

Research Article

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The Impact of Artificial Intelligence on Strategic Decision-Making in Business Administration: An Analytical Study Including Educational and Business Environments

Yousef Al Abdallat 

Abstract

Background/purpose. The study examined the impact of artificial intelligence on strategic decision-making in business management, focusing on Educational and Business Environments, with a particular emphasis on internal capabilities, organizational readiness, ethical considerations, and regional contextual factors that affect AI integration.

Materials/methods. A mixed-methods approach that combines quantitative and qualitative approaches. Purposive sampling of businesses from different industries and geographical areas that employ AI in strategic decision-making. Data were collected through semi-structured interviews with professionals from nine diverse work environments, including Jordan, Germany, Saudi Arabia, and the United States.

Results. The findings reveal that most businesses are still in the planning phase of AI adoption, with limited strategic implementation and reliance on machine learning and predictive analytics in operational tasks. The majority of businesses are still in the planning phase of AI adoption, with limited strategic use and reliance on predictive analytics and machine learning in day-to-day operations. Organizations often lack the necessary frameworks, technical expertise, and strategic alignment to fully leverage AI technologies, despite growing awareness. Despite the widespread use of AI in educational institutions, many lack infrastructure for staff training.

Conclusion. Lack of ethical frameworks, low employee AI literacy, and difficulty tailoring AI tools to specific industries are among the main obstacles. To facilitate successful AI integration, the study recommends enhancing employee training, establishing moral guidelines, and coordinating internal and external resources.

1. Introduction

The current study examines the growing interest in AI-enhanced educational tools and their potential to transform educational and business environments, while also addressing key ethical concerns, including privacy. It discusses the impact of AI on strategic decision-making, its capabilities, and best practices for organizations. Despite the rapid adoption of AI technologies, there is a lack of comprehensive understanding of their real-world impact in various organizational and regional contexts. The study examines AI's capabilities and limitations, focusing on issues like decision-making accuracy, bias, competency gaps, explainability, and strategic alignment.

The study examines AI's capabilities and limitations in assessing AI's influence on strategic decision-making. The first is decision-making accuracy, which refers to the capacity of intelligent systems to deliver precise and trustworthy outcomes that aid decision-makers in selecting the best options (Yesufu & Alajlani, 2025). The second is bias, which describes the dangers of AI's reliance on unbalanced data, which can result in unjust or arbitrary judgments. Third, there are competency gaps, which limit employees' ability to use these systems to their full potential because they lack the necessary skills and knowledge. Since decision-makers need to be able to comprehend and monitor AI results, interpretability also becomes a crucial component in guaranteeing transparency. The final pillar that guarantees AI adoption is in line with an organization's objectives and long-term vision is strategic alignment, which makes AI a powerful tool for boosting sustainability and competitiveness (Ghoneim, 2024; Çeri & Erhan, 2025).

In the digital age, artificial intelligence (AI) has emerged as a disruptive force in business management, particularly in the realm of strategic decision-making. Businesses worldwide are increasingly utilizing AI tools to enhance decision-making speed, accuracy, and competitiveness. However, depending on the sector, region, and organizational design, AI has different consequences. The current study aims to examine how AI influences strategic decisions in diverse business situations and proposes a framework for effective AI integration.

According to Marimira and Gumel (2025), AI incorporates several cutting-edge technologies, including big data analytics, robotics, cloud computing, and machine learning. In important functional domains including supply chain management, marketing, finance, and human resources, these technologies are being strategically implemented. Consequently, organizations may enhance efficiency, cut expenses, optimize operations, and facilitate evidence-based decision-making.

Machine learning and deep learning are widely used AI technologies that combine empirical data and algorithmic modeling to identify patterns and support complex strategic decisions, while requiring human input for contextual learning (Brynjolfsson & McAfee, 2017; Davenport et al., 2020).

Nonetheless, despite the growing enthusiasm surrounding AI, significant challenges persist. Ethical considerations, such as algorithmic bias, data privacy, and explainability, have raised serious concerns regarding AI's role in high-stakes decision-making (Chui, Kamalnath, & McCarthy, 2018). Furthermore, the potential displacement of human labour due to automation necessitates reskilling and upskilling strategies for the existing workforce (Duan, Edwards & Dwivedi, 2019). Therefore, the responsible and transparent deployment of AI technologies remains critical. Moreover, the impact of AI is not uniform across all business contexts. Organisational structure, size, digital maturity, and regional infrastructure all significantly influence the adoption and effectiveness of AI in strategic processes. Hence, understanding the diversity of business environments is crucial to fully grasp the role of AI in strategic management.

In general, decision makers' feedback is a valuable resource for strategy implementation. This study investigates how AI affects organizational management's strategic decision-making. AI systems cannot function effectively or make wise recommendations without it. This emphasizes how crucial

it is to incorporate effective data management techniques into educational and business environment strategies to enhance decision-making skills, as illustrated in Figure 1.

