University of Kirkuk Journal For Administrative and Economic Science. A special issue of the 1st Scientific Conference of the College of Administration and Economics - University of Kirkuk - Information technology, digitization, and their impact on sustainable development - 8-9, Oct- 2025.

IRAQI Academic Scientific Journals

UKJAES

University of Kirkuk Journal For Administrative and Economic Science

ISSN:2222-2995 E-ISSN:3079-3521
University of Kirkuk Journal For Administrative and Economic Science

Hameed Wael Jasim. How Artificial Intelligence can augment strategic decision-making, particularly in areas of risk management and strategic planning. *University of Kirkuk Journal for Administrative and Economic Science* Volume (15) Issue (4) Part (2) Supplement (1) A special issue of the 1st Scientific Conference of the College of Administration and Economics - University of Kirkuk - Information technology, digitization, and their impact on sustainable development - 8-9, Oct- 2025, p-p:323-339.

How Artificial Intelligence can augment strategic decision-making, particularly in areas of risk management and strategic planning

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Abstract. This research paper investigates the crucial function of artificial intelligence (AI) in augmenting and improving strategic decision-making, particularly in areas of risk management and strategic planning in the business field. In a time where technological advancement is redefining conventional frameworks, it is essential to comprehend the diverse effects of AI on strategic decisions for the success of organisations. The paper conducts an extensive literature review to establish the theoretical framework, clarifying the connection between AI, strategic decision-making, risk management and strategic planning. Methodologically, a detailed analysis evaluates the current use of AI in the business field, investigating its augmentation and role in strategic decision processes. Through practical examples and case studies, the study examines effective applications of AI that enhance both the quality and speed of strategic decisions in strategic planning and risk management. The results contribute to a deeper understanding of the dynamic interaction between AI technologies and strategic decision-making. The discussion segment tackles the challenges and concerns linked to AI integration, offering perspectives on the wider implications for business strategies. In conclusion, the research underscores the necessity for organisations to adopt AI as a transformative tool in their decision-making processes and provides suggestions for strategic implementation. This paper serves as a significant resource for scholars, practitioners, and policymakers aiming to navigate the changing landscape of AI-enhanced strategic decision-making in the modern business world.

Keywords: Artificial intelligence (AI), strategic decision-making, risk management, strategic planning.

كيف يُعزز الذكاء الاصطناعي عملية اتخاذ القرارات الاستراتيجية، لا سيما في مجالات إدارة المخاطر والتخطيط الاستراتيجي

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المستخلص: تتناول هذه الورقة البحثية الدور الحيوي للذكاء الاصطناعي في تعزيز وتحسين عملية اتخاذ القرارات الاستراتيجية، لا سيما في مجالات إدارة المخاطر والتخطيط الاستراتيجي في قطاع الأعمال. في ظل التطور التكنولوجي الذي يُعيد تعريف الأطر التقليدية، من الضروري فهم الآثار المتنوعة للذكاء الاصطناعي على القرارات الاستراتيجية لتحقيق نجاح المؤسسات. تُجري الورقة مراجعةً شاملةً للأدبيات لوضع الإطار النظري، مُوضحةً العلاقة بين الذكاء الاصطناعي وصنع القرارات الاستراتيجية وإدارة المخاطر والتخطيط الاستراتيجي. منهجيًا، يُقيّم تحليلٌ مُفصّل الاستخدام الحالي للذكاء الاصطناعي في قطاع الأعمال، مُستكشفًا تعزيزه ودوره في عمليات اتخاذ القرارات الاستراتيجية. من خلال أمثلة عملية ودراسات حالة، تدرس الدراسة التطبيقات الفعالة للذكاء الاصطناعي التي تُعزز جودة وسرعة اتخاذ القرارات الاستراتيجية في التخطيط الاستراتيجي وإدارة المخاطر. تُسهم النتائج في تعميق فهم التفاعل الديناميكي بين تقنيات الذكاء الاصطناعي وصنع القرارات الاستراتيجية. يتناول جزء مناقشة النتائج التحديات والمخاوف المرتبطة بدمج الذكاء الاصطناعي، مقدمًا وجهات نظر حول الآثار الأوسع نطاقًا على استراتيجيات الأعمال. وفي الختام، يُشدد البحث على ضرورة اعتماد المؤسسات للذكاء الاصطناعي كأداة تحويلية في عمليات صنع القرار، ويقدم اقتراحات للتنفيذ الاستراتيجي. تُعدّ هذه الورقة مرجعًا هامًا للباحثين والممارسين وصانعي السياسات الذين يسعون إلى مواكبة المشهد المتغير لصنع القرارات الاستراتيجية المُعززة بالذكاء الاصطناعي في عالم الأعمال الحديث.

الكلمات المفتاحية: AI، صنع القرارات الاستراتيجية، إدارة المخاطر، التخطيط الاستراتيجي.

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Introduction

Artificial Intelligence (AI) is rapidly evolving from a niche technological asset into a vital component of modern business strategies. AI involves replicating human cognitive functions in computers designed to think, learn, and solve problems independently(Rimon, 2024).In recent years, AI technologies like machine learning, natural language processing, and computer vision have become more available and are now essential to business functions across different sectors. Companies are utilising AI to streamline processes, improve customer interactions, and facilitate better decision-making. As organisations produce unprecedented volumes of data, the importance of AI in analysing this information is vital for extracting insights that were previously challenging or unattainable (Hamadaqa et al., 2024).AI greatly improves decision-making across various sectors, especially for start-ups, by employing data-driven algorithms that offer timely insights to enhance operational efficiency and minimise uncertainties. These applications analyse extensive datasets to forecast market trends and fine-tune resource distribution, which is essential for making strategic choices in ever-changing environments. Utilising predictive analytics, AI empowers businesses to anticipate customer behaviour and market fluctuations, thereby maintaining a competitive edge. Artificial intelligence leverages machine learning to analyse data, enabling companies to identify risks and plan effectively (Al-Surmi, Bashiri, & Koliousis, 2022; Cannas, 2023).

