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Research Article

Strategic Decision-Making in the AI Era: A Review of Benefits and Barriers for Organizational Planning

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Abstract:
The dynamic evolution and advancement of artificial intelligence (AI) have significantly affected the strategies pursued by various organizations to evaluate the alternatives and uncertainties. Though there is an increased potential for more informed decisions with the implementation of AI technology in the future, there is increased uncertainty and hindrances to the proper implementation of the technology by organizations. In this regard, the review seeks to critically synthesize the already conducted research between the years 2015 and 2025 to evaluate the associated benefits with the implementation of the recommended technology while highlighting the related impediments associated with the practice. Key concepts associated with the technology pursued in the future include the associated value with AI technology; an increase in predictive analytics; enhanced strategic agility; and the associated abstraction with the technology pursued in the future. This review makes a contribution to the management literature by synthesizing scattered pieces of research and elucidating the circumstances in which AI can generate a strategic advantage for organizations. The findings of the review underscore the point that the strategic impact of AI is substantial, but it largely depends on the organizational state of preparedness.

Keywords: Artificial Intelligence (AI), Strategic Decision-Making, Organizational Planning, Benefits and Barriers, Digital Transformation.

INTRODUCTION

The integration of Artificial Intelligence in decision-making in strategy formulation as well as in organizational planning has emerged as a theme in management literature in the last twelve years. There has been increased interest in management literature as a result of the need for organizational management in VUCA (volatile, uncertain, complex, and ambiguous) environments in which conventional strategy methods fail in analyzing large amounts of data rapidly. Technologies such as machine learning methods, predictive analysis techniques, natural language processing techniques, and cognitive computing methods have emerged as a modern means of enhancing strategy planning methods through fast analysis and decision-making (Vudugula et al., 2023).

Researchers indicate that it improves strategic decision-making by increasing accuracy, facilitating scenario analysis, and assisting with dynamic resource allocation. For instance, models for prediction and analytical techniques have been demonstrated to improve strategic agility and risk protection for various types of organizations, such as those in financial, health, or supply chain management sectors (Akturk, 2025).

Additionally, it has been noted that through various empirical studies, it has become evident that enterprises that have adopted technology-based market prediction and competitor analysis approaches are capable of achieving better competitive benefits through evidence-based approaches of decision making. Therefore, this shows that even with the benefits that can be achieved through artificial intelligence, there is an ever-growing literature base on various impedances

that have made it difficult to realize strategic potential benefits. For instance, there exist issues, such as black box challenges that arise due to varied complexities, leading to a decline in trust levels of various stakeholders on various issues relating to decision making (Vudugula et al., 2023). Moreover, there exist various issues, such as data quality, whether partial, biased, and unmanaged, that have made it difficult for various strategic decision-making bodies within enterprises to adopt artificial intelligence, hence limiting strategic decision accuracy (Yılmaz & Demir, 2024). Moreover, there are no less important impedances, such as organizational and sociotechnological, that arise, including issues such as opposition from management, as well as varying levels of strategic goal alignment with artificial intelligence (Abdalhat, 2025).

Other factors identified from the strategic value of AI relate to organizational and leadership support and readiness. According to organizational researchers, "hybrid decision models, where the decision is made with the assistance of the machine rather than by the machine alone," are more helpful in ensuring alignment and ethics. However, studies show that embedding AI governance frameworks into an organization, together with facilitating collaboration, enhances the value derived from AI in terms of strategy when dealing with issues about ethics in AI technology, including bias and privacy.

This literature also reflects that the strategic application of AI goes further than just optimizing predictive capabilities. New frameworks were recommended that leverage the power of real-time analytics and adaptive governance approaches, positioning AI as the linchpin in strategic risk governance. According to Zeriouh & Amara, 2025, Generative AI use in studies has indicated its growing influence on the strategic decisions of entrepreneurs, while its potential for the speedy creation of strategistic alternatives makes its mark on innovative business model variations.

While synthesizing the creation of more than 20 high-quality studies for this review, it becomes evident that the reality of AI in strategic contexts is about being the tool with better decision-making capabilities and strategic agility and being the new element of complexity to be effectively managed. The role of conditions of strategic advantage for AI in its related research influences the creation of this new body of knowledge that incorporates technology with strategic management theory.

