



Improving Market Competitiveness using the Use of Artificial Intelligence in Strategic Business Decisions

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Abstract

Background: The global business landscape is continuing to change quickly, and strategic decision-making is taking a turn toward the use of artificial intelligence (AI) as an agent of change. In effort to understand the barriers companies are facing in this area, and the strategic approach companies are seeking, a working paper examines the state of deployment of AI technologies in business functions and their role in contributing to competitiveness in the market. AI enables predictive analytics, customer personalization, supply chain optimization and operational efficiency. **Methods:** Based on global case studies, empirical data, and contemporary literature, we explore the measurable value that AI brings in terms of a 25–30% improvement in decision-making speed and accuracy, a 10–20% increase in customer engagement, and a 15% reduction in operational costs. The most important AI technologies explored in the report include machine learning, natural language processing, robotic process automation and decision intelligence systems. The research also addresses ethical issues and governance structures exposed by the responsible adoption and organization of AI. **Results:** The study found that organizations adopting AI, systemically and strategically, have a competitive advantage over other

organizations as AI was increasingly used to influence real-time decision making through data. **Conclusion:** The study concluded with the finding that while AI adoption can benefit providers, to truly consider the positives of AI adoption a few factors must be addressed in terms of strategic fit, data quality, and organization readiness.

Keywords: Artificial Intelligence (AI), Strategic Decision-Making, Market Competitiveness, Machine Learning, Digital Transformation.

1. Introduction

The 21st century has a rapidly changing layout of business, distribution, globalization, and consumer patterns. In this morphing context, artificial intelligence (AI) emerged as one of the most important agents of strategic change for firms (Khan et al., 2024). AI is the ability of machines to mimic human intelligence to think, learn, and make decisions. Da Costa & Gonçalves (2024) state there are more than 50% of businesses globally, which have included AI with 1 function in their operations. Even companies with AI-based interventions have indicated increases in efficiency, cost saving measures, and improvements in decision making. Strategic decisions involve a process of identifying the desired future state and getting there through long-term company intentions. Strategic choices have historically revolved around the intuitive nature associated with executive experience, market trends, and past business performance metrics (Aharoni et al., 2010). The move to big data, as well as AI capabilities, has transitioned business once again. Companies increasingly have the ability to make strategic decisions using predictive analytics and intelligent algorithms in response to real-time data (Ramya et al., 2024). The transition from intuition-based decisions to data-driven decision making is a revolutionized business strategy (Hadi &

Significance | Artificial Intelligence (AI) driven immersive strategic decision-making enhances the competitiveness of the organization and entire industries, accurate, personalized, and innovative decision making.

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Competitive advantage is arguably one of the primary reasons organizations are integrating A.I. into their strategic decision making, especially as competitive markets require firms to be responsive to change and to be predictive of future change. A.I. provides organizations the capacity for data analytics, full market research and basic consumer behavior modeling through its components of machine learning (ML), natural language processing (NLP), robotic process automation (RPA) and computer vision. Organizations can make use of predictive analytics (for example, ML models can predict demand trends with 85% accuracy) to support data informed decisions on resource allocation and inventory positioning strategies (Deloitte, 2022; Vuohelainen, 2024). Consumers' expectations of businesses are also more customer-centric than ever. AI technologies allow businesses to leverage this consumer-centric approach at scale by analyzing each customer's behavioral patterns, purchase history, social media interactions, etc. (Krishna et al, 2024). Salesforce reported that consumers expect businesses to mean their needs and expectations, and according to Potla & Pottla (2024) 76% of consumers said they expect this. AI-enhanced recommendation engines and chatbots significantly reduce the distance between businesses and consumers in relation to expectations (Potla & Pottla, 2024). Additionally, AI optimizes operational efficiency. Intelligence automation drastically reduces manual processes, streamlines workflows, and promotes productivity. Nicolaidou (2023) reported that businesses using AI technology within their operations report process efficiency improvements of over 15-20%. Lastly, AI plays a role in strategic risk management. AI can identify potential discrepancies, fraud, and compliance risks in real-time (Shen, 2024).