By conducting a comprehensive literature review and analysis, this study provides valuable insights into the present state of AI adoption within the business environment. The following table of the literature systematic review shows studies have largely confirmed the significant role and widespread use of AI in strategic decision-making. However, gaps remain in understanding the full impact and potential of AI integration in such processes. Therefore, further research on AI in decision-making is necessary to address these gaps. This article discusses the augmentation of human decision-making, particularly in areas like strategic planning and risk management and offers recommendations for organisations looking to successfully incorporate AI into their strategic decision-making and strategic planning processes. To sum up, AI is transforming business

operations and presenting a new theoretical framework for making well-informed decisions that promote sustained growth and success.

1st: Research Questions

1- To what extent of the impact of artificial intelligence (AI) on strategic decision-making in business management practices?
2- What are the particular uses of artificial intelligence (AI) in augmenting strategic decision-making of risk management and strategic planning?
3- What effective strategies can organisations implement to enhance the advantages of artificial intelligence (AI) in strategic decision-making while minimising potential risks?

2nd: Research Aim

This study provides valuable insights into the present state of AI adoption within the business environment

3rd: Research Objectives

1- To provide a systematic review of the literature on artificial intelligence,strategic decision-making and strategic planning across a variety of business sectors.
2- To identify the possibility of AI in augmenting strategic decision practices, specifically in areas of risk management and strategic planning.
3- To develop a theoretical framework that clarifies the connection between artificial intelligence and strategic decision-making.

4th: Research Scope

Acknowledging the breadth of the AI realm, this research concentrates on its use within business management, highlighting its influence on strategic decision-making, strategic planning and mitigating risk management. The study covers a range of industries and sectors to offer a comprehensive insight into the effects of AI on decision-making processes.

5th: Research Methodology

The methodology adopted in this research is a systematic Literature review. the data will be collected from an assortment of secondary sources, including books, journals, magazines, and online resources.

Theoretical Framework: Systematic Review of the Literature Review

In this section, we outline the methodology. The researcher conducted a systematic review of the literature following the PRISMA guidelines(Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework(Page et al., 2021). As illustrated in Figure 1, the researcher utilised the Google Scholar database and extracted primary studies by employing specific keywords in our search criteria. The keywords were selected to help generate research articles pertinent to our topic. The terms used in the search were (artificial intelligence), (strategic decision-making), (strategic planning) and (risk management). To refine the research results, the researcher used the following criteria:

1- The paper should be relevant to AI and strategic decision-making and strategic planning.
2- The paper should be published between 2018- 2025.
3- The papers are written in the Arabic language.

Furthermore, the subsequent exclusion criteria were implemented for the results of the search:

1- The document does not pertain to AI and strategic decision-making.
2- The article is a review paper.

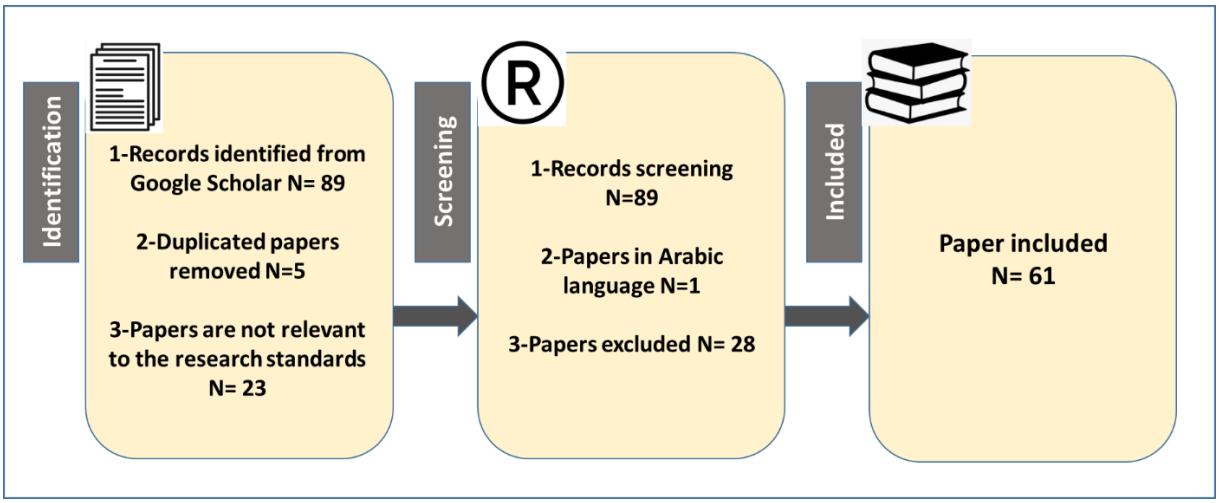

Figure (1): PRISMA Diagram for Systematic Literature Review

All Google Scholar results were reviewed to ensure they met these criteria. The identification of the selected studies proceeded through the quality assessment phase, beginning with a brief review of the title and the paper's review (whether it was peer reviewed or not). Next, the researcher also confirmed that these papers were pertinent and applicable to our research. Figure 1 illustrates the total number of final papers chosen after completing these stages.

As shown in Figure (1), there is extensive research on AI and strategic decision-making, with the comprehensive analysis encompassing (61) papers in the whole research under study. The figure illustrates the publication trends over the years.In this section, the table (1)illustrate the systematic literature review of the paper title under study. and the researcher emphasise the results of the retrieved papers.

