DIGITAL TRANSFORMATION AND ADMINISTRATION INNOVATION

Citation: Yılmaz, E. & Demir, M. (2023). AI in Strategic Planning: Redefining Long-Term Business Goals. *Digital Transformation and Administration Innovation,* 1(2), 8-16.

Received: date: 2024-07-26 Revised: date: 2024-09-16 Accepted: date: 2024-09-23 Published: date: 2024-10-01

AI in Strategic Planning: Redefining Long-Term Business Goals

Elif Yılmaz1, Mehmet Demir1*

1. Department of Information Systems, Middle East Technical University, Ankara, Türkiye

*Correspondence: e-mail: m.demir1987@yahoo.com

Abstract

This study aims to explore the role of Artificial Intelligence (AI) in reshaping strategic planning and long-term business goal setting, focusing on its impact on decision-making processes, business model innovation, and organizational adaptation. This qualitative research was conducted using semi-structured interviews with 23 participants from various industries, primarily sourced through online platforms. The data was analyzed using NVivo software to identify key themes and patterns related to AI integration in strategic planning. The study employed theoretical saturation to ensure comprehensive insights into the subject matter. The results reveal that AI plays a critical role in enhancing data-driven decision-making, allowing organizations to leverage predictive analytics and machine learning for more accurate and timely decisions. Participants highlighted AI's contribution to business model transformation, helping companies innovate their products, services, and operations to meet evolving market demands. Moreover, AI's integration into business strategies was found to improve organizational agility, enabling companies to adapt to dynamic business environments. However, challenges such as data quality issues and resistance to AI adoption were also noted, limiting the full potential of AI in strategic planning. AI significantly influences strategic planning by providing tools that enhance decision-making accuracy, drive innovation, and support business model transformation. Despite its potential, businesses must address challenges related to data quality and organizational resistance to fully capitalize on AI's capabilities. The study suggests that organizations should invest in data infrastructure and foster a culture of innovation to facilitate AI adoption in strategic planning processes.

Keywords: Artificial Intelligence, Strategic Planning, Business Model Innovation, Data-Driven Decision-Making, Organizational Agility, Business Strategy, AI Adoption.

1. Introduction

Strategic planning has traditionally been a human-driven process, relying on historical data, intuition, and industry experience. However, AI is significantly reshaping this landscape by providing tools that not only enhance but also automate certain aspects of decision-making. According to Rios-Campos (2023), AI in strategic planning aids in improving accuracy, speed, and adaptability by delivering real-time insights based on vast datasets. The integration of AI allows companies to not only predict future trends but also simulate various outcomes, which is crucial for devising robust long-term strategies. As businesses face increasingly complex environments, the need for AI-driven models that can handle this complexity has become apparent. For example, AI models can assess numerous variables simultaneously, something that would be time-consuming and impractical for human strategists to do manually (Rios-Campos, 2023).

Fang (2023) emphasizes that AI-powered models have revolutionized business models, especially for new ventures, by providing a systematic and data-driven approach to transformation management. AI is capable of analyzing multiple factors

such as market demand, competitor strategies, and customer behavior, which helps businesses make informed decisions about product development, market entry, and resource allocation. The ability of AI to automate complex tasks such as scenario analysis, trend forecasting, and customer segmentation makes it an invaluable asset for strategic planning (Fang, 2023). In their study, Kerzel (2020) also discusses how the AI canvas, a strategic framework that integrates AI into business operations, allows companies to visualize and implement AI-driven business strategies efficiently. The AI canvas not only serves as a guide for technology integration but also highlights the essential considerations needed for successful implementation, such as resource allocation, technological infrastructure, and organizational culture (Kerzel, 2020).