REVIEW OF LITERATURE

2.1 AI in Strategic Decision-Making

Research over the last decade reveals that AI has gradually become embedded in the strategy process across industries. Early work focused on how AI might be used as a tool to enhance forecasting and model complex decisions (Wamba et al., 2017), while more recent work emphasizes AI as a strategic partner that analyzes alternatives at scale much faster than traditional human-based methods (Brynjolfsson and McElheran, 2023). In this regard, various scholars reported that the machine-learning systems help managers go over several scenarios at once; therefore, it makes planning more adaptive in a rapidly changing environment (Ransbotham et al., 2020).

Moreover, research also reveals that AI will significantly impact how an organization recognizes and interprets competitive position, potential dangers, and market indications. Shrestha et al. (2019) empirically validate that organizations that have adopted analytics-based strategic systems are more likely to adapt their strategies dynamically. Similarly, Akturk (2025) also proved that AI-based decision tools for strategic agility helped managers in Turkish service organizations to reassess priorities for projects based on dynamic conditions. "Overall, the literature suggests that AI causes decision quality to increase, but its use is more beneficial when combined with human interpretation and organizational judgment."

2.2 Benefits of AI in Organizational Planning

Predictive Analytics

Predictive modeling is again and again underscored as one of the most potent applications of AI tech in the context of planning. There is evidence suggesting that businesses that rely on data-driven models possess the capability to accurately predict market demand, risks, and consumer behaviors (Barykin et al., 2021; Zeriouh & Amara, 2025). Scenario testing made possible by the application of predictive analytics plays a critical role in the functioning of planning, even in the presence of rivals (Teece, 2018).

Decision Speed and Accuracy

This allows for faster processing of both internal and external data, hence reducing the planning cycle and decision-making time for critical decisions (Brynjolfsson & McElheran, 2023). According to Vudugula et al. (2023), there were reduced error occurrences of strategic-level decisions that were made using AI models rather than solely relying on humans to make the respective decisions. Decisive environments such as healthcare and logistics operate with high velocity and therefore benefit largely from AI usage and application. This is especially true where quick evaluation of situations is needed (Fayaz et al., 2024).

Data-Informed Resource Allocation

Experts explain that through AI, companies achieve optimized budgeting, scheduling, and allocation of resources by

identifying patterns in intricate data sets (Ifeanyi et al., 2025). Even more interesting is that companies that incorporate and make use of AI in planning are found to be more aligned to their organizational priorities and investments; this is found in multinational corporations or companies with more than one unit (Rivero, 2025). Resource allocation is objective through the assistance of analytical models (Marocco et al., 2025).

2.3 Barriers and Challenges of AI Adoption

The use Data quality Challenges In data integration, data quality can Quality of data is among the most widely cited barriers for adopting AI technology. Researchers argue that poor quality data, whether it is biased, or siloed, limits the accuracy of artificial intelligence (Yilmaz & Demir, 2024). Even for firms with great analytic capabilities, it is hard to integrate legacy systems with real-time data sources (Taroun & Yang, 2011; recent explanations and examples are provided by Wamba et al., 2017).

Skill Gaps and Managerial Resistance

Several studies warn that managers are usually suspicious of AI outputs due to little technical knowledge or because they fear the loss of authority. Abdalhat reports that resistance is strongest in firms lacking training initiatives and change-readiness programs. Skill shortages in data science and AI governance also limit dependable implementation.
Ethical and Strategic Misalignment

Though risks related to algorithmic bias, privacy, and accountability in respect to decisions taken using AI are being highlighted by modern scholars, AI does not always lend itself well to any given business strategy, thereby resulting in a waste of resources invested in this field. It has been established in studies that strategic fit is enabled through good governance coupled with executive sponsorship.