Table (1): The systematic Literature Review of Publications relating to Research Variables

Author	Paper Title	Paper Methodology	Paper Findings
(Hasya & Sukiman, 2025)	The Impact of AI-Based Decision Making, Market Intelligence, and Chatbot Integration on Business Performance in Indonesian Start-ups	Quantitative method	The findings show that each of the three aspects has a positive and significant impact on business success, with market intelligence having the greatest effect. Artificial intelligence enhances in improving the precision and efficiency of decision-making, market intelligence enables organisations to understand consumer preferences and trends, and chatbots enhance efficiency in customer communication and integration.
(Arumugam & Manida, 2024)	Enhancing Strategic Decision Making: Assessing the Role and Impact of Artificial Intelligence in Business Management	comprehensive analysis (Secondary data)	The findings offer a deeper insight into the complex relationship between AI technologies and strategic decision-making. In the discussion section, it explored the challenges and issues linked to the incorporation of AI, offering perspectives on the wider implications for business strategies.
(Siregar & Setiyaningsih, 2025)	Integrating Artificial Intelligence into Strategic Decision Making: A Bibliometric Analysis for Future Research Directions	Systematic Reviews and Meta-Analyses (PRISMA) method	The findings illustrate a changing focus in research towards the application of AI in strategic decision-making processes. The implications, challenges, and suggestions for further research highlight the necessity for creating AI models tailored to specific contexts, improving risk management practices,

			increasing interpretability, ensuring data security and privacy safeguards, developing machine learning applications suited to particular industries, fostering better human-AI collaboration, and establishing suitable success metrics.
(Rimon, 2024)	Leveraging Artificial Intelligence in Business Analytics For Informed Strategic Decision-Making: Enhancing Operational Efficiency, Market Insights, And Competitive Advantage	Descriptive method using secondary data	This article explores the challenges businesses face and offers suggestions for successfully incorporating AI into their strategic decision-making frameworks. In the end, the findings indicate AI is transforming business functions while also presenting a new framework for making educated decisions that promote sustainable growth and prosperity.
(Kaggwa et al., 2024)	AI in Decision Making: Transforming Business Strategies	systematic literature review method	The findings indicate that AI goes beyond being just a technological resource; it serves as a strategic advantage that considerably transforms how businesses make decisions. Incorporating AI into business strategies shows considerable promise in improving organisational performance and fostering sustainable business practices.
(Nweke & Owusu-Berko, 2025)	Integrating AI-Driven Predictive and Prescriptive Analytics for Enhancing Strategic Decision-Making and Operational Efficiency Across Industries	Predictive analytics include supervised learning, unsupervised learning, and reinforcement learning methodology	The results of this study, which utilise the outlined methodologies, are examined in terms of their applications within the industry and the ethical considerations associated with the use of AI-driven predictive and prescriptive analytics. By embracing a strategic, data-informed strategy, businesses can secure a lasting competitive edge and enhance operational efficiency in a business landscape that is ever-evolving and intricate.
(Fayaz, Amin, & Iqbal, 2024)	Artificial Intelligence in Decision-Making: A Descriptive Analysis of Its Impact on Strategic Planning	A comprehensive review of existing literature methodology	The results indicate that although AI improves strategic decision-making, issues like data quality, ethical challenges, and the need for human supervision remain vital concerns for organisations to tackle.
(Narne, Adedoja, Mohan, & Ayyalasomayajula, 2024)	AI-Driven Decision Support Systems in Management: Enhancing Strategic Planning and Execution	qualitative and quantitative methodology	The results suggest that AI decision-making tools enhanced analytical capabilities, accelerated competitive response times, and transformed strategic vision planning, while also raising concerns regarding transparency and trust in sophisticated automation methods. The findings offer new insights into the growing presence of AI in augmenting and broadening the strategic design and execution efforts of important decision-makers and leaders within organisations.
(Aziz, Muzaffar, Shahid, Ahmed, & Iqbal, 2025)	The Role of Artificial Intelligence in Driving ROI Through Synergised HR,	thematic synthesis (Secondary Data	The research determined that the full enterprise value of AI is best achieved not by isolated optimisations but through

	Marketing, and Financial Decision Making	from literature)	ethically overseen, cohesive efforts throughout the organisation. Future studies should explore long-term impact evaluations, new AI advancements such as generative AI, and human-centred adoption methods across various sectors and organisational scales to enhance best practices for sustainable integration of AI.
(Kaggwa et al., 2024)	AI in Decision Making: Transforming Business Strategies	Systematic literature review method	The key findings indicate that artificial intelligence transcends its role as a mere technological tool, evolving into a strategic resource that profoundly transforms the decision-making processes within organisations. The incorporation of artificial intelligence into corporate strategies exhibits considerable promise in augmenting organisational efficacy and fostering sustainable business methodologies.
(Selvarajan, 2021)	Leveraging AI-Enhanced Analytics for Industry-Specific Optimisation: A Strategic Approach to Transforming Data-Driven Decision-Making	Analytical literature review of several sectors' content	In some industries, AI-integrated analytics opens up a significant horizon for continuously improving and optimising decision-making.
(Rahate et al., 2025)	In some industries, AI-integrated analytics opens up a significant horizon for continuously improving and optimising decision-making.	Quantitative, structured and interview methods	The findings suggest that while artificial intelligence significantly increases decision-making speed and accuracy, its efficacy depends on expertise, balance, and ethical governance.
(Shrestha, Ben-Menahem, & Von Krogh, 2019)	Organizational Decision-Making Structures in the Age of Artificial Intelligence	Secondary data from literature	Three structural categories are presented by the framework, which include full human-to-AI delegation, hybrid—human-to-AI and AI-to-human—sequential decision making, and aggregated human–AI decision making. These categories allow organisational members' decisions to be combined with AI-based decisions.
(Francis Wang, 2025)	Collaborative Foresight in the Age of AI: A Framework for Evolving Human-AI Dynamics in Strategic Decision-Making and Futures Research	Exploratory research method	The paper's findings on how human decision-making has changed in this setting, explores pertinent approaches, and gives a summary of current futures research procedures. In order to handle information overload, it presents a collaborative foresight system based on the FDI Framework, including a technical architecture for data processing, scenario exploration, and knowledge management. Agentic AI and multimodal involvement are also taken into consideration. Important ethical factors for human-AI cooperation are covered in detail, including explainability, transparency, and preserving human agency.