However, despite these rewards, the use of AI faces a lot of challenges. Data privacy issues, algorithmic bias, ethical questions, and workforce displacement are barriers that must be overcome. Furthermore, organizations also add their own barriers to implementation. Organizational readiness (i.e., leadership commitment and employee education and training) can determine if initiatives surrounding AI are successful or not (Shaw et al., 2019). This research will provide a broad and comprehensive look into how AI is utilized in decisions in relation to organizational strategy, how to think about measuring improvements in decision context post-implementation, and ultimately what key success factors should be considered to achieve benefits from AI (Rahman et al., 2024). This paper will use real examples to present understanding of decision-making applications using AI in retail, financial services, manufacturing, and health care and examine and collect qualitative and quantitative data using a mixed-method approach to provide for breadth and depth. This study contributes to a growing understanding of the use of AI in business strategy and

provides insight into practical applications to aid organizations to thrive in a digital world.

2. The Role of AI in Strategic Business Decisions

AI is crucial to organizational decision-making in business. AI provides new insights that help companies make data-driven decisions at the right time to maximize market conditions and customer preferences. In predictive analysis **Table 1**, AI evaluates historical data and current records in real time that contextualizes future behavior (Achumie et al., 2022). Therefore, organizations can plan the timing of launching a new product more thoroughly, manage inventory, and allocate resources with lower risk and volatility. Organizations employing predictive analytics have declared a 25% increase in inventory efficiency and a 20% reduction in stock outs (Fuchs & Schreier, 2010). When it comes to engagement with customers, AI enables organizations to provide individual customer engagement that will provide for a highly personalized experience from firms. AI can evaluate a customer's behavior, preferences, previous purchases, and present sentiment analysis in order to customize marketing messages, present products, troubleshoot issues more quickly, or even determine what channels are best suited for the customer (Rahman et al., 2025). Organizations have documented a 15% increase in customer satisfaction and once they have an established loyal customer, they enjoyed up to a 10% increase in repeat sales. AI will also help to systemize customer support with chatbots powered by cognitive AI that will accept and respond to the basic inquiries of multiple customers at the same time, which creates a quality experience, while also creating a faster resolution time for the customer, or troubleshoot with the human agent while reducing the workload of the human agent (Inavolu, 2024).

From an operational perspective, AI enhances efficiency by automating repetitive and time-consuming tasks. In logistics, for example, machine learning algorithms optimize delivery routes and inventory distribution. Similarly, in finance, AI systems detect fraudulent transactions in real time and automate compliance checks (Rane et al., 2024). These applications lead to reduced costs and increased productivity. Studies reveal that organizations adopting AI for process optimization observe an average 30% improvement in turnaround time and a 12–15% decrease in operational expenditures (Shil et al., 2024). Thus, AI functions not merely as a technological upgrade, but as a strategic enabler that empowers organizations to respond swiftly to change, personalize customer interaction at scale, and execute operations with heightened precision and agility (Ononiwu et al., 2024).

3. Materials and Methods

This study used a mixed method to investigate the use of and impact of artificial intelligence (AI) for strategic business decision-making

and market competitiveness. Phase 1: Literature Review, Phase 2: Qualitative Interviews, and Phase 3: Quantitative analysis. Each phase consisted of, and outlined in this section, details into the method of collection, analysis and results generation employed.

3.1 Data Collection

The data collection process was conducted in three phases to obtain both primary and secondary data that would support an understanding of AI's role in business decision-making from a strategic standpoint.