One of the most significant ways in which AI influences strategic planning is by driving innovation in business development. AI has been instrumental in uncovering new business opportunities and enhancing competitive advantage. Edilia (2023) notes that AI enables businesses to identify novel solutions to traditional problems by leveraging its capability to analyze complex datasets. By continuously analyzing real-time data and market trends, AI can suggest innovative product ideas or service improvements that align with evolving consumer demands. This application of AI is particularly valuable in highly dynamic markets where the pace of change is fast and consumer preferences are constantly shifting (Edilia, 2023). For instance, AI's ability to conduct in-depth market segmentation and analyze consumer behavior has transformed marketing strategies. According to Soni et al. (2020), AI allows companies to not only target the right audiences but also to personalize their marketing efforts to a degree that was not previously possible. Through techniques like machine learning and natural language processing (Soni et al., 2020), AI can analyze vast amounts of consumer data to predict preferences, behaviors, and purchase intentions. These insights can then be used to craft tailored marketing campaigns that resonate with individual customers, improving customer satisfaction and loyalty. Moreover, AI's impact on business innovation extends beyond marketing. According to Sestino and Mauro (2021), AI is playing an increasingly important role in product development and operational efficiency. AI-driven tools such as automated design systems, optimization algorithms, and predictive maintenance applications are helping organizations to streamline operations, reduce costs, and enhance overall productivity. The integration of AI into product development processes enables companies to quickly test new ideas, simulate product performance, and refine offerings before bringing them to market. This capability is particularly valuable in industries such as manufacturing and technology, where speed to market is a critical determinant of success (Sestino & Mauro, 2021).

AI's integration into business strategy has prompted significant changes in how organizations design and implement their business models. As highlighted by Ruiz-Real et al. (2020), AI has emerged as a key enabler of business model innovation, helping companies to rethink traditional business structures and value propositions. With AI's ability to analyze market conditions, consumer preferences, and operational performance, businesses can continuously refine their models to align with evolving industry trends (Ruiz–Real et al., 2020). Reim et al. (2020) argue that AI plays a critical role in business model innovation by facilitating the shift from traditional, product-based models to more dynamic, service-oriented models. AI allows businesses to create new revenue streams by leveraging data-driven insights to offer personalized services and products. Furthermore, AI enables companies to develop business models that are more agile and adaptable, helping them to better respond to changes in market conditions and customer expectations (Reim et al., 2020).

The application of AI in business model transformation is not limited to product innovation. According to Grachová (2023), AI has also influenced how businesses approach their supply chains and customer relationships. For example, AI-powered systems can predict demand fluctuations and optimize inventory management, thereby reducing operational costs and improving service delivery. Additionally, AI technologies can enhance customer interactions by providing personalized support and anticipating customer needs, thus improving customer satisfaction and loyalty. Despite the significant advantages AI offers in strategic planning, there are several challenges associated with its integration (Grachová, 2023). One major concern is the quality and accessibility of data. As highlighted by Gómez-Caicedo et al. (2022), the effectiveness of AI depends largely on the availability of high-quality data, which is often not readily accessible or is fragmented across various departments within an organization. For AI to deliver reliable insights, businesses must invest in robust data infrastructure and ensure that data is clean, accurate, and accessible (Gómez-Caicedo et al., 2022). Another challenge identified by Hassani et al. (2020) is the resistance to change within organizations. AI-driven strategic planning requires a cultural shift within companies, with employees needing to embrace new technologies and adapt to evolving business practices. This transition can be met with

resistance, especially in industries where human intuition and experience have traditionally played a dominant role in decision-making. To overcome these challenges, organizations must foster a culture of innovation and invest in training programs to ensure that employees are equipped with the skills necessary to effectively leverage AI technologies (Hassani et al., 2020). Furthermore, ethical considerations surrounding AI's role in strategic planning must not be overlooked. As noted by Secinaro et al. (2021), issues related to algorithmic bias, privacy, and transparency can undermine trust in AI-driven decisions. Organizations must ensure that AI systems are designed and implemented in a way that is ethical, transparent, and accountable, with mechanisms in place to mitigate potential risks (Secinaro et al., 2021).