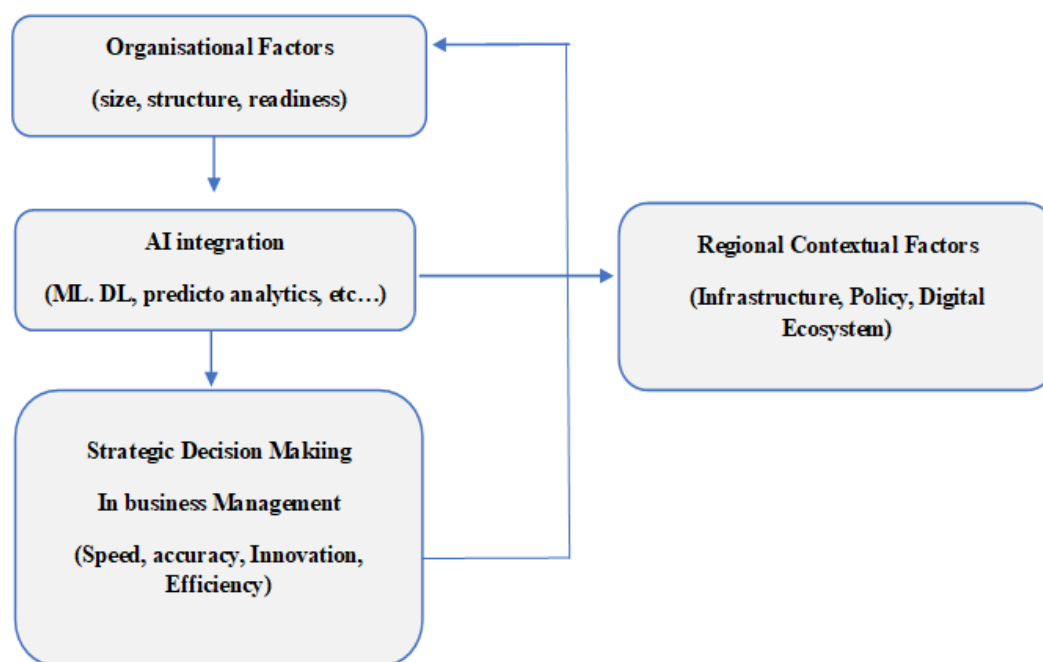


Figure 1. Conceptual Framework for the Impact of AI on the Strategic Decision-Making Process of Corporate Management (Source: Author configuration)

The conceptual framework outlines the significant influence of artificial intelligence on the strategic decision-making process of educational and business environment management. The diagram illustrates the relationship between organizational factors, AI integration, strategic decision-making, regional factors, and business outcomes. Organizational factors, such as size, structure, and digital readiness, influence the integration of AI, leading to improved strategic decision-making. These decisions enhance efficiency, speed, and competitiveness. Regional factors, like infrastructure and policies, play a crucial role in AI integration and performance outcomes. In addition, the diagram demonstrates a causal and circular relationship, highlighting the importance of integrating internal resources and external contexts for successful AI deployment.

This study examines the role of artificial intelligence (AI) in strategic decision-making within academic and various organisations in 2025 AD. It examines how AI is integrated into managerial frameworks and evaluates its potential to enhance efficiency, accuracy, and innovation. The study also identifies regional and organisational factors influencing AI implementation. The aim is to provide insights to help organisations strengthen their competitive advantage in the rapidly evolving business landscape.

Despite extensive research on AI across a variety of domains, few studies offer empirical evidence on its actual impact on strategic decisions in Jordanian private-sector companies, so there is a critical gap that this study aims to fill.

The current study examines five crucial factors: decision-making accuracy, bias, competency gaps, explainability, and strategic alignment, in the context of Jordanian private-sector companies and the local business environment, with the aim of closing this gap. By doing so, the study provides a more comprehensive and contextually grounded understanding of how AI impacts strategic decision-making. It also identifies opportunities and practical challenges for businesses operating in comparable emerging markets.

Therefore, this study attempts to answer the following questions:

Q1: How is AI currently being used in strategic decision-making across different business environments?

Q2: What organisational and regional factors influence the effectiveness of AI-driven decisions?

Q3: What framework can be developed to guide effective AI integration into strategic management?

2. Literature Review

The literature review covers a variety of topics related to The Impact of Artificial Intelligence on Strategic Decision-Making in Business Administration, including Educational and Business Environments, Therefore, the studies were presented according to each topic:

2.1. AI and Business Decision-Making

The study by Hasya and Sukiman (2025) examines the impact of AI on the business performance of Indonesian start-ups. Data from 250 participants revealed that market intelligence has a significant impact on business success. AI enhances decision-making accuracy, improves understanding of consumer expectations, and enhances client communication. The findings suggest that start-ups and governments should strategically utilize AI technologies to enhance competitiveness and drive economic growth in Indonesia.

Pu, Hou, and Pan (2025) propose a hybrid AI model that uses transformer-based deep learning and reinforcement learning to improve corporate decision-making in volatile markets. The model optimizes high-dimensional data and adapts to market changes, achieving high prediction accuracy of 92% for market share, 91% for profit growth, and 89% for customer satisfaction. It also improves corporate agility, brand strength, and innovation, sustaining a competitive advantage in data-driven business environments.

Arumugam and Manida (2024) examine the strategic application of AI in business decision-making, emphasizing its potential to improve efficiency, responsiveness, and competitiveness. It uses literature-based frameworks and real-world analysis to address ethical and implementation challenges, highlighting the transformative potential of AI and offering strategic recommendations for its adoption in dynamic business environments.

Kaggwa et al. (2024) highlight AI's shift from a supportive tool to a core strategic asset in business decision-making. Through a systematic literature review, they reveal how AI enhances business agility, innovation, and inclusive practices. The study emphasizes the importance of aligning AI with corporate values in an ethical manner to foster adaptability and long-term competitiveness.

Rajagopal et al. (2022) examine how AI systems influence entrepreneurial decision-making, identifying key factors such as data volume, decision speed, and innovation potential. Their conceptual model shows that aligning AI with business goals and organisational learning enhances strategic outcomes. The study underscores the importance of integrating AI without compromising human judgment or ethical considerations, offering practical insights for profit-driven yet socially responsible decision-making.

Trunk, Birkel, and Hartmann (2020) study examines how AI aids strategic decision-making in uncertain situations. They propose a framework in which AI interprets complex data and generates alternatives, while emphasizing the role of human judgment. They warn against over-reliance on AI, highlighting ethical concerns and the need for updated skills for managing AI systems. The study provides practical guidance for organizations that implement AI responsibly.

2.2. AI in Educational Institutions

Han, Xiao, Sheng, and Zhang (2024) investigate the transformative role of AI in financial management within educational institutions. They develop a three-level intelligent financial system focused on efficiency, cost reduction, and improved workflows. The study highlights how AI automates routine tasks, enhancing operational efficiency and shifting financial professionals toward more strategic roles. It addresses gaps in the literature on AI in academic finance and emphasizes the need for change management and cultural adaptation. Overall, AI is portrayed as a key driver for boosting productivity and innovation in academic financial management.

