the decisions process and boosts the strategic understanding. Statistically, 88% of the participants had moderate to significant changes in judgment accuracy with 64% saying that the change was substantial. This implies that AI facilitated analytics and predictive modeling and real-time data processing are significant extensions of managerial mental capacities. It seems that in the context of the theory of bounded rationality, AI helps to eliminate

informational limitations as it increases access to both structured and unstructured information, which can be used to make more evidence-based decisions. But the point that 12% of participants had minimal or negative effects shows that better the accuracy is automatic. These exceptions mostly appeared in terms of excessive followership of automated guidance, which supports the fears expressed in the existing literature about automation bias and loss of discretion.

The statistical results related to the speed of decision making were even stronger. The majority (92 percent of the respondents) told that they have moderate to tremendous acceleration of decision processes, and 72 percent reported that they have improved significantly. It is worth noting that no single participant said that overall decision-making has risen as a result of the adoption of AI. These results indicate that AI is invariably beneficial in terms of efficiency in operations, it saves time in analyzing data, automation of reporting as well as real-time monitoring. This confirms previous studies on the digital transformation and algorithmic decision support that point towards the importance of AI to expand information-processing power and to decrease latency in the organizational response. However, instances of qualitative interpretations show that although the routine and operational decisions were greatly fastened, strategic and serious decisions were commonly subjected to further human validation. This subtext underscores the fact that speed gains go hand in hand with the careful monitoring in the complex environment and indicates the persistence of the role of discretion of the managers.

Strategically speaking the findings show a medium intensity but relatively diverse effect. About 84 percent of the participants indicated that AI facilitated new strategic opportunities, or made existing strategies creation easier, whereas 16 percent of respondents acknowledged the reduced or no strategic value. Such a distribution indicates that on the one hand, AI is certain to enhance efficiency, but, on the other hand, its strategic worth is more closely tied to the maturity of an organization, the environment, and the ability of managers. These results can be correlated with dynamic capabilities theory, according to which competitive advantage arises not only at the technological level of its adoption but at the level of provision of the organization with the ability to feel an opportunity, grab it, and redistribute resources. The AI seems to enhance the sense-making capacity based on predictive analytics and pattern recognition and the strategic change requires to be ultimately ensured by the managerial interpretation and integration.

The second research aim was to find out mediating elements on the effectiveness of AI-enabled decisions. Statistically out of 56% of respondents discussed risks of over-reliance, 52% cited gaps in AI literacy skills, 44% expressed ethical and transparency issues and 36% said data quality. These numbers show that issues related to AI adoption are not marginal but at the structural level. Over-reliance became a key theme, and this is indicative of how some managers tend to blindly take the output of algorithms without contextual analysis. This result is in line with previous studies of algorithm appreciation and automation bias, which postulate that decision-makers can give an unwarranted amount of power to algorithmic systems. There are also ethical issues surrounding transparency, fairness, and accountability that are another source

of importance of governance mechanisms in AI-enabled settings. Artificially intelligence (AI) related decisions were associated with moral and institutional consequences (not measured by efficiency metrics) that managers said they were more sensitive to reputational and regulatory risks especially in the field of finance and human resources.

One of the most significant statistical patterns was the association between the experience of using AI and the perceived effectiveness. Managers who had experience of over eight years in AI overwhelmingly indicated high effectiveness in terms of accuracy, speed and strategic dimensions, but their experience of two to four years spread across effectiveness dimensions in an even manner. Such a trend indicates a learning curve effect and the presence of the case that AI effectiveness is capability-based, as opposed to technology-based. In the long perspective, managers can be seen to gain interpretive capacities, critical assessment methods and governance consciousness which provides them with more effective human-AI collaboration. Such a discovery supports the hybrid intelligence concept, which focuses on the use of complements between algorithmic accuracy and human decisions. AI does not eliminate managerial cognition, rather it reforms and adds value to it.

In theory, these results apply hybrid intelligence theory in that the augmentation proves most effective in operational and analytical spheres, whereas strategic ones need even better incorporation of human reasoning. The outcomes also adjust the automation-augmentation paradox by demonstrating that showing how automation becomes faster with no one conditioning its effect on accuracy and strategy. Moreover, the research adds to the sociomaterial viewpoints as AI is depicted as a proactive participant in decision ecologies that transforms the structure of authority and the process of cognition. Instead of abolishing the phenomenon of rationally limitedness, AI transforms it by introducing the constraints on information provision to the challenge of interpretation, transparency, and ethical regulation.