AI is poised to continue transforming the way businesses approach strategic planning and long-term goal-setting. Through its ability to analyze vast amounts of data, provide predictive insights, and optimize decision-making processes, AI is revolutionizing business strategy across industries. While challenges related to data quality, organizational resistance, and ethical considerations remain, the potential benefits of AI in strategic planning are immense. As organizations increasingly recognize the value of AI-driven insights, the future of business strategy will likely be shaped by AI technologies that enable more agile, informed, and innovative decision-making processes. The integration of AI into business strategy will not only help organizations thrive in a competitive landscape but also redefine the very nature of strategic planning itself. This study aims to explore the role of Artificial Intelligence (AI) in reshaping strategic planning and long-term business goal setting, focusing on its impact on decision-making processes, business model innovation, and organizational adaptation.

2. Methods and Materials

This study employs a qualitative research design to explore the role of artificial intelligence (AI) in strategic planning and its potential to redefine long-term business goals. A total of 23 participants were recruited from online professional networking platforms, ensuring a diverse representation of industries, roles, and organizational sizes. Participants were selected based on their expertise and experience in strategic planning, AI integration, or both, providing a rich basis for in-depth analysis.

Data were collected through semi-structured interviews, allowing for a flexible exploration of participants' insights and experiences. A pre-defined interview guide ensured consistency across sessions while providing room for participants to elaborate on unique perspectives. Interviews were conducted virtually via video conferencing platforms to accommodate geographic diversity and enhance accessibility. Data collection continued until theoretical saturation was reached, ensuring that no new themes or insights emerged from additional interviews.

The interviews were transcribed verbatim and analyzed using NVivo software. A thematic analysis approach was adopted to identify and categorize key themes and sub-themes related to the use of AI in strategic planning. The analysis involved an iterative coding process, starting with open coding to capture initial concepts, followed by axial coding to establish connections between themes. The final stage involved selective coding to refine and integrate the findings into a cohesive narrative. This rigorous analytical process ensured a comprehensive understanding of the data and enhanced the reliability of the results.

3. Findings and Results

The study included 23 participants with diverse backgrounds to ensure a comprehensive understanding of AI's role in strategic planning. The majority of participants (65%, n=15) were senior managers or executives responsible for strategic decision-making in their organizations. Mid-level managers accounted for 22% (n=5) of the sample, while the remaining 13% (n=3) were AI specialists or consultants with extensive experience in integrating AI technologies into business processes.

In terms of industry representation, participants were drawn from a variety of sectors, including technology (35%, n=8), finance (26%, n=6), healthcare (17%, n=4), manufacturing (13%, n=3), and retail (9%, n=2). Gender distribution was balanced, with 52% (n=12) identifying as male and 48% (n=11) as female. Geographically, participants were located across North America (48%, n=11), Europe (30%, n=7), and Asia-Pacific (22%, n=5), reflecting the global reach of AI in strategic planning initiatives.