Oraif (2024) examines how AI-driven business analytics enhance strategic decision-making within Saudi educational institutions. Using a mixed-methods approach with decision-maker surveys, the study reveals a significant positive relationship between AI analytics and decision quality. Successful AI adoption depends on a strong technical infrastructure, an effective organizational culture, and comprehensive staff training. Challenges include limited digital skills and resistance to change. The research provides practical guidance for policymakers, highlighting that integrating AI requires both strategic and cultural shifts in education.

Al-Omari's (2024) study examines the impact of Artificial Intelligence (AI) on school management in Jordan, focusing on the unique context of Jordanian schools. The research uses a mixed-methods approach to identify opportunities and challenges, including cost, expertise, and ethical concerns. The study highlights AI's potential benefits, such as enhanced efficiency, personalized learning, data-driven decision-making, and improved communication, but also highlights challenges like staff training and resource constraints.

Muñoz and Chimbo (2023) evaluated the use of artificial intelligence (AI) in higher education administrative management. Surveys and interviews were used to assess its acceptance and impact on process optimization and strategic decision-making. Results showed high acceptance of AI, which supports its effectiveness in improving administrative services, productivity, and cost reduction. The study underscores the transformative potential of AI in higher education administrative management, paving the way for the implementation of AI-based strategies to enhance efficiency and effectiveness.

Wang's (2021) study examines the role of Artificial Intelligence (AI) in educational leadership, with a focus on decision-making as its foundation. It synthesizes literature from various disciplines to understand the intellectual interrelationships between AI and educational leadership since the 1950s. The paper suggests a blend of data-driven, evidence-informed decision-making and value-based moral decision-making, with AI acting as an extended brain.

Al-Qudah's (2021) study examines Jordan's AI strategy and its impact on government service delivery. The policy aims to reduce accidents and operational expenses in key sectors like transportation, health, energy, education, technology, and environment. It also emphasizes facility management, smart consumption, and public investment. The success of AI deployment in the Jordanian Ministry of Interior is influenced by infrastructure and knowledge, with reduced costs and increased interest in learning.

2.3. AI in Finance and Governance

Marimira and Gumel (2025) examine the operational, strategic, and ethical challenges of AI in microfinance institutions in Zimbabwe through qualitative interviews with AI experts. The study identifies four main barriers to AI adoption: bias, low competence, lack of clear strategies, and limited legal/explainability frameworks. All experts agree AI should assist rather than replace human decision-making. Key recommendations include promoting multidisciplinary collaboration, using

explainable AI models, and enhancing organizational AI literacy. These insights provide valuable guidance for ethical and effective AI integration, especially in emerging AI markets.

The study by Qasaimeh and Jaradeh (2022) explores the role of artificial intelligence in the effective implementation of cyber governance in Jordanian commercial banks. The research, involving employees in accounting, internal auditors, and programmers, found that advanced systems, such as expert systems, neural networks, genetic algorithms, and smart agents, significantly enhance the effectiveness of cyber governance.

2.4. AI Challenges, Ethics, and Human Oversight

López-Solís et al. (2025) analyze the role of generative AI (GAI) in improving decision-making within complex business contexts. Their literature review classifies challenges by time frame and examines how GAI interacts with external and internal factors. While GAI excels at data analysis and simulation, it struggles under uncertainty and nuance, where human judgment remains essential. The authors advocate for a hybrid approach that combines GAI and human expertise to enhance strategic decision-making, emphasizing the importance of human oversight to prevent overreliance and ensure ethical responsibility.

Kubatko, Ozims, and Voronenko (2024) examine AI's impact on strategic decision-making by analyzing demographic and ethical factors influencing its adoption. Their study reveals that age and gender influence AI perception, with overall positive attitudes toward AI's role in enhancing decision-making speed and accuracy, particularly in healthcare. However, concerns about algorithmic bias and ethics remain a prominent issue. Statistical tests found no significant link between AI use and decision accuracy, suggesting AI alone does not guarantee better outcomes. The research highlights the need for human oversight, data governance, and fairness considerations in AI integration.

- **Identified gaps**

This literature review explores the impact of Artificial Intelligence (AI) on strategic decision-making in various business environments. It highlights the complexity of integrating AI into organizational processes and the challenges that arise. Studies highlight the role of AI in enhancing decision efficiency, responsiveness, and competitiveness, while emphasizing the need to strike a balance between AI tools and human judgment to uphold ethical standards. AI is seen as a core strategic asset, promoting business agility and innovation, but it requires alignment with ethical corporate values. It also emphasizes the importance of fairness and human oversight in the adoption of AI. A hybrid AI model integrating deep learning and reinforcement learning improves predictive accuracy and responsiveness.

The strategic role of artificial intelligence (AI) in business decision-making has been highlighted in numerous studies. Hasya and Sukiman (2025) demonstrated how AI tools improve start-ups' competitiveness and decision-making accuracy, and Pu et al. (2025) went one step further by creating a hybrid AI model that has a high predictive accuracy and can adjust to volatile markets. Arumugam and Manida (2024), in contrast to these empirical methods, relied on frameworks derived from literature, providing strategic recommendations but lacking empirical support. Similar to this, Kaggwa et al. (2024) expanded the scope by highlighting AI's function as a fundamental strategic asset; however, their primary focus was on ethical alignment rather than operational mechanisms. When combined, these studies demonstrate how AI can enhance business agility and competitiveness; however, they also highlight a lack of long-term, empirical data on the sustained effectiveness of AI systems in decision-making over time.

Future studies are encouraged to delve deeper into AI's industry-specific applications, focusing on managing the risks and complexities that accompany AI adoption. The comparative analysis presented in Table 1 highlights key methodologies and results from these literature reviews, clarifying

this review's distinct contribution to the broader discourse on AI in strategic decision-making, as illustrated in Table 1 below.