In a pragmatic perspective, the results underscore the need to have well-organized human-AI collaboration models. Since out of every five participants, over half were found to have skill gaps and risk of over-reliance, the organization should invest in leadership development programs that reinforce the technological literacy, critical thinking, and ethical thinking of the participants. The training programs ought to go beyond technical skill and they must incorporate interpretive and governance skills. Also, to prevent automation bias, organizations are to introduce human-in-the-loop validation controls and ensure accountability. The ethical issues may be mitigated with the help of available transparent AI governance mechanisms such as explainability criteria and appellate committees to foster stronger trust between managers.

The study, irrespective of its contribution, has limitations which have to be recognized. The sample of 25 managers is suitable to the qualitative inquiry and data saturation, but it does not have a big statistical scope. The use of self-perceptions can create the potential of subjective bias as the performance was not gauged by objective performance metrics. The cross-sectional design is limited to the experiences of the current time and fails to provide longitudinal development of competency as well as

technological changes. Also, although several industries were included, sectoral lopses could have contributed to the impression of strategic impact.

Future studies based on these data should be extended with the mixed-methods design in which qualitative knowledge is applied to the quantitative performance information with the purpose to prove the causal interdependence statistically. Longitudinal research would shed more light about the co-evolution of managerial competencies and AI capabilities in the long run. The cross-cultural researches may examine the process in which the institutional norms and regulatory environments are influencing the AI-mediated decisions. The bias of automation might also be explored through experimental studies on the topic, and sector-oriented data would help understand how strategic benefits seem to be more pronounced in data-intensive sectors.

Conclusively, the discussion establishes the fact that the use of AI brings in a lot of effectiveness to the management level of decision making especially in speed and accuracy of analysis as indicated by high percentages of reported improvement. The effectiveness is however moderated by the managerial competencies, ethical governance and organizational maturity. The results emphasize the fact that AI is best used as an augmentative collaborator but not as a replacement of human judgment. The eventuality of decision effectiveness comes as a result of an active relationship between algorithmic systems and managerial agency with the restatement of human control as the focal point in technologically advanced organizational setting.

Recommendations

The results of the research can be used as a subtle insight into the role of Artificial Intelligence (AI) integration in the efficiency of managerial decisions and the challenges it creates, both structural, ethical, and competency-related. Considering the analysis and the obtained results, it is possible to come up with a number of recommendations that can be offered to policymakers, practitioners, and future researchers. These suggestions are based on the empirical data of high improvements in the speed of the decision (92%), significant improvement in the judgment accuracy (88%), and considerable improvement of the strategic insight (84%), as well as the profound concerns of over-reliance (56%), AI literacy (52%), and ethics transparency (44%). Collectively, these results show that the positive side of AI is significant yet conditional, which necessitates the establishment of a framework and regulation, capacity building, and theoretical improvement

The findings should be interpreted as a call to policymakers to come up with regulatory frameworks to strike a balance between innovation and accountability. With almost fifty percent of respondents expressing ethical and transparency issues, the policymakers should outline the explainability criteria of AI systems applied in managing and high-risk business environments. Reviewing policies are required to have audit trail, algorithmic transparency record, and human in the loop control mechanisms to minimize automation bias and create accountability. There should also be policies that promote organizational disclosure of AI use in decision making especially in the fields of finance, health and human resource where decision made by algorithm can have a big impact on stakeholders. Moreover, the efforts of the public

sector may facilitate the introduction of AI literacy to the whole country, focusing on the areas of managerial and executive training, since the results of the study provide clear evidence that the level of competencies plays a crucial role in the effectiveness of AI. Placing AI governance in the context of corporate compliance frameworks and harmonizing regulations with those of other nations will help policymakers to develop environments supporting responsible augmentation, but not uncontrollable automation. To both practitioners and organizational leaders, the findings suggest that the adoption of AI is not to be taken as purely the technological implementation but as a strategic capability transformation. Because managers who had over eight years of experience in AI showed much greater perceived effectiveness in all the dimensions of decisions, organizations must invest in building capability over the long run in place of deploying AI in the short term. The systematic training programs should not limit to the use of the technical system but need to include the competencies of critical evaluation, data interpretation literacy, and ethical reasoning. The leadership development programs must focus on building hybrid intelligent models that require managers to challenge, contextualize and refute AI outputs rather than blatantly accepting the outputs directly. Also, decision validation systems that involve the human intervention of high-impact strategic decisions in an organization should be institutionalized. These types of frameworks will have the ability to decrease the 56% cited risk of over-reliance and curb automation bias. More accountability and trust can be empowered by embedding AI governance committees into the corporate systems, conducting internal audits of the algorithms or algorithms as well as creating standardized AI evaluation guidelines.