2.4 Research Gaps

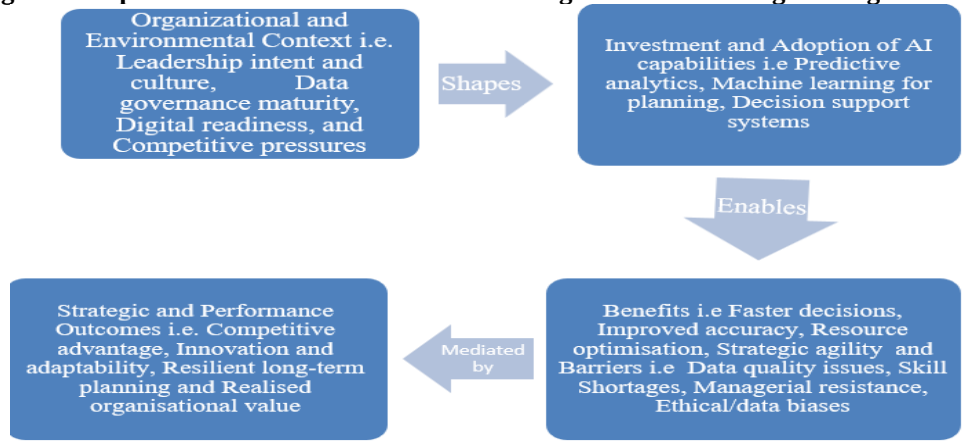
Despite the significant amount of attention paid to AI-enabled planning, a number of omissions remain. Scholars indicate a deficit of empirical work from developing economies, where digital readiness and infrastructure vary greatly (Ifeanyi et al., 2025). There is also limited research on long-term strategic performance over and above short-term operational improvements, as pointed out by Brynjolfsson & McElheran (2023). A few studies have looked at how firms balance automated decision-making with ethical, legal, and human oversight requirements (Marocco et al., 2025). Finally, new technologies such as generative AI and decision co-pilots have so far received only initial scrutiny within strategy contexts (López-Solís et al., 2025).

These gaps do provide a rationale for continued systematic review, particularly in consolidating fragmented evidence, identifying conditions that support value creation, and guiding firms developing AI-enabled decision frameworks.

3. Objectives of the Study

1. To review and synthesize the available literature on the positive impacts of AI on strategic decisions and organizational planning.
2. To determine the major opportunities and challenges faced by organizations with regards to the realization of strategic value from AI technology.

Fig. 1 Conceptual framework for AI-enabled strategic decision-making and organizational outcomes



Source: Adapted from Agarwal & Dhar, 2021; Chatterjee et al., 2023; Davenport & Miller, 2022; Dwivedi et al., 2021

Fig. 1 illustrates the way that the organizational conditions interplay in their impact on capability building in relation to advanced analytics and decision technologies. Clearly, there are several underpinning factors that include the organizational

or environmental factors that signal intent at the leadership level, culture, data governance maturity, as well as competition. From these premises, organizations then choose to invest in and use various forms of analytical-related tools, such as predictive analytics, machine learning, and decision support systems, which act as enablers of better-informed decision-making processes. However, the model here also envisages the difficulties that can arise, aside from the benefits, upon the implementation of these systems. Although these systems can alleviate faster, more precise, and flexible decision processes overall, there can be problems, concerns, or dilemmas.

Finally, this factor links these with the broader organizational outcomes. Where a balance exists between benefits and limitations, the formulation of digital capabilities is essential for strategic betterment, competitive positioning, and long-term robustness. As such, this framework is seen to synthesize much of the developed literature around these factors.

METHODOLOGY OF RESEARCH

4.1 Sources of Data

The review applied a structured and transparent approach to locating and evaluating relevant academics publications on the subject. This was meant to ensure wide coverage in management and technology research through the major scholarly databases: Scopus, Web of Science, ScienceDirect, Emerald Insight, and Google Scholar. These databases have been identified because they index high-quality peer-reviewed journals and include studies across business management, information systems, and digital transformation domains (Tranfield, Denyer & Smart, 2003).

4.2 Search Strategy

There was a deliberate search strategy designed to identify those studies assessing Artificial Intelligence within strategic management. Key phrase combinations were employed alone and cumulatively, namely: Artificial Intelligence, Strategic decision-making, Organizational planning, AI management, Digital transformation, and Decision support system. Boolean operators such as AND, OR, and NOT were used to filter the results (Fink, 2020).

The search is only conducted from the year 2015 to 2025, representing the current timeframe during which AI technologies have developed to a level that makes them applicable in business practices and related to managerial concerns, according to Brynjolfsson and McElheran in 2023.