Table 1. The comparative table of studies examining the influence of artificial intelligence (AI) on strategic decision-making in various business environments from 2020 to 2025

No.	Researchers	Year	Country	Methodology	Focus	Key results
1	Arumugam, Manida	2024	Not specified	Literature and real-world cases	Provides strategic recommendation for AI adoption in dynamic environments	AI improves efficiency and responsiveness while raising ethical concerns
2	Rajagopal et al.	2022	Not specified	Not specified	Supports socially responsible and innovative entrepreneurship	AI aligns with business goals to enhance decision-making
3	Kaggwa et al.	2024	Not specified	Not specified	Stresses ethical alignment of AI with corporate values	AI has evolved into a core strategic asset
4	Trunk, Birkel, Hartmann	2020	Not specified	Not specified	Framework for responsible AI use in uncertain settings	AI supports but cannot replace human reasoning
5	Kubatko, Ozims, Voronenko	2024	Not specified	Demographic profiling	Need for data governance and ethical frameworks	Age and gender shape AI perceptions; no link to decision accuracy
6	Pu, Hou, Pan	2025	Not specified	Not specified	Improves prediction accuracy and decision agility	The hybrid AI model outperforms traditional methods
7	Marimira, Gumel	2025	Zimbabwe	4AI experts	Proposes explainable models and upskilling	AI should support, not replace, human decisions
8	López-Solís et al.	2025	Not specified	Not specified	Advocates of hybrid AI-human decision strategies	GAI excels in pattern generation but lacks nuance handling
9	Han et al.	2024	Not specified	Academic institutions	AI transforms finance roles in academia	AI boosts financial efficiency and strategic capacity
10	Oraif	2024	Saudi Arabia	Institutional decision-makers	Emphasises staff training and culture change	AI analytics improve decision Quality

11	Hasya, Sukiman	2025	Indonesia	Structural Equation Modelling-Partial Least Squares (SEM-PLS)	Startup performance in Indonesia	AI enhances decision-making accuracy, market intelligence helps understand consumer expectations, and chatbots improve client communication.
12	Al-Qudah	2021	Jordan	descriptive-analytical approach	analyze Jordan's decision-making process and its application of AI	Benefiting the environment sector and developing the transportation sector through preventing accidents and traffic congestion.
13	Al-Omari	2024	Jordan	mixed-methods approach	The impact of Artificial Intelligence (AI) on school management in Jordan	AI helps enhance efficiency, personalize learning, facilitate data-driven decision-making, improve communication, and foster engagement in education, as well as support staff training, address financial implications, and balance AI implementation with human interaction in education.
14	Qasaimeh, Jaradeh	2022	Jordan	descriptive analytical approach	Investigates the impact of artificial intelligence on the effective application of	AI techniques, expert systems, neural networks, genetic algorithms, and

							cyber governance in Jordanian commercial banks	smart agents are interdependent in cyber governance, suggesting increased reliance on advanced systems for enhanced practices.
15	Han, Sheng, and Zhang	Xiao, and	2024	None	Design an innovative methodology that combines a quantitative method and system design.	an	How automates routine tasks, enhancing operational efficiency and shifting financial professionals toward more strategic roles	AI (AI) Driven Financial Integration in Academic Institutions transforms financial service functions, redefining financial management with data management and AI capabilities, and constructs a three-level intelligent system for fine management, cost-effective operations, and enhanced financial processes.
16	Oraif		2024	Saudi Arabia (KSA)	mixed-methods		AI-driven business analytics in enhancing strategic decision-making within Saudi educational institutions	A positive link exists between AI analytics and decision quality; success depends on a strong technical infrastructure, an effective organizational culture, and staff training. Challenges

						include limited digital skills and resistance to change, and require strategic and cultural shifts in education.
17	Muñoz and Chimbo	2023	Ecuador	mixed-methods	evaluated the use of artificial intelligence (AI) in higher education administrative management	AI's Impact on Higher Education Administration (High acceptance of AI, enhances administrative services, productivity, and cost reduction, demonstrates transformative potential in management, and facilitates implementation of AI-based strategies).

As shown in Table 1, studies on the integration of Artificial Intelligence (AI) into strategic decision-making. It highlights various approaches, methodologies, and practical insights, emphasising the importance of ethical alignment, human oversight, and the evolving nature of AI technologies in both business and educational contexts.

- **contributions of the current study**

The study explores the potential of AI-enhanced educational tools in transforming educational and business environments. It highlights benefits like task automation, instant feedback, and diverse support. However, challenges like fairness, privacy, bias, and ethical concerns must be addressed. Success requires adequate training, ethical considerations, data protection, and human interaction. AI can enhance corporate work by facilitating quicker and more accurate strategic decision-making, but it requires feedback from decision-makers for effective functioning.

Accordingly, this study contributes to originality by examining "The Impact of Artificial Intelligence on Strategic Decision-Making in Business Administration: An Analytical Study Including Educational and Business Environments" in the Jordanian context, addressing the gap between descriptive analyses of the benefits of AI and the need for a critical and contextual assessment of its role in strategic decision-making.

3. Methodology

The study employed a mixed-methods approach (qualitative and descriptive-analytical) to examine the impact of artificial intelligence on strategic decision-making in business management. The qualitative method involved conducting interviews with samples to identify key features and sub-features. The descriptive-analytical method, utilizing a questionnaire, focused on internal capabilities, organizational readiness, ethical considerations, and regional contextual factors that influence the integration of artificial intelligence. The approach used was based on the study objectives.

3.1. Sample of the study

A purposive sample of companies from various industries and geographies that use artificial intelligence in strategic decision-making was selected. Data was collected using semi-structured interviews with specialists in 2025. The study sample consisted of nine companies from 9 diverse business environments, with responses from Jordan, Germany, the United States, and Saudi Arabia.