Practitioners are also encouraged to be a strategy of gradual integration of AI in line with the dynamic capabilities theory. The paper shows that AI is most likely to enhance speed of operations and accuracy of analytics and strategic value depends on the maturity level of the organization. Thus, organizations must first exploit AI in well-organized and data-practical areas of decision-making and subsequently consider the intricate scenario of strategic planning. The slow implementation will enable managers to develop competence as an interpreter, and diminishes resistance or abuse. Moreover, organizations can introduce cross-functional AI literacy programs to overcome the 52 percent of the respondents who indicated that they had skills gaps. The concept of embedding AI professionals in managerial teams would help to encourage the collaborative learning process and speed up the development of capabilities, the role of AI as an augmentative versus a substitutive element.

On the theoretical level, the results indicate the need to extend the current management frameworks with hybrid intelligence and sociomaterial views. The scholars are to evolve the theoretical frameworks that would enhance the understanding of the way in which managerial cognition improves with time together with the AI systems. The statistical correlation between AI experience and perceived effectiveness suggests the existence of learning curve effect which is worth longitudinal research. Future studies must hence examine the relationship between the development of managerial interpretive abilities, trust calibration, and ethical reasoning and AI capabilities across organizational life cycles. The combination of

qualitative insights and quantitative performance measures in mixed-method studies would reinforce causal knowledge and overcome self-reported effectiveness measures limitations.

The future researchers are also advised to make research on the industry-specific differences in the effect of AI. Operational improvement was almost universally observed, but strategic improvement was more eminent in data-intensive sectors, including finance and technology. They can use comparative cross-industry research to determine the situational moderators that may affect AI strategic contribution. Further, the experimental research used on automation bias and decision override behavior would give more understanding of the mental process behind over-reliance. The cross-cultural study is also encouraged as the perception of AI accountability and ethical legitimacy may also depend heavily on the regulation environment and institutionalizing norms.

More research is required on the design of governance and human-AI collaboration framework. Since the percentage of managers reporting ethical and transparency issues appears to be quite large, the effectiveness of individual interventions, i.e. explainable AI dashboards, ethical review boards, or templates of AI decision-justifications should be considered in future studies. Empirical validation would be useful with longitudinal studies that would analyze performance outcomes pre- and post-governance implementation. Furthermore, the study of the psychological aspects of trust balancing between AI systems and managers would help establish a better theoretical insight into augmentation processes.

Practically, the findings of the study indicate that organizations would employ AI implementation as a sociotechnical transformation initiative. The models of decision making must be restructured in such a way that AI insights and human reasoning branch points are explicitly integrated. There are also instances of performance evaluation systems having to be modified to incorporate collaborative intelligence performance in the final results of the evaluation and not strictly on individual managerial decision-making. Those organizations that institutionalize systemic human-AI interaction guidelines have higher chances of attaining sustained gains in the areas of accuracy, speed, and strategic innovation.

Conclusively, the recommendations which have been drawn out of this research portfolio highlight that AI implementation creates significant realities in the efficacy of the participation of managers in decision-making, though when upheld by a resounding governance management, competence building, and strategic adhering. The policymakers need to establish regulatory systems that enhance transparency and responsibility. Professionals need to spend on leadership competence training and institutional organizational controls. Researchers should apply more inquiry into hybrid intelligence and development of longitudinal capability in theory and in practice. Stakeholders can fully receive the augmentative potential and reduce ethical and cognitive risks by not treating AI as the tool but as a decision partner who can collaboratively be placed in organizational systems.

Conclusion

However this study aimed to examine the impact of the implementation of the Artificial Intelligence (AI) technologies on managerial decision-making performance, especially in terms of accuracy in judgment, decision-making speed, strategic foresight generation, and the moderating effects of the numerous ethical and competence-related considerations. Based on the qualitative data collected and analyzed on 25 mid- to senior-level managers who work in a variety of industries, the results indicate that AI adoption brings about a significant increase in the effectiveness of decision-making in a manner that depends on the management capabilities, the structure of governance, and the maturity of the organizations in question. The outcomes show that there are perceived high changes in decision speed and analytical precision, as well as substantial changes in strategic awareness and that there were also many risks linked with over-reliance, skills gaps, and ethical issues.