This study's justification stems from the need for Iraqi sectors to learn more about AI applications. It is necessary to identify and analyse the advantages and disadvantages of AI, even though the

official regulations approve its use. Through the exploration and analysis of the literature review, this study aims to provide some recommendations to Iraqi industries that are utilising AI applications. It also serves to illustrate the experiences of international case studies of AI.

Overview of AI Capabilities

Businesses are now able to extract valuable insights from large datasets with previously unheard-of accuracy and efficiency because to artificial intelligence (AI), which has drastically changed data-driven decision making(Badmus, Rajput, Arogundade, & Williams, 2024). Conventional decision-making methods frequently led to delayed reactions to market developments since they depended on human data interpretation and statistical analysis(Selvarajan, 2021). Businesses can now process real-time data, spot trends, and produce useful insights that enhance strategic planning and operational effectiveness via to AI-driven analytics(Rai, Nanjundan, & George, 2024). The synergistic relationship between AI, decision-making and strategic planning was highlighted by (de Mattos, Correia, & Kissimoto, 2024), AI improves the analytical skills required for accurate strategic planning, while digital transformation lays a foundation for data-driven decision-making.
Researchers who have examined the cooperation between internal and external organizational systems, such as Roscoe, Cousins, and Handfield (2019) and Tavana, Shaabani, Raeesi Vanani, and Kumar Gangadhari (2022), have emphasised the significance of AI and digital transformation adoption in operations management. According to Vial (2021), digital transformation is the process of integrating computing, communication, information, and connection technologies to enhance organizational performance. Considering the advantages of AI in strategic planning, including increased forecasting accuracy, enhanced risk management, and agility in responding to market changes, Margiono (2021) pointed out that the rate of digital transformation varies based on corporate planning and decision-making. Nonetheless, issues including data quality, AI model interpretability, and moral dilemmas surrounding AI's decision-making function continue to arise.
According to Davenport and Ronanki (2018), integrating AI projects with current systems and procedures is one of the main obstacles in AI ventures. Mikalef and Gupta (2021) have noted the challenge of encouraging system and data integration and guaranteeing high-quality data for efficient AI model training. The creation of new technology solutions to manage the intricate data requirements required for AI application is vital to address these issues. Notwithstanding these obstacles, artificial intelligence (AI) technologies have advanced significantly in recent years. Three essential capabilities were recognized by Sjödin, Parida, Palmié, and Wincent (2021) as being required to reach AI maturity:
(1) the capacity for data management, which involves guaranteeing data security, quality, and smooth integration;
(2) the capability of improving and verifying AI algorithms, which entails placing AI development in context and guaranteeing operational efficacy;
(3) The capacity to democratize AI, which includes recognizing its benefits, encouraging cooperation, and advocating for its widespread application inside the company.

AI Driven Strategic Decision-Making

Organizations are abandoning traditional processes by integrating AI analytics into their decision-making systems. Even with the availability of big data, decisions were traditionally made based on experience and intuition, which tended to favor one option over another. In today's AI environment, companies are able to extract more information and use the data they generate to inform their strategies more objectively (Selvarajan, 2021). The ability to obtain immediate results is another significant advantage of using AI in analytics. Business leaders understand that postponing decisions can be costly, especially if the company operates in a rapidly growing sector. AI enables the analysis of massive amounts of data in real time using algorithms in which humans cannot identify patterns. Additionally, it provides an ideal operating environment for organizations to quickly respond to opportunities and threats, customer demands, and market dynamics(Chua, 2025). AI enhances risk management by locating possible threats and weak points in strategic plans.

Organizations can create more effective backup plans by using AI's ability to predict the likelihood of different risk scenarios through predictive analytics (Fayaz et al., 2024).

Decision-making paradigms are altered when descriptive analytics give way to predictive and prescriptive analytics. A historical approach to the data-answered questions regarding what has transpired is provided by descriptive analytics. Predictive analytics forecasts future scenarios, indicating how things are likely to occur, whereas prescriptive analytics advises managers on how to handle a particular issue. This is enhanced by prescriptive analytics, which provides guidance on what to do based on a forecast. Businesses and organizations can improve their operations and find methods to maximize their use of resources by employing these types of theoretical analysis(Hamadaqa et al., 2024).

AI systems support people's decisions by encouraging them through their investigative and analytical capabilities. Finding patterns in data and speculating about them is possible, but more often than not, an expert's knowledge is required to interpret the data within the organization's capabilities and values. Through this integration, businesses can take advantage of AI's rapidity, accuracy, and capacity to handle vast volumes of data. It is combined with the human capacity to make wise choices based on morality, creativity, experience, and intuition(Al-Surmi et al., 2022).

There are disadvantages to this kind of cooperation. Organizations may need to steer clear of the risks of becoming overly reliant on artificial intelligence or offacing the danger of algorithmic bias. Companies should adopt various important concepts regarding AI systems in order to reduce these risks. This is achievable if decision-makers also understand how AI algorithms generate the insights needed to make morally right decisions that benefit users and the company(Shrestha et al., 2019).