3.2. Data Collection Tools

Survey/Questionnaire (Appendix 1,2), distributed to senior managers or decision-makers, faculty members, and TAs.

3.3. The Tools

3.3.1. Questionnaire (Appendix 1)

The survey questionnaire is a structured data collection tool for organizations to assess their use of AI in strategic decision-making. It gathers information about the organization's name, sector, size, region/country, and respondent role. The questionnaire also inquires about AI tools, such as predictive analytics, machine learning, and natural language processing, in finance, marketing, human resources, and operations. The survey evaluates the effectiveness of AI in enhancing strategic decision-making and the level of support provided by the regional business environment.

3.3.2. Semi-structured interviews (Appendix 2)

The qualitative tool used in the semi-structured interviews aimed to collect primary data on the use of artificial intelligence (AI) in strategic decision-making within an organization. The questions included the use of AI in strategic decision-making, its effectiveness, and the influence of organizational factors such as size, digital infrastructure, leadership, and skills. It also discusses challenges and ethical considerations in implementing AI for strategic decision-making, the development of specific frameworks to guide AI use, and the role of human decision-makers in the AI-assisted process. The text concludes by offering recommendations for other businesses seeking to effectively integrate AI into their strategic decision-making processes. The text also examines the role of human decision-makers in the AI-assisted decision-making process and offers recommendations for other businesses seeking to adopt a similar approach.

The study tool used five key indicators to assess the impact of AI on strategic decision-making: decision-making accuracy, bias, competency gaps, explainability, and strategic alignment. These factors capture the organizational and technical aspects of adopting AI. Bias assesses the moral risks associated with data-driven decisions, while accuracy measures the quality and precision of AI-powered decisions. Explainability ensures transparency and reliability of AI-powered decisions, while competency gaps highlight the organizational and human preparedness for successful AI integration. and strategic alignment emphasizes the need to connect AI adoption to organizational objectives.

The tools are shared with key stakeholders to explore the contextual, organizational (Appendix 1, 2), and ethical aspects of AI integration. Both comprehensive insights and broadly applicable facts are made possible by this combination.

3.4. Tools Reliability

Internal consistency testing, which involves reposing some questions in different formulations within the same interviews to measure the consistency of participants' responses to the main themes, was used to ensure the reliability of the qualitative data collection tool (interview guide). To ensure the classification's objectivity and accuracy of interpretation, a fellow researcher with

expertise in the field was also consulted to examine the findings of the qualitative analysis and contrast the thematic classifications that were produced. The tool's dependability and capacity to accurately measure the phenomenon were demonstrated by the verification results, which demonstrated strong agreement in the classification of responses.

3.5. Analysis Tools

The collected data, obtained via a structured questionnaire distributed to local and private sector organizations, was examined using a combination of qualitative and quantitative analysis methods.

The analytical tools applied included:

- **Descriptive Analysis:** Employed to assess participants' responses regarding the integration of artificial intelligence (AI) technologies into strategic decision-making.
- **Content Analysis:** Used to interpret open-ended responses, particularly in relation to ethical concerns and regulatory barriers.
- **Thematic Coding:** Enabled the extraction of dominant themes surrounding the effectiveness of AI implementation, key challenges, and the presence (or absence) of regulatory structures.
- **Statistical Software:** Closed-ended responses were analyzed using tools such as Excel, facilitating frequency distributions and percentage-based reporting.

3.6. Scope of the study

The study examines the impact of artificial intelligence (AI) on strategic decision-making in educational and business settings, with a focus on its practical application across diverse organizational and regional contexts. It was conducted between March and May 2025, examining how AI technologies affect educational, organizational, and company-level decision-making.

By analyzing data collected from various business contexts, including diverse sectors, sizes, and digital maturity levels, the study aims to understand how factors such as infrastructure, institutional readiness, and industry-specific challenges impact the successful implementation of AI in decision-making. The study uses qualitative methods, including semi-structured interviews with key stakeholders such as AI managers, faculty members, and TAs in universities, legal consultants, software engineers, and strategy leads, to gain a nuanced understanding of real-world AI applications.

This scope also encompasses the examination of core themes, including decision-making accuracy, algorithmic bias, competency gaps, explainability, and strategic alignment. The study examines both the capabilities and limitations of AI in managerial processes, aiming to bridge the gap between theoretical frameworks and actual business and educational practices.

Furthermore, the study proposes a strategic framework for integrating AI into business decision-making, aiming to enhance competitiveness, adaptability to changing environments, and operational efficiency. It emphasizes the importance of robust data governance and ethical AI practices in shaping effective business strategies based on the feedback of decision-makers.

4. Results

This table presents the results and information from the study sample, as outlined in Appendix 1, and then proceeds to discuss them.

Table 2. The study's sample results of the use of artificial intelligence for strategic decision-making

Sector	Org. Size	Location	Position	Uses AI for Strategy	AI Use Level	AI Tools	Strategic Areas
Private	Medium	USA	Associate	N/A	No	Other	Other
Private	Medium	Germany	Team leader	Yes	Yes	Machine Learning	Operations
Private	Medium	KSA	Lead developer and account manager	N/A	No	Predictive Analytics	Human Resources
Private	Medium	Jordan	Financial Manager in the Purchasing Department	Yes	Planning	Machine Learning/ various AI tools	Operations
Private	Small	Germany	research and development engineer	No	Planning	Machine Learning	Operations
Private	Small	Germany	Leader team/ Eng	Requirement analysis for software dev	Yes	Natural Language Processing	Operations
governmental Institution	Medium	Jordan	Faculty member	Yes	Planning	Khanmigo, quizizz, kahoot	Other
governmental Institution	large	Jordan	Faculty member	Yes	Planning and evaluations	Cloud, Copilot, Grammarly	Other
Private Institution	large	Jordan	TA	Yes	Planning	Perplexity, model, Blackboard	Other

Table 2 presents data from Appendix 1, enabling the use of artificial intelligence for strategic decision-making and monitoring of educational and business environments.