The literature review that the study fills in is the shift towards performance-focused and quantitative evaluations of AI adoption and the anticipation of lived experience and interpretive practices of managers in AI-assisted settings. By so doing, it develops theoretical concepts of both limited rationality, social materiality, compound thinking, and capabilities of dynamical dynamics. The findings dispel the artificial intelligence and predictive future paradigm, as opposed to the notion of it as a deterministic process where humans are pushed out of the decision-making process by algorithmic systems, they contribute to the idea that what makes a decision effective is the interplay between the algorithmic systems and the human interpretive agency. The evidence reveals and expands the hybrid intelligence framework by empirically demonstrating that AI is the most effective at improving the efficiency of operations and analytical work, whereas the strategic transformation is rooted in the richness of human engagement and contextualization as well as ethical control. Also, the relationship between AI experience and perceived effectiveness observed can be added to the dynamic capability theory as it demonstrates the presence of a learning curve in the introduction of AI.

The theoretical significance of the study is connected with its demonstration of the circumstances, in which AI may be used to make effective managerial decisions. The research redefines AI as more of a decision-aid, a sociotechnical agent that exists in the realm of organizational decisions ecology. It demonstrates that AI transforms the cognitive processes, changes the sense of authority, and reforms the accountability systems. Notably, it shows that limited reasoning is not eradicated, but re-assembled around the novel forms of constraints, such as interpretability, the quality of data, and ethical management. This theoretical change brings scholars to continue studying AI as an element of changing cognitive and institutional systems instead of a single technological variable.

Practically speaking, the results emphasize the need to have organized human-AI collaboration models to succeed in AI implementation. To stay afloat, the organizations need to put resources in the abilities of the managerial level and especially technological literacy, critical analysis, and moral reasoning. The fact that more than half of the participants pointed to over-reliance and skill gaps as the major

challenges indicates that the strategies of AI implementation need to have the governance protection and training in place. HITL validation systems, public algorithmic literature documentation are not free-upgrade components but minimum conditions of sustainable efficacy. The policymakers can use the findings to realize the necessity of regulatory systems to encourage transparency, accountability, and explainability in AI-enabled decision systems, especially in high-stakes fields.

This study despite its contribution is limited in a number of ways. The small size of the sample, as well as qualitative design, restricts any kind of statistical generalizability out of the organizations involved. Use of self-reported perceptions can be subject to bias when it comes to objectivity because it was not tied to the objective performance measures to determine the improvements in effectiveness. Moreover, the cross-sectional the format of the study is a reflection of managerial experiences at a particular change, and doing not follow the development of perceptions and competencies with the emergence of AI technologies. Even though sectoral representation is varied, this does not necessarily represent the differences of smaller enterprises or institutions within the public sector.

These limitations can be overcome in future research by adopting longitudinal and mixed-method research approaches that combine the subjective perspective and the quantitative outcome of performance. Longitudinal researches would be especially useful to analyze the co-evolution of managerial competencies and AI capabilities over time and whether the risks of over-reliance at the beginning stages would be decreasing with an increase in the experience. The cross-industry and cross-cultural comparative studies would also help shed more light on the contextual moderators of AI effectiveness. Efforts to examine the issue of automation bias and trust calibration through experimental research would contribute to the existing body of knowledge about mental processes that underlie human-AI cooperation. Additionally, the theoretical progress should still advance models of hybrid intelligence to include generative AI and new autonomous systems.

To sum up, the presented research confirms the importance of the human-oriented and context-sensitive study of AI adoption. Although it is proven that AI technologies helps to improve the speed of decision, its analytical rigor, and strategic insight, the effectiveness is not universal. Rather, it is flowed through by managerial ability, ethical governance and organizational structure. By illustrating the conditional and relational character of AI-supported decision-making in a more empirical manner, the present research will be adding to a more balanced and theoretically oriented concept of the digital change within the realm of management. Finally, the paper concludes that the future of good management performance does not lie in the fact that people lose their judgments, but rather in the prudent combination of automated intelligence with prudent, responsible, and strategically conscious leadership.

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