4.3 Inclusion and Exclusion Criteria

The criteria for selection applied were relevant and of high quality.
Included studies: Articles in peer-reviewed, Publications related to AI in Strategy & Planning, Management & Decision Processes, Empirical, conceptual, and review studies in English, Research in the realm of business, public administration, or organizations and Excluded studies: Technical/Engineering papers that lack managerial significance, non-conference abstracts without complete text, Articles exclusively on algorithms, data, or models, and their optimization. These criteria are consistent with guidelines that recommend rigour in management reviews, as suggested by Snyder in 2019.

4.4 Screening Procedure

The retrieval yielded the first dataset of more than 400 records on the five databases. The screening process was carried out in three stages:

1. Duplicate Removal- Duplicates that existed in multiple databases were removed by manually examining quotes.
2. Title and Abstract Screening- studies that did not relate to strategic management or the adoption of AI in organizations were excluded.
3. Full-Text Review- The subsequent articles were considered in terms of their scope, concepts, and relevance to the objectives of the review.

This filtering technique is based on standard criteria to ensure transparency during the literature review, as suggested by Kitchenham and Charters (2007). On screening, there were 65 pieces of literature selected for thematic synthesis.

4.5 Analysis Technique

The study adopted a thematic analysis procedure to obtain and arrange findings. The procedure involved reading the articles and then annotating them in accordance with emerging themes in accordance with set guidelines on how to conduct a proper qualitative literature review (Braun & Clarke, 2013). The emerging themes developed in accordance with the adoption outcome and strategic implications of AI adoption were placed in two main themes:

1. Benefits of AI, such as accuracy of decision, predictability, and agility of strategies.
2. Barriers to AI adoption - issues of data quality, skill sets, ethical issues, and resistance to change. This form of themes allowed diverse evidence to be synthesized, and conceptual gaps to be identified within the literature.

Analysis / Discussion / Findings

5.1 Benefits of AI in Strategic Decision-Making and Planning

Evidence from the reviewed studies reveals that AI has a number of benefits that directly impact the enhancement of strategic decision-making. One of the most robust themes involves an enhanced predictive capability. All authors unanimously emphasize that using AI-based analytics, companies can make more genuine predictions of market conditions and customer demand than through other forecasting tools (Barykin et al., 2021; Wamba et al., 2017). The use of predictive analysis helps managers assess a variety of options for the future to select strategies with minimal uncertainty (Brynjolfsson & McElheran, 2023).

The second advantage points to the speed with which the decisions are made or the processing capacity. In this case, the AI systems are capable of processing huge amounts of data with incredible speeds, thus allowing for a better insight into the decisions or responses to events that transpire over time (Ransbotham et al., 2020). There is an observation that volatile markets like retail business, logistics, and healthcare stand to gain the most from the accelerated intelligent decisions (Fayaz et al., 2024).

Third, the literature focuses on better resource utilization and alignment. For instance, with the application of AI-aided planning tools, corporations are capable of channeling investments through those areas that are anticipated to show scope, as opposed to relying on intuition (Ifeanyi et al., 2025). This further adds clarity to business decisions, allowing companies to reduce wastage and focus more on adding value to their activities (Rivero, 2025).

As one can clearly see from the abridged literature review above, the conclusion of most researchers is that AI helps to enhance the effectiveness of managerial decisions, but does not completely eliminate human expertise. Indeed, the conclusion that one may draw from the above literature review is that the best possible outcomes are reached by combining AI knowledge with managerial learning.

5.2 Barriers and Challenges of AI Adoption

Though clear benefits exist, a significant body of literature reveals certain barrier the impact the adoption of AI. Data quality and interoperability emerge as one of the most prevalent themes. It has been found that organizations lack access to quality data necessary for making sound AI analysis (Yılmaz & Demir, 2024). Pre-existing systems and privacy factors hinder the effectiveness of AI tools even if technical knowledge has been developed (Taroun & Yang, 2011).

The second prominent theme is related to skill gaps and the resistance of the management. Various studies report that the management is averse to using AI results owing to accuracy issues or job replacement (Davenport & Miller, 2022). Abdalhat (2025) reported that the greatest resistance to AI adoption is in those firms that lack training strategies. Furthermore, firms in emerging markets face issues in recruiting talents in the area of data and AI development (Ifeanyi et al., 2025).