There are notable differences between the theoretical expectations described and the participant responses (Appendices 1 and 2), as shown by the results. Based on a sample of 9 small to medium-sized private sector organizations, the current study's results indicate a modest and uneven adoption of AI for strategic decision-making. There are several similarities and differences between the chosen Literature Review.

To begin with, while Arumugam and Manida (2024) and Rajagopal et al. (2022) both emphasize AI's transformative role in enhancing decision efficiency and aligning with business goals, only a few organizations in the current sample (notably ADC and the financial department respondent from Jordan) reported using AI in a strategic context. These organizations employed Machine Learning tools primarily in operations optimization, reflecting early adoption stages. In contrast, the other institutions either had no current usage or limited their application to planning phases. Therefore, while the theoretical benefits of AI as a decision enhancer are confirmed in the literature, the present study highlights a gap between AI's potential and its real-world implementation.

Similarly, Pu, Hou, and Pan (2025) introduced hybrid AI models to enhance prediction accuracy and decision agility, a vision that has yet to be realized by the organizations in this study. Although Predictive Analytics and Natural Language Processing were mentioned (e.g., by Raydan and the logistics firm), their application remains narrow and operational, with no evidence of integration into complex strategic systems. This indicates a clear technical capability gap, underscoring the need to tailor AI strategies to an organization's capacity.

On the ethical and human-AI interaction front, the current study aligns with the insights of Trunk, Birkel, and Hartmann (2020) and Marimira and Gumel (2025). Respondents in the sample viewed AI primarily as a supportive technology, echoing the principle that AI should enhance rather than replace human reasoning. This stance also aligns with López-Solís et al. (2025), who propose hybrid models that combine Generative AI with human insight to preserve nuance and integrity in decision-making. However, in contrast to these studies, the ethical dimension in the sample was largely undeveloped, with no organizations reporting formal ethical guidelines. This divergence reflects either limited awareness or institutional immaturity regarding responsible AI governance.

Furthermore, while Kaggwa et al. (2024) and Oraif (2024) emphasize the importance of aligning AI with corporate ethics, fostering organizational culture change, and enhancing staff capabilities, most organizations in the current sample exhibited limited staff readiness, lacked a structured AI strategy, and had minimal training efforts. This suggests that AI is not yet institutionalized as a core strategic asset in these settings, despite theoretical acknowledgment of its potential.

Additionally, educational institutions are among the most important institutions benefiting from the use of artificial intelligence and its programs, given its impact on assisting students, researchers, and all staff members of educational institutions. Notably, Faculty members in governmental and private institutions from Jordan reported that the potential benefits of AI include increased student interest in learning, as it has become a rapid tool for information retrieval; improved student and faculty productivity in terms of assessment; and increased investment in staff to enhance productivity. However, many universities are hesitant to adopt AI due to its high cost, potential negative effects on students resulting from improper use, a lack of experience, and ethical concerns regarding plagiarism, professional negligence, and other issues. This is highlighted in a study by Al-Omari (2024) on the impact of AI on school management in Jordan, the challenges associated with implementing AI in schools, and the factors influencing its adoption. Al-Qudah (2021) also demonstrated the importance of AI for the education sector, which can benefit from lower costs and increased interest in learning. However, the use of AI presents challenges for employee training,

adapting to AI technologies, and balancing AI applications with human interaction in productivity. Furthermore, it has helped students and staff in educational institutions support those with limited digital skills and resist digital change. This was confirmed by a study (Wang, 2021) that AI aids decision-making as a basis for educational leadership.

Finally, the regional context plays a defining role. Compared to the study by Han et al. (2024) in academic institutions and Oraif (2024) in Saudi Arabia, where institutional actors actively promoted AI to boost strategic functions, the organizations in this study—especially those in Jordan and smaller German firms—face regional and infrastructural constraints. These include insufficient digital infrastructure, lack of national guidance, and a general conservatism toward AI integration.

5. Discussion

This study focused on identifying patterns and themes from participants' responses, aligning with the descriptive-analytical design. The research questions provided a foundational framework for shaping the data collection instruments, particularly the survey and interview questions. Results were synthesized to reflect interconnected organizational practices, regional dynamics, and ethical challenges, avoiding redundancy and ensuring all research questions were fully addressed through the integrated discussion and proposed framework. This method allowed for a more cohesive narrative and avoided repetition.

The results of the study sample can be summarised about AI adoption in organisations in the form of points as follows:

- Majority in the planning phase with limited active implementation.
- Influencing factors, such as internal capabilities, employee expertise, and organizational preparedness.
- Challenges, such as limited employee knowledge and difficulty customizing AI tools.
- AI aids students, researchers, and staff in educational institutions in planning and processing.
- Potential benefits include increased student interest, improved assessment productivity, and increased staff investment.
- Challenges include cost, negative effects on students, lack of experience, and ethical concerns.
- AI can lower costs and increase learning interest, but presents challenges for employee training, adapting to AI technologies, and balancing AI applications with human interaction.
- AI aids decision-making in educational leadership, supporting those with limited digital skills.

The current study provides valuable preliminary insights into the practical impact of AI on strategic decision-making, although it was based on nine private-sector small and medium-sized enterprises from around the world, particularly in Jordan. A preliminary analysis of important elements, such as decision-making accuracy, bias, efficiency gaps, interpretability, and strategic alignment, can be conducted by ensuring that the selected organizations are representative of the local business environment. To enhance the generalizability of the findings, future studies could increase the sample size and include a more diverse range of organizations. Furthermore, by demonstrating how AI-based strategic decision-making can facilitate professional growth, organizational learning, and the development of effective employee training programs that link management practices to educational outcomes, the study contributes to the advancement of the field of educational sciences.