Table 1. The Results of Qualitative Analysis

Category	Subcategory	Concepts
AI-Driven Strategic Insights	Predictive Analytics for Market Trends	Demand forecasting, Competitor analysis, Market segmentation, Revenue prediction, Trend identification, Economic indicators, Dynamic modeling
	Customer Behavior Analysis	Customer segmentation, Sentiment analysis, Purchase patterns, Personalized marketing, Behavioral trends, Churn prediction, Customer lifetime value
	Risk Assessment and Mitigation	Risk prediction models, Contingency planning, Early warning systems, Fraud detection, Crisis management, Scenario-based risk assessments
	Optimization of Resource Allocation	Inventory optimization, Supply chain efficiency, Resource allocation models, Cost minimization, Dynamic optimization
	Scenario Planning with AI Models	Predictive simulation, Stress testing, What-if analysis, Probabilistic forecasting, Modeling interdependencies
AI Integration Challenges	Technological Barriers	Infrastructure limitations, Legacy systems, Integration complexity, Technology adoption gaps, AI expertise shortage
	Resistance to Change	Cultural resistance, Fear of job displacement, Skill gaps, Mistrust in AI, Stakeholder pushback
	Cost of Implementation	High initial costs, Budget constraints, Return on investment concerns, Cost-benefit uncertainty
	Data Quality and Accessibility	Data silos, Incomplete datasets, Data accuracy, Data governance issues, Limited access to historical data
Ethical Implications of AI	Bias in AI Algorithms	Algorithmic discrimination, Training dataset biases, Unintended consequences, Model fairness, Algorithm refinement
	Privacy Concerns	Data security, Confidentiality risks, Consent management, Regulatory compliance, Breach mitigation
	Transparency and Explainability	Explainable AI, AI decision rationality, Model interpretability, Trust building, Auditability
	AI-Driven Accountability	Decision accountability, Ethical decision frameworks, AI oversight committees, Responsibility tracking
Enhanced Decision-Making Processes	Real-Time Decision Support	Dynamic analysis, Real-time feedback, Adaptive KPIs, Continuous monitoring, Dashboard optimization
	Enhanced Collaboration Through AI	AI-driven teamwork, Knowledge sharing, AI-human collaboration platforms, Workflow integration, Cross-functional synergy
	Reduction of Cognitive Biases	Decision bias reduction, Fact-based insights, Emotion-neutral decisions, Impartial recommendations
	Adaptive Strategic Adjustments	Dynamic goal-setting, Scenario-based planning, Resilience enhancement, Strategy pivots
	AI-Augmented Creativity	Creative ideation support, Novel solution generation, AI-assisted brainstorming, Design augmentation
Future Trends in AI-Driven Strategy	AI for Sustainable Development	Green AI, Carbon footprint tracking, AI for energy optimization, Sustainable resource planning
	Emerging AI Capabilities	Self-improving algorithms, AI in unexplored domains, Innovative AI tools, Advanced learning techniques
	Industry-Specific Customization	Sector-specific strategies, Industry benchmarks, Tailored AI applications, Customization roadmaps
	Human-AI Synergy in Planning	Collaborative intelligence, Human-AI task alignment, Complementary strengths, Augmenting strategic thinking

AI-Driven Strategic Insights

Predictive Analytics for Market Trends

Participants emphasized that predictive analytics plays a crucial role in identifying and responding to market trends. As one respondent noted, "AI-driven forecasting tools allow us to anticipate shifts in demand and adjust our strategies accordingly." Key concepts in this area included demand forecasting, competitor analysis, market segmentation, revenue prediction, trend identification, economic indicators, and dynamic modeling.

Customer Behavior Analysis

The analysis of customer behavior was frequently cited as a transformative application of AI in strategic planning. A participant shared, "AI helps us uncover hidden patterns in customer behavior that traditional methods could never reveal." The subcategory covered concepts like customer segmentation, sentiment analysis, purchase patterns, personalized marketing, behavioral trends, churn prediction, and customer lifetime value.

Risk Assessment and Mitigation

AI tools have become indispensable for assessing and mitigating risks in uncertain environments. One interviewee remarked, "Our AI systems provide early warnings and help us craft effective contingency plans." This subcategory included risk

prediction models, contingency planning, early warning systems, fraud detection, crisis management, and scenario-based risk assessments.

Optimization of Resource Allocation

Participants highlighted the value of AI in optimizing resource use. According to one manager, "AI ensures that resources are allocated to maximize efficiency and minimize costs." The concepts in this subcategory included inventory optimization, supply chain efficiency, resource allocation models, cost minimization, and dynamic optimization.

Scenario Planning with AI Models

AI-powered scenario planning was recognized as a strategic advantage for organizations. A participant stated, "What-if analyses and predictive simulations give us confidence in our long-term planning." Relevant concepts were predictive simulation, stress testing, what-if analysis, probabilistic forecasting, and modeling interdependencies.

AI Integration Challenges

Technological Barriers

Technological limitations were a recurring theme in the interviews. One participant explained, "Legacy systems and a lack of infrastructure are major roadblocks to fully utilizing AI." Key concepts in this subcategory included infrastructure limitations, legacy systems, integration complexity, technology adoption gaps, and AI expertise shortages.

Resistance to Change

Resistance to organizational change emerged as a significant challenge. As one interviewee put it, "Employees often feel threatened by AI, which creates friction in its adoption." Subthemes included cultural resistance, fear of job displacement, skill gaps, mistrust in AI, and stakeholder pushback.