The third type of challenges that are associated with AI are related to ethical and strategic alignment. There are warnings that without regulation, AI could lead to bias, impair privacy, and be at odds with values (Marocco et al., 2025). Strategically, AI programs and business aims could be at odds and end up being ineffective and costly (Rivero, 2025). While the potential threats are well documented, there are very few solutions that are provided for AI challenges.

5.3 Implications for Managers

The implications of these findings for managers and executives planning and implementing strategy include the recognition that AI needs to be considered a complement to human decision-making, and not a replacement. Organizations that leverage machine-computed insight, along with organizational experience, are more likely to create their own strategic value (Wilson & Daugherty, 2018).

Secondly, it is essential for firms to spend on data infrastructure and management. If there is no systematic way of handling data, it is most likely that these tools would fail to yield value for whatever purpose they are used, whether it is for administrative or financial tasks, among others, because of their reliance on AI, as stated by Yılmaz and Demir (2024).

Thirdly, there is a focus on change and capability and how this can be developed. Training and cross-functional teams can help overcome managers' resistance and improve the readiness of the organizations (Abdalhat, 2025). Progress can be made in AI adoption if managers implement it gradually through pilot projects which have visible strategic advantages.

In conclusion, the processes of strategic planning should also include ethical scrutiny and accountabilities, especially in circumstances where AI-driven insights may impact employees, customers, and stakeholders (Marocco et al., 2025).

5.4 Implications for Researchers

The reviewed articles have identified a number of opportunities available in scholarship. To begin with, there is a need to conduct empirical studies. The existing body of literature largely lingers on large organizations in developed economies. There are inadequate studies carried out on smaller organizations in the public sector (Ifeanyi et al., 2025).

Second, most empirical studies are done on early outcomes of adoption. Longitudinal studies need to determine if decision practices around AI lead to sustained competitive advantage (Brynjolfsson & McElheran, 2023).

Thirdly, there are organizational issues in AI that need more studies such as organizational cultures that influence the adaptation process (Shrestha et al., 2019). There are also ethical issues in AI such as bias, transparency, and privacy that need more theoretical work (Marocco et al., 2025).

Finally, academics could have a part to play in looking at models for joint decisions, where computers and people interact in tandem within decision environments, allowing for some findings to be gleaned about allocation, responsibility, and learning within such a process as discussed by Wilson & Daugherty, 2018.

CONCLUSION

This literature review explored the emerging literature on the integration of Artificial Intelligence in strategic decision-making and the planning processes within organizations. It has been found in the literature that the application of Artificial Intelligence is increasing the speed and accuracy with which an organization processes and responds to decisions made in a context characterized by strategic uncertainty (Fountaine et al., 2019; Dwivedi et al., 2021; Chatterjee et al., 2023). This literature makes it clear that Artificial Intelligence is not a supplement to an existing strategy but a resource that has the capability to alter the long-term strategic thinking approach.

Nevertheless, an equally important theme exists which points to the continued limitations in value capture. Whilst research points to continued difficulties in relation to fragmented data structures, in addition to difficulties in data governance and the lack of analytical maturity, which can jeopardize the integrity of AI-driven decision-making, important human factors, such as a lack of talent, leadership paralysis, and resistance to algorithmic judgment, have now emerged as important limiting factors, indicating an important role for learning and cultural change in order to succeed in AI adoption. The important topic of ethics, together with concerns in relation to explainability, bias, and accountability, further underscore an alignment of AI adoption with notions of responsible management.

The value addition in this review is in integrating dispersed knowledge perspectives on a meaningful framework that interlinks capabilities in AI, organizational factors, and achieved outcomes. In this context, through a comparison of benefits against reported challenges in implementing AI, it is evident in the study that the strategic value of AI has much less to do with the maturity level of the technology and everything to do with readiness and strategic vision.

Still, the scope for future research is considerable. Some researchers have asserted the need for longitudinal research to identify the strategic performance implications over the longer term and to advance research in the sector, institutions, and a combination of management and data science (Agarwal and Dhar, 2021; Sestino et al., 2022). Researching the implications for hybrid humans and AI systems over time will become a significant area, given the level of maturity achieved in the role. In summary, the role offered by AI is one of transformation—conditional to circumstances through strategic planning.

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