AI Driven Strategic Planning

Artificial intelligence (AI) technologies, such as machine learning, predictive analytics, and natural language processing, are essential for enhancing the quality and speed of strategic planning and decision-making procedures. Scholars have highlighted the significance of digital technology adoption in operations management. According to Vial (2021), digital transformation is the process of integrating information, communication, computing, and connectivity technologies with the goal of enhancing organizational performance. The benefits of AI in strategic planning, such as increased forecasting accuracy, better risk management, and agility in responding to market changes, are highlighted by Margiono (2021), who also pointed out that the rate of digital transformation varies depending on corporate planning and decision-making. But issues like data quality, AI model interpretability, and moral dilemmas with AI's decision-making role continue to exist.Verhoef et al. (2021) emphasized that in order to gain a sustained competitive edge, businesses must implement procedures that complement a digital strategy and reconsider internal structures and procedures.

such transformations effect on organizational planning at every level, from strategic to operational. Several studies credit the increased effectiveness of information technology (IT) in gathering and evaluating pertinent data with contributing to the broad use of AI in strategic decision-making. The incorporation of AI technology into strategic planning has been made easier by the availability of sophisticated analytical tools and cloud services, which allow businesses to make better decisions more quickly and accurately (Bankins, Ocampo, Marrone, Restubog, & Woo, 2024; Borges, Laurindo, Spínola, Gonçalves, & Mattos, 2021; Von Krogh, 2018).

Since AI-generated scenarios offer primary material with lower transaction costs than conventional human facilitators or consultants, they are becoming more and more recognized as useful instruments for strategy creation. Incorporating AI-generated scenarios into strategic planning procedures may be advantageous for businesses that operate in volatile environments or aim to broaden their range of strategic options(Spaniol & Rowland, 2023). By routinely discussing and evaluating AI-generated future scenarios, the author advise enterprises to also improve the future capablities of their workforce, especially among managerial staff. But there are also unanswered challenges regarding AI's wider involvement in scenario design, including whether AI should take

the place of human facilitators in this process and how to allay worries about employing AI-generated scenarios instead of human-generated ones.

AI-generated scenarios provide useful insights that assist managers in anticipating and adjusting to future possibilities and difficulties. But using such situations also brings up organizational and ethical issues that need to be addressed(Kublik & Saboo, 2023; Mohamed, Shaaban, Bakry, Guillén-Gámez, & Strzelecki, 2025). to summarise, while scenarios produced by AI can improve strategic planning, their success hinges on their responsible and efficient application, paying close attention to ethical considerations and striking a balance between AI and human monitoring.

Thus, some of the challenges in applying AI to the strategic decision-making and strategic planning process will be discussed in the following section.

Challenges of Integrating AI in Strategic Decision-Making and Strategic Planning Context

Although there are many benefits to incorporating artificial intelligence (AI) into strategic decision-making, there are also some obstacles that must be addressed in order to guarantee the ethical and successful application of AI technologies in business management. This section identifies the main challenges and concerns related to incorporating AI into strategic decision contexts according to the dicussions of several of studies: (Arumugam & Manida, 2024; Rimon, 2024; Siregar & Setiyaningsih, 2025)

1- **Integrating AI into strategic decision-making** offers significant opportunities but also presents considerable challenges. It requires high-quality, accurate, and well-managed data because poor data leads to unreliable outcomes. additionally, difficulties due to outdated IT systems that are incompatible with modern AI tools, necessitating costly upgrades. Additionally, AI adoption demands complex changes to infrastructure, data handling, and employee roles, requiring strong management and resources (Settibathini, Kothuru, Vadlamudi, Thammreddi, & Rangineni, 2023). A major obstacle is the shortage of specialized skills like data science and machine learning, which forces companies to invest heavily in training or hiring talent. Overcoming these challenges involves enhancing data quality, modernizing legacy systems, fostering employee engagement, building internal expertise, collaborating with experts, and establishing clear oversight to ensure responsible AI use (Moinuddin, Usman, & Khan, 2024).

2- Implementing AI in strategic decision-making involves significant **financial commitments**, including initial expenses for infrastructure, customization, and employee training, as well as ongoing costs for maintenance and updates. Organizations must carefully evaluate these costs against the potential benefits and establish sustainable financial plans to support both deployment and continued operation. Additionally, adopting AI requires adjustments to existing organizational structures and workflows, which should be managed carefully to avoid disrupting core business activities. Ensuring smooth integration is crucial because AI's value lies in enhancing efficiency and improving analytical processes without interfering with daily operations. Thoughtful planning and change management are essential to balance investment costs with the strategic advantages AI brings (Selvarajan, 2021).

3- AI-driven strategic decision-making entails intricate **ethical and privacy challenges** that organisations must carefully address. The improper use of data or breaches of privacy can significantly damage a company's reputation and elicit adverse responses from stakeholders. Additionally, concerns related to data integrity, the transparency and interpretability of AI models, and the presence. Consequently, organisations are required to thoughtfully manage the ethical dimensions associated with AI deployment to ensure that decisions adhere to societal norms and comply with relevant legal frameworks. Effectively addressing of algorithmic biasesthese ethical issues is essential for fostering trust and sustaining a positive organisational reputation(Fayaz et al., 2024).

4- **Management of change**: Employee and stakeholder resistance to change may result from AI integration, making it challenging to manage the structural and cultural adjustments required to support AI use in strategic decision-making. Addressing skill gaps by funding training initiatives that guarantee staff members can work with AI systems efficiently. Furthermore, in order to

minimise adverse effects, proactive steps are needed to address worries about job displacement and the effect on employment.

5- **Cybersecurity risks**, such as adversarial attacks and data breaches, can affect AI systems. To stop unauthorised access, manipulation, or exploitation, it is crucial to secure AI models and the data they process. AI systems must incorporate cybersecurity safeguards to protect private data.
6- **Algorithmic bias** presents another challenge for businesses when making decisions. They adjust to the data, and AI algorithms will use biased data more heavily in order to generate decisions. This has serious negative effects, particularly in areas that are typically delicate, like healthcare, credit extension, and employment. Biased or erroneous data can produce poor analyses and judgments. For AI-driven strategic decisions to be more reliable and to reduce biases, it is imperative that training data be representative and of high quality(Orji, Orji, & Olagunju, 2024).