Cost of Implementation

Many participants cited the high cost of implementing AI solutions as a barrier. One respondent observed, "The initial investment can be overwhelming for organizations with tight budgets." Concepts included high initial costs, budget constraints, return on investment concerns, and cost-benefit uncertainty.

Data Quality and Accessibility

Data-related challenges were also prominent in the discussions. A participant shared, "The lack of quality and accessible data hampers AI's effectiveness." Key concepts here were data silos, incomplete datasets, data accuracy, data governance issues, and limited access to historical data.

Ethical Implications of AI

Bias in AI Algorithms

Algorithmic bias was a key concern among participants. One expert noted, "Bias in training data can lead to unfair outcomes, undermining trust in AI." This subcategory included algorithmic discrimination, training dataset biases, unintended consequences, model fairness, and algorithm refinement.

Privacy Concerns

Privacy issues were frequently mentioned as a major ethical consideration. A participant remarked, "Balancing innovation with data privacy is a tightrope walk for any organization." Key concepts included data security, confidentiality risks, consent management, regulatory compliance, and breach mitigation.

Transparency and Explainability

Participants highlighted the importance of transparency in AI-driven decisions. As one stated, "If we can't explain an AI's decision, it’s hard to build trust with stakeholders." Relevant concepts were explainable AI, AI decision rationality, model interpretability, trust building, and auditability.

AI-Driven Accountability

Accountability was another critical theme. According to one participant, "We need clear frameworks to ensure accountability in AI-powered decisions." Key concepts included decision accountability, ethical decision frameworks, AI oversight committees, and responsibility tracking.

Enhanced Decision-Making Processes

Real-Time Decision Support

AI's ability to provide real-time support for strategic decisions was praised by participants. One manager explained, "Real-time analytics allow us to adapt our strategies instantly to changing conditions." Concepts included dynamic analysis, real-time feedback, adaptive KPIs, continuous monitoring, and dashboard optimization.

Enhanced Collaboration Through AI

AI was seen as a facilitator of collaboration. As one participant said, "AI tools enhance teamwork by breaking down silos and promoting knowledge sharing." Subthemes included AI-driven teamwork, knowledge sharing, AI-human collaboration platforms, workflow integration, and cross-functional synergy.

Reduction of Cognitive Biases

AI's role in mitigating cognitive biases was another recurring topic. One expert observed, "AI helps us make impartial decisions by focusing on data-driven insights." This subcategory covered decision bias reduction, fact-based insights, emotion-neutral decisions, and impartial recommendations.

Adaptive Strategic Adjustments

The adaptability provided by AI was widely acknowledged. A participant remarked, "AI allows us to pivot our strategies quickly in response to new challenges." Key concepts included dynamic goal-setting, scenario-based planning, resilience enhancement, and strategy pivots.

AI-Augmented Creativity

Finally, participants discussed AI's potential to enhance creativity. As one put it, "AI can inspire us with novel ideas and alternative solutions." Concepts included creative ideation support, novel solution generation, AI-assisted brainstorming, and design augmentation.

Future Trends in AI-Driven Strategy

AI for Sustainable Development

AI's role in promoting sustainability was a forward-looking theme. A participant noted, "Green AI technologies are helping us align our strategies with environmental goals." Relevant concepts included green AI, carbon footprint tracking, AI for energy optimization, and sustainable resource planning.

Emerging AI Capabilities

The rapid evolution of AI capabilities was a point of optimism. One expert shared, "AI is entering domains we hadn't thought possible, driving innovation everywhere." Key concepts were self-improving algorithms, AI in unexplored domains, innovative AI tools, and advanced learning techniques.

Industry-Specific Customization

Customization of AI solutions for specific industries was another critical theme. As one interviewee explained, "Tailored AI applications are vital for addressing unique sector challenges." Subthemes included sector-specific strategies, industry benchmarks, tailored AI applications, and customization roadmaps.

Human-AI Synergy in Planning

Finally, participants highlighted the importance of human-AI collaboration. A participant stated, "The future of AI in strategy lies in combining human creativity with machine intelligence." Relevant concepts included collaborative intelligence, human-AI task alignment, complementary strengths, and augmenting strategic thinking.