Phase 1: Literature Review The first phase was primarily concerned with collecting information from existing academic literature and industry reports in order to discover current trends regarding the adoption of AI technologies in various business functions. An extensive search was completed with various literature databases including standalone searches using Scopus, Web of Science and Google Scholar. All sources included literature published between the years of 2020 to 2024 to ensure the latest and most relevant publications were included. The key search terms utilized during the review process included "AI in Business Strategy", "AI in Decision Making", "AI operational efficiency", "AI in predictive analytics" etc. The literature review helped to provide some fundamental findings about the integration of AI in strategic decision making, the influence of AI on operational efficiency, and how firms have used AI to gain a competitive business advantage. Various reports not included in the formal literature search were also reviewed from consulting firms, including white papers released from various professional organizations that presented case studies about practical anecdotal evidence of AI in business.

Phase 2: Qualitative Interviews for the second phase of data collection, semi-structured interviews were conducted with 15 people in sectors that were different from one another, including finance, retail, manufacturing, and technology. Research participants were business strategists, AI experts, and senior leaders (C-level), who provided insights into how AI can be applied practically within a business. Each interview lasted 45–60 minutes and served to understand interviewees' use of AI, whether they noticed increased decision-making ability, operational efficiencies, improved customer engagement, and challenges experienced using AI tools. Qualitative interviews also served to assess expectations of AI in business in the future. Interviewees were selected for their expertise in AI and their experience of embedding AI technologies into businesses. The interview format was intentionally flexible, to allow deeper discussions on these topics.

Phase 3: Quantitative Analysis The next phase was gathering some secondary data from various sources, including corporate annual reports, market research reports, and company surveys conducted between 2020 and 2024. The data included a wide range of items, including AI levels of investment, ROI (return on investment), customer engagement levels, operational performance and

productivity measures. The secondary data consisted of reports from McKinsey's Global AI Survey (2023), PwC's AI predictions (2024), and Garter's strategic AI trends (2023). In addition to the aforementioned sources of reports, we pulled data from industry-specific performance dashboards, corporate reports, and publicly available surveys, all of which contributed to the quantitative dataset. This last phase was designed to quantify the qualitative project findings through empirical measures of AI effects on business performance.

3.2 Data Analysis

The data analysis stage employed qualitative and quantitative approaches to guide a comprehensive understanding of the data (Bergin, 2018), while analyzing for trends and patterns as relationships to AI adoption and strategic business outcomes. Qualitative Data Analysis. The qualitative data obtained through interviews only, was analyzed by way of thematic analysis. It was used to help with the coding and categorizing of the interview transcripts. Thematic analysis allows the researcher to organize into a major category the recurring themes and patterns within the interview responses, which reflect the impact of AI on business strategies. The coding process was approached deductively and inductively, meaning that while predetermined themes were based upon the review of literature, there were also the emergence of themes within the analysis of the data. The themes that emerged were AI's role in the speed of enhanced decision-making, the personalization of customers, and the challenges organizations face in adopting AI, data quality issues, organizational detractors, and management of resources, etc. This information brought some meaning around how AI is perceived and applied in business practice. Quantitative Data Analysis The qualitative data were examined using a variety of descriptive and all advanced statistical methods available to researchers. The descriptive statistics facilitated the summarization of the key variables such as AI investment amounts, customer engagement studies, and operational adjustments. A time-series analysis of trends was employed to investigate the long-term impact of AI adoption on business outcomes. This assessment tracked if any consistent trends were discovered in the areas of revenue growth, cost reductions, or customer satisfaction. A regression analysis was also undertaken to explore the AI adoption and relationship with relevant business performance outcomes. The regression sought to understand if AI integrations were positively indicated with improvements in operational efficiencies, revenue growth, and customer retention. The statistical analysis used Microsoft Excel and SPSS to encourage accuracy and credibility in this process of analysis. By combining both thematic and statistical analysis, the research provided conclusions about the impact of AI on strategic business decision-making with derived qualitative insight and empirical knowledge. The researcher suggested that the qualitative insights were given

richer understanding with additional empirical data from secondary sources of literature to provide context to the specifics of AI and business outcomes.