6. Conclusion

The current study demonstrates that AI integration in strategic decision-making remains at a nascent stage among organizations. Although there is a growing awareness of AI technologies and their potential, organizations often lack the essential frameworks, technical competencies, and strategic alignment necessary to fully realize AI's benefits. Although the tools (Appendix 1,2) were distributed to a wide range of institutions, including universities, schools, and public and private companies in multiple countries, responses came almost exclusively from private sector organizations. This variance is attributed to differences in bureaucratic procedures; the private sector tends to have greater autonomy in engaging in research, while government agencies and academic institutions often require multiple levels of approval.

Furthermore, private sector entities are often more motivated to explore and invest in emerging technologies, such as AI, to enhance their competitiveness. This likely contributes to their greater willingness to engage in studies evaluating AI's effectiveness in business strategy. Despite the widespread use of AI and its tools in educational institutions, and the significant benefits it has brought to teaching and administration, as well as assisting students, researchers, and staff in many areas of their lives, educational institutions still lack the necessary infrastructure to train staff and equip human resources departments with AI tools. This is despite the fact that AI enhances investment in employee skills and increases productivity. However, due to its high cost, negative impacts on students, and a lack of experience in its full implementation, many colleges are hesitant to adopt it. This is due to the perceived potential for plagiarism and student dependency, as well as the lack of knowledge and familiarity with its proper use. Nevertheless, some are using it appropriately, using free tools and applications available online. While AI offers significant benefits to the education sector, including cost reduction and increased learning engagement, it also poses challenges in managing it properly.

In conclusion, by methodically examining how artificial intelligence affects strategic decision-making in a few private sector organizations and educational environments in Jordan and around the world, this study makes a distinctive contribution to the field of educational sciences. In contrast to earlier research, this study offers theoretical and practical insights by focusing on five key factors: decision-making accuracy, bias, efficiency gaps, interpretability, and strategic alignment. The study provides a practical framework for integrating AI into administrative processes, improving the quality of decisions, and supporting educators in adopting research-based teaching methods.

The study aids to create more effective, transparent, and data-driven educational management practices by highlighting the opportunities and difficulties of implementing AI. It also provides educational officials with useful recommendations.

7. Suggestion

Based on the study's findings, several suggestions are proposed to enhance the effectiveness of artificial intelligence in strategic business decision-making, including educational and business environments. First and foremost, Develop tailored frameworks for AI adoption based on the organization's size and objectives. Invest in workforce training to enhance digital skills and AI literacy. Prioritize the development of enterprise-specific AI tools. Form digital ethics committees to ensure transparency, fairness, and accountability, and enhance collaboration between educational and business environments to achieve collective digital transformation.

Declarations

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References

- Al-Omari, A. (2024). The impact of artificial intelligence on the school management: a study of opportunities and challenges in Jordan. *INTED2024 proceedings*, 5478-5486. <https://doi.org/10.21125/inted.2024.1418>
- Alqudah, M. (2021). Investment Artificial Intelligence in decision-making processes in the Jordanian Ministry of Interior. *International Journal of Innovations in Engineering Research and Technology*, 8(10), 40-53. <https://ssrn.com/abstract=4064566>
- Arumugam, U., & Manida, M. (2024). Enhancing Strategic Decision Making: Assessing the Role and Impact of Artificial Intelligence in Business Management. *Journal of Business Analytics and Data Visualization* (e-ISSN: 2584-1637), 1-8. <https://shorturl.at/AmOK5>
- Brynjolfsson, E., & McAfee, A. (2017). *Machine, platform, crowd: Harnessing our digital future* (Vol. 4, No. 1, pp. 1448-1476). New York: WW Norton & Company. <https://shorturl.at/n3hDX>
- Çeri, Ş. Ö., & Erhan, T. (2025). A Conceptual Study on the Effects of Artificial Intelligence in Managerial Decision-Making. *European Journal of Digital Economy Research*, 6(1), 5-21. <https://doi.org/10.5281/zenodo.15660090>
- Chui, M., Kamalnath, V., & McCarthy, B. (2018). *An Executives Guide to AI, McKinsey Analytics*. Retrieved August, 24, 2018.
- Davenport, T., Guha, A., Grewal, D., & Bressgott, T. (2020). How Artificial Intelligence Will Change the Future of Marketing *Journal of the Academy of Marketing Science*, 48, 24-42. <https://doi.org/10.1007/s11747-019-00696-0>
- Duan, Y., Edwards, J. S., & Dwivedi, Y. K. (2019). Artificial intelligence for decision making in the era of Big Data—evolution, challenges and research agenda. *International journal of information management*, 48, 63-71. <https://doi.org/10.1016/j.ijinfomgt.2019.01.021>
- Ghoneim, M. (2024). *Strategic integration of Explainable AI in Recruitment: Towards a framework for Ethical decision-making and Stakeholder confidence*. (Unpublished Master's Thesis). Halmstad University, Sweden. <https://www.diva-portal.org/>
- Han, X., Xiao, S., Sheng, J., & Zhang, G. (2024). Enhancing efficiency and decision-making in higher education through intelligent commercial integration: Leveraging artificial intelligence. *Journal of the Knowledge Economy*, 1-37. <https://doi.org/10.1007/s13132-024-01868-2>
- Hasya, A., & Sukiman, S. (2025). The Impact of AI-Based Decision Making, Market Intelligence, and Chatbot Integration on Business Performance in Indonesian Start-ups. *International Journal of Social and Management Studies*, 6(3), 15-23. <https://doi.org/10.5555/ijosmas.v6i3.480>