4. Discussion and Conclusion

The results of this study shed light on the profound impact of AI on strategic planning and decision-making in organizations, revealing both opportunities and challenges associated with its integration. The findings underscore AI's ability to reshape business strategies, especially in areas such as data-driven decision-making, innovation, and business model transformation. Furthermore, AI is recognized as a critical tool in helping organizations adapt to dynamic market conditions, optimize resources, and achieve long-term business goals. This section discusses the findings, aligns them with previous literature, and provides explanations for the observed patterns.

One of the central findings of this study is the critical role of AI in facilitating data-driven decision-making in strategic planning. Participants emphasized how AI's ability to process vast amounts of data and generate predictive models has transformed the decision-making process. AI has allowed businesses to move away from intuition-based strategies to more

objective, data-backed approaches. This finding is consistent with previous research by Enholm et al. (2021), who argue that AI enhances decision-making accuracy by enabling businesses to derive actionable insights from complex datasets. AI-powered tools, such as predictive analytics and machine learning algorithms, allow businesses to forecast future trends, assess risks, and evaluate potential outcomes more efficiently than traditional methods (Enholm et al., 2021). Afsaruddin (2023) also highlights how machine learning models, by continuously learning from new data, enable businesses to make more informed decisions that align with market dynamics (Afsaruddin, 2023).

Moreover, AI's integration into strategic planning processes enables businesses to monitor real-time data, a crucial advantage in fast-moving industries. As Eboigbe (2023) points out, AI's capacity to analyze vast datasets allows businesses to stay ahead of trends and make adjustments to their strategies in real time. This ability is particularly valuable in sectors like technology and finance, where market conditions can change rapidly (Eboigbe, 2023). By employing AI to process and interpret data, businesses can make timely adjustments that prevent potential losses or missed opportunities. This dynamic capability enhances organizations' ability to formulate strategies that are not only reactive but also proactive, anticipating future changes in the market environment.

The findings also highlight AI's significant contribution to driving innovation in business models. Many participants noted how AI helped in identifying new business opportunities and creating innovative products and services that resonate with evolving customer needs. AI enables businesses to extract insights from consumer behavior, market trends, and competitor activities, which are then used to craft new, more effective business strategies. This aligns with the work of Edilia (2023), who suggests that AI is a key enabler of innovation in business development (Edilia, 2023). By leveraging machine learning, AI helps businesses continuously identify emerging market trends and consumer preferences, which are integral to shaping future products and services.

AI's ability to drive innovation is not limited to marketing or product development; it extends across various business functions, including operations, finance, and human resources. Soni et al. (2020) discuss how AI can optimize operational processes, improve supply chain management, and enhance resource allocation (Soni et al., 2020). By automating routine tasks, AI allows businesses to focus on more strategic activities such as business development and customer relationship management. Furthermore, AI-powered automation enables businesses to explore new business models, such as subscription-based services or personalized products, that were previously difficult to implement. This innovation is particularly important in competitive sectors, where differentiation and adaptability are key to success. The findings suggest that AI plays a pivotal role in facilitating such business model transformations, allowing companies to stay relevant and competitive.

The results also show that AI significantly contributes to the transformation of business models, helping organizations adapt to changing market conditions and customer demands. Many participants observed that AI's role in business model innovation extends beyond product and service development; it also includes optimizing core business processes and enhancing organizational agility. This finding aligns with the work of Reim et al. (2020), who argue that AI is reshaping traditional business models by enabling companies to develop more agile, service-oriented strategies. By utilizing AI to gather real-time data, businesses can adjust their strategies quickly in response to changes in the market or customer behavior (Reim et al., 2020).

The findings suggest that AI's contribution to business model transformation is particularly evident in industries where competition is intense and innovation is a constant necessity. For example, the technology and retail sectors have leveraged AI to build personalized customer experiences, improve product recommendations, and streamline inventory management. As Gómez-Caicedo et al. (2022) highlight, AI's ability to analyze large datasets allows companies to continuously refine their business models to remain competitive and responsive to consumer preferences (Gómez-Caicedo et al., 2022). The integration of AI into business model innovation allows organizations to move away from rigid, traditional models and embrace more dynamic, flexible approaches that are better suited to the fast-paced, ever-changing business environment.