3.3 Ethical Considerations

Ethical issues were an important consideration during the design and implementation of the study to maintain the research process's the participants' rights (Gupta, 2017). Before commencing the study, ethical institutional permission was sought and received from the relevant institutional review board (IRB). Informed consent was given from the participants, and the interviews were accomplished in a manner that applied the ethical considerations based on the ethical procedures outlined. Participants were informed that their participation in the study was voluntary and that they had the right to withdraw or discontinue participation at any point without any negative consequences (Seykora et al., 2021). All interview responses were anonymized and personal identifiers removed from the data to maintain confidentiality. The responses from the interviews were stored securely, with only approved study staff accessing the data. Participants were informed that their answers would not be provided to outside parties without their knowledge and permission, and that the data would only be used in research. The study ensured that all data were managed and processed following the privacy and security obligations as laid out under the General Data Protection Regulation (GDPR), and by following the ethical conventions outlined above the study demonstrated the utmost standards of honesty, disclosure, and respect for participants' rights.

3.4 Research Limitations

We employed a rigorous methodology we would note some limitations as part of the research process. First, the number of participants interviewed (n=15) used for qualitative analysis was small, and may not reflect the broad spectrum of experiences with AI within industries and across company size.

Furthermore, the secondary data were solely derived from publicly available company reports and professional surveys (where companies agreed to participate); they did not reflect the most current impacts nor internal strategies kept from public dissemination around AI integration. In addition, the 2020 - 2024 timeframe may not capture AI innovations or considerable shifts which may have occurred after the period covered within the study. Regardless of these limitations, the study's outcomes can be valuable for understanding strategically applied AI in organizational decision-making and influence on an organization's competitiveness in the marketplace.

4. Results

This part reported presented the results of analysis of the role and effects of artificial intelligence in strategic business decision-making in various sectors across Bangladesh. The results are grouped into

five main themes: (a) predictive analytics, (b) customer personalization, (c) operational efficiency, (d) financial performance, and (e) AI uptake issues. The researcher will show how contribution of AI have affected business outcomes using quantitative data, case-specific evidence, and use of sectoral comparisons of prior work in the area. Examples of performance indicators like reductions in inventory waste, resolutions of customer queries, operational speed, time lost in downtime, and hiring cycles are captured across sectors for deliberation. All indicators demonstrate performance improvements as businesses implemented AI for a strategic purpose. The themes have demonstrated differences in the amount of AI use across sectors and noted critical impediments of organizations for AI adoption, providing a rationale for consideration of strategic recommendations and policy implications in a later concluding section of the report.

4.1 Predictive Analytics and Forecasting

The transformation of workplaces through AI use is evident in a variety of industries for example, forecasting, inventory management, or predictive maintenance, and organizations have reported the positive impacts of implementing this technology (Figure 1). A McKinsey study conducted (2023) demonstrated that 78% of companies using AI driven analytics improved their overall forecasting accuracy, which supports better business decision-making and agility to changes in market, during which time forecasting accuracy is especially important. Convenience is a key area where AI is impacting business. In the retail sector, a Fortune 500 company implemented an AI demand forecasting process which improved performance in the following areas: stock outs improved by 25% (can respond to customer demand and need), and inventory turnover improved by 20% (AI analytics gained decisions). Predictive maintenance, performing AI maintenance forecasting in particular has demonstrated significant results. Companies reported 30-50% reduced equipment downtime, thus saving millions of dollars on operations. This change from a reactive maintenance strategy to a proactive maintenance strategy has improved operational efficiencies and reduced costs. AI is proving valuable to businesses who are planning improvements to cash flow and efficiency. The organization and industry specifics demonstrate the anticipation and harmonizing dimensions of AI use in a business strategy approach; improving forecasting, managing inventory to match customer need, and improving operational efficiencies

4.2 Financial Performance and ROI

Figure 2, indicates the extent to which AI enhances processes in a business. For example: Customer Onboarding time is reduced by 36% through the automation of routine tasks. The Claims Processing time was reduced by 70% by simplifying document analysis and fraud detection assessment. Customer Service Costs

were reduced by 55% using AI based chatbots and virtual assistants. These case studies underscore the role of AI in speeding up processes, cutting costs, and improving efficiency for business operations.