- Kaggwa, S., Eleogu, T. F., Okonkwo, F., Farayola, O. A., Uwaoma, P. U., & Akinoso, A. (2024). AI in decision making: transforming business strategies. *International Journal of Research and Scientific Innovation*, 10(12), 423-444. <https://doi.org/10.51244/IJRSI.2023.1012032>
- Kubatko, O. V., Ozims, S. C., & Voronenko, V. I. (2024). *Influence of artificial intelligence on business decision-making*. <https://doi.org/10.32782/mer.2024.103.03>
- López-Solís, O., Luzuriaga-Jaramillo, A., Bedoya-Jara, M., Naranjo-Santamaría, J., Bonilla-Jurado, D., & Acosta-Vargas, P. (2025). Effect of generative artificial intelligence on strategic decision-making in entrepreneurial business initiatives: A systematic literature review. *Administrative Sciences*, 15(2), 66. <https://doi.org/10.3390/admsci15020066>
- Marimira, N., & Gumel, B. I. (2025). The Role of Artificial Intelligence in Strategic Decision-Making. *Asian Journal of Economics, Business and Accounting*, 25(3), 316-327. <https://doi.org/10.9734/ajeba/2025/v25i31712>
- Muñoz, G. F. R., & Chimbo, K. M. O. (2023). Application of artificial intelligence techniques in the administrative management of higher education institutions: an analysis of their effectiveness in process optimization and strategic decision making. *Revista Científica Interdisciplinaria Investigación Y Saberes*, 13(2), 66-83. <https://shorturl.at/FzJDP>
- Oraif, G. (2024). AI-Driven Business Analytics: Its Impact on Strategic Decision-Making (An Empirical Study on Educational Institutions in the Kingdom of Saudi Arabia). *Journal of Ecohumanism*, 3(8), 9712-9732.
- Pu, Y., Li, H., Hou, W., & Pan, X. (2025). The analysis of strategic management decisions and corporate competitiveness based on artificial intelligence. *Scientific Reports*, 15(1), 1-13. <https://doi.org/10.1038/s41598-025-02842-x>
- Qasaimeh, G. M., & Jaradeh, H. E. (2022). The impact of artificial intelligence on the effective applying of cyber governance in Jordanian commercial banks. *International Journal of Technology Innovation and Management (IJTIM)*, 2(1). <https://doi.org/10.54489/ijtim.v2i1.61>
- Rajagopal, N. K., Qureshi, N. I., Durga, S., Ramirez Asis, E. H., Huerta Soto, R. M., Gupta, S. K., & Deepak, S. (2022). Future of business culture: An artificial intelligence-driven digital framework for organization decision-making process. *Complexity*, 2022(1), 7796507. <https://doi.org/10.1155/2022/7796507>
- Trunk, A., Birkel, H., & Hartmann, E. (2020). On the current state of combining human and artificial intelligence for strategic organizational decision making. *Business Research*, 13(3), 875-919. <https://doi.org/10.1007/s40685-020-00133-x>
- Wang, Y. (2021). Artificial intelligence in educational leadership: a symbiotic role of human-artificial intelligence decision-making. *Journal of Educational Administration*, 59(3), 256-270. <https://doi.org/10.1108/JEA-10-2020-0216>
- Yesufu, L., & Alajlani, S. (2025). Enhancing Strategic Decision-Making With AI: Unveiling the Untapped Potential. In *Economic and Political Consequences of AI: Managing Creative Destruction* (pp. 415-436). IGI Global Scientific Publishing. <https://doi.org/10.4018/979-8-3693-7036-0.ch018>

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Appendixs

The structured survey instrument in Appendix 1 provides a foundational understanding of AI integration in strategic decision-making across various organizations. It is designed to support the qualitative interview guide in Appendix 2. Both instruments provide measurable trends and general insights, while Appendix 2 enables a deeper exploration of individual perspectives and contextual nuances, offering a comprehensive understanding of AI's role in strategic educational and business decisions.

Appendix I.

Appendix 1

Survey Questionnaire: Structured Data Collection Tool

Section A: General Information

1. Organization name (optional): _____

2. Sector: ☐ Private ☐ Public ☐ NGO ☐ Other (please specify): _____

3. Organization size: ☐ Small ☐ Medium ☐ Large

4. Region/Country: _____

5. Respondent's Position/Role in the Organization: _____

Section B: Use of AI in Strategic Decision-Making

6. Does your company currently use AI in strategic decision-making? ☐ Yes ☐ No ☐ Planning to implement soon

7. Which AI tools or techniques are being used? (select all that apply)

☐ Predictive Analytics ☐ Machine Learning

☐ Natural Language Processing (NLP) ☐ Other: _____

8. In which strategic areas is AI applied? (select all that apply)

☐ Finance ☐ Marketing ☐ Human Resources

☐ Operations ☐ Other: _____

Section C: AI Impact Assessment

9. On a scale from 1 to 5, how would you rate the effectiveness of AI in enhancing your organization's strategic decision-making?

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

12. How would you rate the level of support provided by your regional business environment for AI adoption in strategic decisions?

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Appendix II.

Appendix 2

Semi-structured interviews: Questions Used to Collect Primary Data

Section I: General Use of AI in Strategic Decision-Making

Is artificial intelligence currently being used in strategic decision-making within your organisation? If yes, for how long has it been in use?

What specific areas or departments in your organisation utilise AI for strategic purposes?

Can you describe the types of decisions where AI plays a critical role?

Section II: Effectiveness and Contextual Influences

In your experience, how has AI impacted the quality, speed, and accuracy of strategic decisions in your organisation?

What organisational factors (e.g., size, digital infrastructure, leadership, skills) have most influenced the effectiveness of AI-driven decisions?

Have regional factors (e.g., market dynamics, regulation, economic conditions) affected your organisation's ability to adopt or utilise AI? Please explain.

Section III: Challenges and Ethical Considerations

What are the key challenges your organisation has faced in implementing AI for strategic decision-making?

Have issues such as data quality, algorithmic bias, lack of expertise, or explainability emerged in your experience? How have they been managed?

How is your organization addressing ethical concerns related to AI use in strategic decisions?

Section IV: Strategic Integration and Frameworks

Has your organization developed or adopted any specific frameworks or strategies to guide AI use in decision-making? If yes, what are their key components?

How involved are human decision-makers in the AI-assisted decision-making process? Do you believe AI should complement or replace human judgment in strategic contexts?

What recommendations would you offer to other businesses aiming to effectively integrate AI into their strategic decision-making processes?