While the potential benefits of AI in strategic planning are clear, the study also highlights several challenges that organizations face when integrating AI into their strategic planning processes. A key concern raised by participants was the need for high-quality, accessible data. AI systems rely on large datasets to generate accurate predictions and insights, but many organizations struggle with fragmented or incomplete data. As noted by Hassani et al. (2020), the quality of data is crucial for

the effectiveness of AI in strategic decision-making (Hassani et al., 2020). Poor-quality data can lead to biased or inaccurate predictions, which could undermine the entire strategic planning process. To fully leverage AI's potential, businesses must invest in robust data infrastructure and ensure that data is clean, organized, and accessible across departments.

Another challenge highlighted by participants was the resistance to change within organizations. Many employees, particularly those in senior management positions, expressed concerns about AI's role in decision-making and its potential to replace human expertise. This reluctance to embrace AI is a common issue in industries that rely heavily on human intuition and experience for strategic planning. According to Secinaro et al. (2021), organizational resistance is one of the main barriers to AI adoption in business strategy. To overcome this challenge, businesses must prioritize creating a culture of innovation and invest in training programs to help employees understand the value of AI and how it can enhance their decision-making processes (Secinaro et al., 2021).

While this study provides valuable insights into the role of AI in strategic planning, several limitations should be considered. First, the sample size of 23 participants, although diverse, is relatively small, which may limit the generalizability of the findings. The study also relies on a self-reported data collection method through semi-structured interviews, which may be subject to biases such as social desirability or recall bias. Additionally, the study focused primarily on participants from industries such as technology, finance, and healthcare, which may not fully represent the experiences of organizations in other sectors. Future research could expand the sample size and include participants from a broader range of industries to provide a more comprehensive view of AI's impact on strategic planning.

Another limitation is the cross-sectional nature of the study. The research captures participants' perspectives at a specific point in time, which may not account for the evolving nature of AI adoption and its effects on strategic planning over time. Longitudinal studies that track the impact of AI on business strategy over several years would provide a deeper understanding of how AI-driven decision-making evolves and the long-term implications for organizations. Moreover, the study did not explore in detail the specific AI tools and technologies that participants were using, which could provide valuable insights into the practical implementation of AI in strategic planning.

Future research on AI in strategic planning could benefit from exploring the specific AI technologies and tools that organizations are using to enhance their decision-making processes. This would allow researchers to identify the most effective AI tools for various strategic planning activities, such as market analysis, resource allocation, and risk management. Additionally, future studies could examine the impact of AI on different organizational levels, including how AI affects the decision-making processes of middle and lower-level managers. Given the rapid pace of technological change, longitudinal studies could also explore how AI's role in strategic planning evolves over time, particularly as businesses become more adept at integrating AI into their operations.

Another avenue for future research is the exploration of AI's role in fostering collaboration and knowledge-sharing within organizations. As AI technologies become more integrated into strategic planning processes, they may create new opportunities for cross-functional collaboration. Researchers could investigate how AI facilitates collaboration between departments, enhances knowledge-sharing, and fosters innovation across different levels of the organization. This would provide a more nuanced understanding of how AI affects organizational dynamics and contributes to business success.

In practice, businesses aiming to integrate AI into their strategic planning processes should prioritize the development of robust data infrastructure. The effectiveness of AI in generating actionable insights depends heavily on the availability and quality of data. Organizations must ensure that their data is accurate, consistent, and easily accessible across departments. Furthermore, businesses should invest in training programs that equip employees with the skills necessary to understand and leverage AI technologies. Creating a culture of innovation and openness to change is also crucial for overcoming resistance to AI adoption. Managers should emphasize AI as a tool to augment, rather than replace, human decision-making capabilities, and encourage employees to see the value of AI in improving business performance. Additionally, companies should regularly assess their AI strategies to ensure they remain aligned with evolving market conditions and customer expectations, enabling them to stay competitive in the long term.