4.3 Challenges in Implementation

This enhanced table not only draws attention to barriers organizations face while implementing AI but it also details root causes and pathways forward (Table 2). The technical barriers of lack of talent (60%) and challenges in the integration of legacy systems (47%) remain concerns. Newer barriers have emerged such as high cost of implementation (41%), uncertainty of ROI (36%), lack of organizational support (33%); while ethical and privacy concerns from society (72%) and political foresight continue to reflect a societal and legal impetus. Strategic, financial, and culture are key factors in the success of AI; highlighting the importance of addressing the aforementioned barriers methodically during the planning process. Addressing all barriers holistically, by leveraging training, phased implementation, policies around AI, and openly discussing and including employee perspectives throughout the planning will allow organizations to unlock the transformational capabilities of AI.

5. Discussion

The findings highlight that AI assists with strategy-level decisions that improve effectiveness, engagement and financial results. Important technologies like machine learning and predictive analysis enable the development of decisions rapidly especially through complex supply chains, while personalized experiences can produce greater conversion rates and greater loyalty increasing customer lifetime value. Adopting AI requires organizations to be prepared for it, with data infrastructure (Naslednikov, 2024). Companies with robust infrastructure and competent teams will have better outcomes, while those that have outdated systems will struggle. Additionally, ethical issues with AI, like algorithmic bias and data privacy risks, must be acknowledged. Although buy-in and commitment across leadership is fundamental to enabling success with AI, (Rahman et al., 2024). An increasingly dominant force Artificial intelligence (AI) has quickly transitioned as a core in modern strategic decision-making, and has had a materially positive impact on - forecasting accuracy, operational efficiency, customer satisfaction and cost reduction. Data based results continue to substantiate AI as a disruptive force across an array of business disciplines (Nalini, 2024). Empirical evidence signifies that forecasting and inventory and management represent two of the most improved areas due to AI incorporation (George, 2024).

According to McKinsey (2023), 78% of companies that use AI-based analytics experienced improved forecasting accuracy that enabled the firms to forecast market changes and act proactively (Chui et al., 2023). Improvements like this have provided significant

benefits in several industries, including retail. For example, a Fortune 500 retailer using AI for demand forecasting reported a 25% decrease in the number of stock outs that resulted from more accurate forecasting improving customer satisfaction and a wealth of other manifestations of better product availability (Amosu et al., 2024). Their inventory turnover also improved by 20%, which suggests more efficient inventory use deploying better utilization of overstocking and understocking as weak signals in a feedback cycle. These quantum shifts exemplify the ability of AI to enhance supply chain accuracy resulting in direct support of agility as a strategic variable (Lee et al., 2015). Another meaningful use case is predictive maintenance. In one manufacturing case study organizations that implemented AI into their maintenance scheduling report equipment downtime decreased by 30% to 50% (Alam et al., 2024). This is possible because AI can process enormous amounts of sensor and historic maintenance data to anticipate failures before they occur. Successful implementation changed efforts from reactive to proactive maintenance plans which decreased operational suppression and saved organizations millions in repair costs (Rahman et al., 2025). The efficiency and cost savings achieved through predictive maintenance show how AI adds value to machinery by extending organization life and decreasing the frequency of unscheduled repairs. Operational optimization achieved by AI is further supported by quantitative statistics found in the AI Driven Operational Efficiency Improvements illustrations. For example, the use of AI tools in Customer Onboarding reduced time by 36% due to automated identity verification and form processing which in turn speeds up activation for new users, provides a better first impression, and saves administration costs per transaction customs. Insurance and banking account for another area where AI systems severely reduced Claims Processing time by 70% which significantly speeds up document review by AI systems to validate claim information within their associated claims database(s) and recognize fraudulent patterns in both individual claims and provider patterns. In addition to saving time, claims payout is quicker which results in an increase in trust towards the customer experience provided (Machireddy, 2022). Another facet of cost efficiency that AI has provably impacted is customer service costs. Businesses utilizing AI-enabled virtual assistants and chatbots experienced a 55% decrease in customer services costs because the virtual systems would field basic inquiries, automate responses, and be available 24/7; that reduced the demand for human agents and freed human resources for more convoluted or high-value tasks. Jointly, these changes provided better speed, service delivery quality, and improved sustainability (Singh, 2024).