Mitigating the Risk Management by AI

Predictive analytics driven by AI significantly enhances risk mitigation and detection methods (Olaleye, Mokogwu, Olufemi-Phillips, & Adewale, 2024). Traditional risk assessment techniques, which depend on past performance metrics, might not fully account for emerging risks such as economic drawturns, environmental disruptions, and geopolitical instability. AI systems support a stronger risk management framework by examining past data and finding trends linked to hazards. By enabling organizations to successfully account for risk considerations, this in turn improves the caliber of strategic decisions (Arumugam & Manida, 2024). By examining a range of datasets, including financial reports, records of regulatory compliance, and analysis of news, artificial intelligence (AI) models generate real-time risk management scores (Vani, Naveenkumar, Singha, Sharkar, & Kumar, 2024). Prescriptive analytics recommends proactive mitigation strategies like contract renegotiation, sourcing location diversification, or the use of alternative logistics routes to enhance risk management. By adopting this proactive strategy, which ensures business continuity even in the case of disruptions, companies can reduce their reliance on high-risk. risk management with AI support (Adewusi et al., 2024).

Addiontionally, AI improves operational efficiency is by automating repetitive, time-consuming tasks. In the past, companies used human labor to analyze data, generate reports, and carry out tedious duties like inventory tracking and data entry. These tasks have a significant chance of human error in addition to consuming valuable time. By processing enormous volumes of data quickly and accurately, artificial intelligence (AI) algorithms in particular, machine learning models can automate these tasks (Garcia & Adams, 2023).

Furthermore, AI-powered business automation tools have the capacity to learn and advance over time. For example, machine learning models develop over time as they are exposed to more data, increasing process efficiency and yielding more profound insights. This flexibility guarantees that companies can continue to operate at their best even when circumstances shift or new difficulties appear (Hamadaqa et al., 2024).

Without human supervision, for instance, AI-powered business systems are able to process and evaluate financial transactions, highlighting irregularities or spotting patterns. Chatbots and virtual assistants driven by AI can manage customer service tasks like order processing, complaint resolution, and customer inquiries, freeing up staff members to concentrate on higher-level, more complex work. Businesses can drastically cut operational overhead, cut expenses, and reallocate resources to strategic initiatives and innovation by automating these repetitive tasks (Moinuddin et al., 2024).

Comperion Based on Human and AI Decision-Making

According to (Shrestha et al., 2019)the comperion the features of human and AI-based decision making along five important decision-making conditcharacteristics can be combined: search space specificity, decision-making speed, decision-making outcome interpretability, alternative set size, and replicability. Under these circumstances, Table (2) lists the features of AI-based and human decision making.

Table (2): Comperion Based on Human and AI Decision-Making (Shrestha et al., 2019)

Decision-Making Conditions	AI-Based Decision Making	Human Decision Making
Specificity of the decision search space	Requires a well-specified decision search space with specific objective functions.	Accommodates a loosely defined decision search space.
Interpretability of the decision-making process and outcome	Complexity of the functional forms can make it difficult to interpret the decision process and outcomes.	Decisions are explainable and interpretable, though vulnerable to retrospective sense-making.
Size of the alternative set	Accommodates large alternative sets.	Limited capacity to uniformly evaluate a large alternative set.
Decision-making speed	Comparatively fast. Limited tradeoff between speed and accuracy.	Comparatively slow. High trade-off between speed and accuracy.
Replicability of outcomes	Decision-making process and outcomes are highly replicable due to standard computational procedure.	Replicability is vulnerable to inter- and intra-individual factors such as differences in experience, attention, context, and emotional state of the decision maker.

Examples Cases of AI Augment strategic Decision-Making Systems

Predictive and prescriptive analytics are combined in AI-driven decision support systems to improve operational efficiency and business performance across industries. The application of AI to **financial institution** fraud detection is one well-known example. While prescriptive analytics automates fraud prevention measures like transaction verification, account freezes, or enhanced security protocols, predictive models examine transaction patterns to spot suspicious activity (Garg, 2024).

The use of AI-powered supply chain optimization systems in the **logistics sector** serves as another illustration. While prescriptive analytics maximizes warehouse distribution, route planning, and supplier negotiations to reduce costs and guarantee on-time delivery, predictive analytics predicts changes in demand, possible shipment delays, and supplier risks(Fowowe & Adedapo, 2025).

Predictive analytics for early disease detection and prescriptive analytics for individualized treatment planning are integrated in AI-driven clinical decision support systems (CDSS) in the **healthcare industry**. These systems help healthcare professionals make evidence-based clinical decisions that enhance patient outcomes and lower healthcare costs by evaluating patient data, medical history, and genetic factors (Ali, 2024).

Ultimetly, in an increasingly complex digital landscape, the combination of predictive and prescriptive analytics is transforming data-driven decision making and giving businesses a competitive edge, increased efficiency, and agility. The combination of predictive and prescriptive analytics will become increasingly complex as AI technologies advance, spurring innovation in a variety of sectors (Ezeife, Eyeregba, Mokogwu, & Olorunyomi, 2024).

AI Implementation Success and How It Affects Strategic Planning.

Case Study: Amazon

Amazon has integrated artificial intelligence (AI) to enhance its supply chain and inventory management processes. Amazon uses artificial intelligence (AI) algorithms to forecast customer demand, control inventory levels, and analyze enormous volumes of customer data to forecast future purchasing patterns. This helps the company optimize its supply chain and inventory. Amazon can increase its market share and customer loyalty by anticipating that popular products will be in high demand and by streamlining logistics to guarantee that the right products are available when they're needed. Because of these AI-powered insights, Amazon is able to make more informed decisions about supply chain logistics and inventory placement, which lowers costs and improves customer satisfaction. Amazon's strategic planning process has consequently become

more dynamic, enabling the business to react swiftly to market developments. An excellent illustration of a business using AI to obtain an advantage is Amazon (Fischer, 2024).