Ethical Considerations

All procedures performed in this study were under the ethical standards.

Acknowledgments

Authors thank all participants who participate in this study.

Conflict of Interest

The authors report no conflict of interest.

Funding/Financial Support

According to the authors, this article has no financial support.

References

Afsaruddin, A. (2023). An Optimized Approach for Maximizing Business Intelligence Using Machine Learning. *International Journal on Recent and Innovation Trends in Computing and Communication*, *11*(8), 72-80. https://doi.org/10.17762/ijritcc.v11i8.7925

Eboigbe, E. O. (2023). Business Intelligence Transformation Through Ai and Data Analytics. *Engineering Science & Technology Journal*, *4*(5), 285-307. https://doi.org/10.51594/estj.v4i5.616

Edilia, S. (2023). Innovative Approaches in Business Development Strategies Through Artificial Intelligence Technology. *Iaic Transactions on Sustainable Digital Innovation (Itsdi)*, *5*(1), 84-90. https://doi.org/10.34306/itsdi.v5i1.612

Enholm, I. M., Papagiannidis, E., Mikalef, P., & Krogstie, J. (2021). Artificial Intelligence and Business Value: A Literature Review. *Information Systems Frontiers*, *24*(5), 1709-1734. https://doi.org/10.1007/s10796-021-10186-w

Fang, J. (2023). Research on the Design of Business Models and Transformation Management of New Entrepreneurial Ventures Driven by Artificial Intelligence. *BCP Business & Management*, *49*, 36-41. https://doi.org/10.54691/bcpbm.v49i.5383

Gómez-Caicedo, M. I., Gaitán-Angulo, M., Bacca-Acosta, J., Torres, C. Y. B., & Díaz, J. C. (2022). Business Analytics Approach to Artificial Intelligence. *Frontiers in Artificial Intelligence*, *5*. https://doi.org/10.3389/frai.2022.974180

Grachová, D. (2023). Artificial Intelligence in Business Centres: A Case Study of 3 Business Centres in Slovakia. https://doi.org/10.15240/tul/009/lef-2023-19

Hassani, H., Silva, E. S., Unger, S., TajMazinani, M., & Feely, S. M. (2020). Artificial Intelligence (AI) or Intelligence Augmentation (IA): What Is the Future? *Ai*, *1*(2), 143-155. https://doi.org/10.3390/ai1020008

Kerzel, U. (2020). Enterprise AI Canvas -- Integrating Artificial Intelligence Into Business. https://doi.org/10.48550/arxiv.2009.11190

Reim, W., Åström, J., & Eriksson, O. (2020). Implementation of Artificial Intelligence (AI): A Roadmap for Business Model Innovation. *Ai*, *1*(2), 180-191. https://doi.org/10.3390/ai1020011

Rios-Campos, C. (2023). Artificial Intelligence and Business. *South Florida Journal of Development*, *4*(9), 3547-3564. https://doi.org/10.46932/sfjdv4n9-015

Ruiz–Real, J. L., Uribe-Toril, J., & Torres, J. A. (2020). Artificial Intelligence in Business and Economics Research: Trends and Future. *Journal of Business Economics and Management*, *22*(1), 98-117. https://doi.org/10.3846/jbem.2020.13641

Secinaro, S., Calandra, D., Secinaro, A., Muthurangu, V., & Biancone, P. (2021). The Role of Artificial Intelligence in Healthcare: A Structured Literature Review. *BMC Medical Informatics and Decision Making*, *21*(1). https://doi.org/10.1186/s12911-021-01488-9

Sestino, A., & Mauro, A. D. (2021). Leveraging Artificial Intelligence in Business: Implications, Applications and Methods. *Technology Analysis and Strategic Management*, *34*(1), 16-29. https://doi.org/10.1080/09537325.2021.1883583

Soni, N., Sharma, E. K., Singh, N., & Kapoor, A. (2020). Artificial Intelligence in Business: From Research and Innovation to Market Deployment. *Procedia Computer Science*, *167*, 2200-2210. https://doi.org/10.1016/j.procs.2020.03.272