Case Study: IBM

IBM's Watson AI system has been implemented in the healthcare industry to facilitate strategic decision-making. Watson's artificial intelligence (AI) skills enable the analysis of enormous medical datasets, providing insightful information about treatment strategies, patient care, and operational efficiency. By utilizing Watson, healthcare institutions can make data-driven choices about staffing and technology investments, patient care plans, and resource allocation. This AI-powered strategy has resulted in better patient outcomes and more economical use of medical resources (Fayaz et al., 2024).

Case Study: Netflix

Netflix is a prime example of how AI can generate market insights by using it to improve user experience through tailored content recommendations. Netflix's AI algorithms make personalized movie and television recommendations based on user viewing habits and preferences, which increases viewing duration and subscriber retention rates. This AI-powered strategy has allowed Netflix to maintain its lead over rivals in the streaming market by providing distinctive and tailored content experiences that maintain user engagement(Feng Wang & Aviles, 2023).

Case Study: General Elecrtic (GE)

In its industrial operations, General Electric (GE) has implemented artificial intelligence (AI), specifically for machinery predictive maintenance. In order to enable proactive maintenance, AI algorithms are used to predict equipment failures before they occur. GE is able to increase asset management, reduce downtime, and maximize operational efficiency thanks to this AI-driven predictive maintenance. In order to maintain cost-effectiveness and operational efficiency, GE's strategic planning is therefore depending more and more on AI insights (Fayaz et al., 2024).

Case Study: Coca-Cola

AI has been incorporated by Coca-Cola into its marketing strategy, particularly in the areas of targeted advertising campaigns and consumer interaction. Artificial intelligence (AI) tools evaluate customer data to more precisely customize product recommendations and marketing messaging. By using AI, Coca-Cola is able to improve customer engagement and brand loyalty by adjusting its marketing strategies in real-time. AI-driven insights have made strategic choices about marketing campaigns and new product launches more intelligent and successful (Elittan et al., 2024).

Findings and Discussion

The findings of systematic review for the literature reveals several key impacts of AI on strategic decision-making and strategic planning. AI Enhances Data Analysis and Insights gives businesses the ability to more effectively analyze big datasets, which results in better-informed and data-driven strategic choices. to ensure that AI-generated information is interpreted with sufficient insights for well-informed decision making, human collaboration and interaction are essential. Analytics driven by AI are able to identify patterns, forecast future events, and produce useful insights all of which are critical for strategic planning.This point supported byKagalwala, Radhakrishnan, Mohammed, Kothinti, and Kulkarni (2025), how AI and machine learning transformations can accurately forecast consumer behavior and economic trends, optimize inventory management, improve decision-making, and reduce uncertainty in supply chain strategy design. The study also discusses the ethical, integration, and data quality issues that arise when implementing AI in supply chain management. Zadeh, Khoulenjani, and Safaei (2024), add that artificial intelligence (AI) can automate repetitive processes, conduct quick analyses, and offer insights that enhance team productivity and responsiveness in project management. Key findings, meanwhile, included issues with data protection, the requirement for improved managerial ability and competencies, and

possible dependency. As a result, AI is essential to guaranteeing higher-quality decisions backed by more precise insights.

AI systems process enhance decision speed and agility in real-time, allowing businesses to react quickly to changes in the market and new threats. This agility is especially useful in sectors where making decisions quickly is essential to preserving a competitive edge. Selvarajan (2021) mention that, AI's adaptability in data processing assist companies obtain the most recent information. As part of AI, data mining improves organizational flexibility by providing precise and timely information. This capability directly affects how competitively businesses operate in the market.Chatterjee, Chaudhuri, Gupta, Sivarajah, and Bag (2023) indicate that Big data analysis adoption has a major impact on forecasting, decision-making, and corporate performance.

Artifacial intelligence (AI) tools improve resource allocation by forecasting the results of various strategic decisions. By doing this, resources are directed toward projects that have the best chance of helping the organization reach its goals. In line with this Rimon (2024) explain that organizations may lower expenses, increase productivity, and optimize workflows by using AI to automate repetitive tasks. In domains including inventory control, customer service, and supply chain management, artificial intelligence (AI) can offer practical insights that result in better performance and more effective resource allocation. In addition, Aziz et al. (2025) assure that the dedication of the leadership should be strengthened. By allocating resources, encouraging cross-functional cooperation, and integrating AI objectives into strategy, leaders should take the lead in AI challenges.

Through the identification of possible risks and weaknesses in strategic plans, AI enhances risk management. By using predictive analytics, AI can assess the probability of different risk situations, enabling businesses to create more efficient contingency plans. Nabeel (2024) alinged with that project management techniques have been completely revolutionised by AI's ability to improve resource allocation, risk management strategies, educated decision-making, and real-time performance tracking. In addition, the application of AI-driven risk identification and mitigation techniques allows organizations to proactively recognize and manage potential obstacles, thereby minimizing interruptions and strengthening the resilience of projects.Furthermore, Rimon (2024) add that businesses frequently struggle with system compatibility, a lack of qualified workers, and the requirement for large IT infrastructure investments. A defined AI strategy that is in line with corporate objectives, progressive implementation, and meticulous planning are necessary to overcome these obstacles. In order to overcome integration challenges and guarantee that AI solutions are appropriately matched with organizational requirements, cooperation between internal teams and AI providers is crucial.

Despite the fact that AI has many advantages, integrating technology into strategic planning is not without its difficulties. Important difficulties include concerns about the interpretability of AI models, the quality of the data, and possible biases in algorithms. It is also necessary to properly address ethical issues, especially those pertaining to the effects of AI-driven decisions on stakeholders. The European Union's AI Act, for example, emphasizes that AI applications must be evaluated within an ethical and legal framework. This law aims to ensure that AI is used in a safe, transparent, and accountable manner. Even though the European Union has implemented legal regulations regarding AI, other countries, particularly in the third world, do not have such laws. It can be argued that these countries need to create legal regulations regarding the use of AI in order to address the ethical, algorithms biases and legal concerns mentioned above(Act, 2025). Furthermore, Vilone and Longo (2021)algorithmic biases in AI systems could cause local communities and natural elements to be marginalized, compromising the inclusiveness of decision-making processes and strategic planning. Therefore, in order to successfully deploy AI applications in protected areas, it is crucial to create strong ethical and legal underpinnings in addition to ensuring technical capability. If not, administrators will be hesitant to use AI because of ethical and legal issues (Cowls & Floridi, 2018).

Human factors emerged as significant impediments in applying AI in the organisations. Peng (2025) indicate that some old staff members struggled to get used to digital technologies and were reluctant to accept the routing algorithm's instructions. These difficulties highlight how crucial personnel training and change management techniques are to the success of AI-driven changes (Martins, 2023). This aligns with the socio-technical systems theory, which emphasizes that cultural and behavioral shifts are necessary to support technology(Govers & Van Amelsvoort, 2023).

After the COVID-19 epidemic, the majority of organizations are being more digital and now regard AI as a means of transforming their operations and boosting their competitiveness. In line with research that presents, Kemp (2024), suuports that AI as a catalyst for innovation and competitive advantage, these goals show a move away from tactical to strategic AI deployment. The procedure starts with basic applications and ends with strategies driven by innovation, following the technology maturity curve. This development is consistent with Truong (2025), dual-stage adoption model, which maps the organizational and emotional journey of integrating generative AI by combining the Gartner Hype Cycle with the Kubler-Ross Change Curve.

Recommendations and Conclusion

Through a exploration study and literature analysis, the study's presentation of the investigation of Artificial Intelligence (AI) in strategic business decision-making and strategic planning fully satisfied its stated goals and objectives. Analysing the origins, development, and influence of AI on contemporary business strategies and strategic decision-making was the main goal. This objective was accomplished by a thorough examination of numerous scholarly sources, offering a sophisticated comprehension of AI's function in the corporate setting.

A systematic review of the literature review was the methodology used in the study, and it was essential in exposing the complexity of AI in business. A thorough grasp of AI's function in strategic planning and decision-making was ensured by the strong framework it provided for assessing the reliability of sources and combining findings. This methodology enabled a thorough analysis of topics like artificial intelligence's impact on improving company agility, its role in boosting business skills and mitigating risk management, and its disruption of conventional decision models.

The finding concluded that a significant change in the way enterprises are planned, carried out, and tracked has occurred with the incorporation of artificial intelligence (AI) into organizational management. Management processes have been completely revolutionized by AI's ability to improve risk mitigation techniques, allocate resources more effectively, make informed decisions, and track performance in real time. Managers may now more effectively allocate resources and guarantee that projects are finished on schedule and within budget by utilizing machine learning algorithms and predictive analytics. Additionally, by proactively addressing possible obstacles, AI-driven risk detection and mitigation techniques enable enterprises to reduce interruptions and improve project resilience.

Furthermore, AI has an impact on decision-making as well, as data-driven insights help people make better decisions. AI systems are augmenting traditional decision-making procedures, which are frequently hampered by cognitive biases and incomplete knowledge, by analyzing large datasets and producing practical recommendations. This speeds up the decision-making process and improves the caliber of decisions taken, which eventually leads to improved organizational results. Furthermore, AI's skills in continuous performance tracking remove the delays that come with manual reporting, allowing businesses to take remedial action instantly and guaranteeing that organisations stay in line with their strategic objectives.

Even while integrating AI into organisation operations has many advantages, there are still a number of obstacles to overcome. Since AI systems' effectiveness depends on the precision and completeness of the data they use, it is critical to have high-quality, trustworthy data. Furthermore, stakeholder trust may be hampered by worries about how interpretable AI models are, therefore measures to improve accountability and openness in AI-driven decisionmaking are necessary. To enable smooth adoption, thorough planning and execution are necessary to overcome the

organizational and technological hurdles associated with integrating AI with current organisation management tools and procedures.

The recommendations of this study point to important factors to take into account while creating and deploying AI-powered decision augmentation tools in strategic management settings in ways that successfully combine machine and human skills. First and foremost, technical capabilities must be balanced with interpretable transparent model designs, collaborative co-creation, and responsible oversight governance that prioritizes tools as insight amplifiers rather than automation substitutes for leadership strategy expertise that draws equally from human wisdom and data truths.

Suggested recommendations include:

- concentrating on leadership capability maturity, beginning with descriptive analytics and progressing to predictive recommendations,
- Establish feedback channels for user feedback and loops for continual development so that tool learning is guided by planning needs.
- Demand that AI recommendations cite the provenance of source data and employ hybrid decision layers that combine algorithms and advisor logic.
- Offer interactive scenarios for executives and AI models to jointly "what-if" test.
- Establish precise monitoring parameters and controls around automation scope thresholds under leadership supervision.

Research limitations and future studies limited generalizability and detailed access to participant insights from the organizational deployment effort are balanced in the research findings, which are based on an engaged single case study. It would improve external validity and generalizability to extend the evaluation to other businesses in more industries. It would be more effective to track adaptation effects using intelligent systems in relation to leadership tenure life cycles if management usage, impacts, and evolution were assessed over a longer period of time years as opposed to months.

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