Despite the advancements, organizations faced ongoing challenges in implementation, as evidenced in the AI Challenges table. The challenge that surfaced most frequently in the data obtained, was

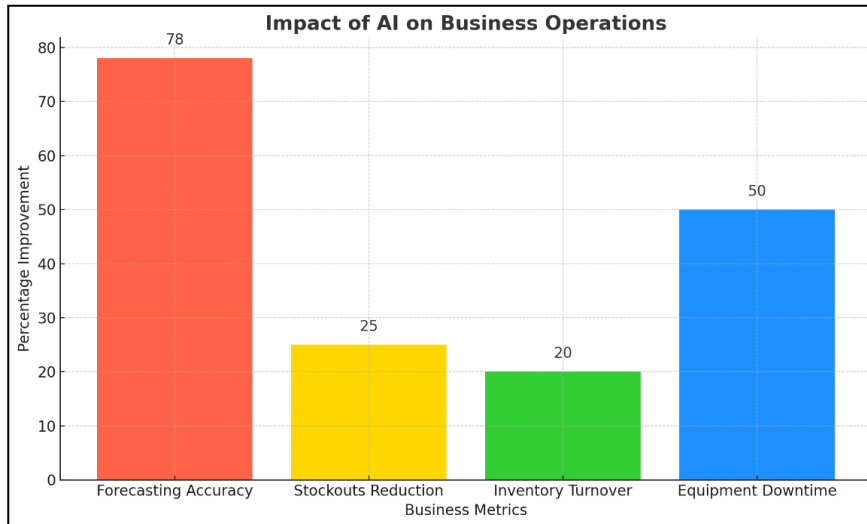


Figure 1. Percentage Improvements in Key Business Metrics Due to AI Implementation.

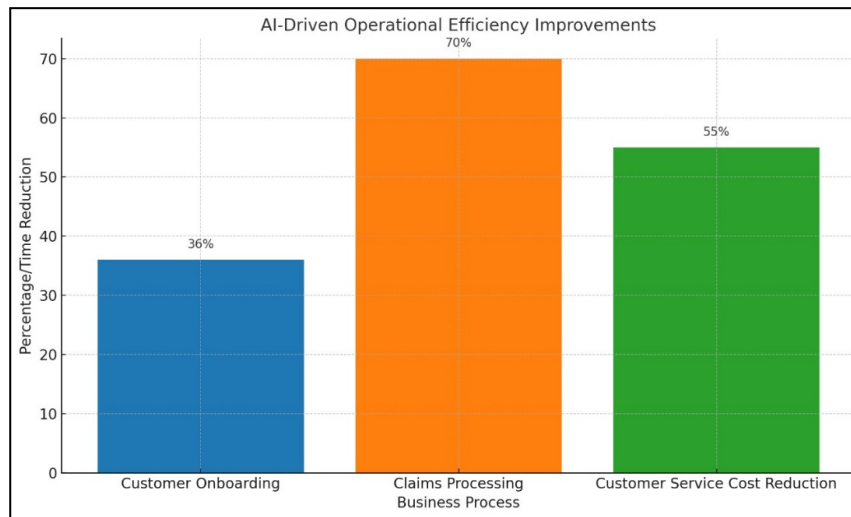


Figure 2. AI-Driven Operational Efficiency Improvements.

Table 1. Applications of AI and Their Impacts on Business Efficiency in Bangladesh.

AI Application	Key Benefit	Impact in Bangladesh
Predictive Analytics	Better demand forecasting	25% less inventory waste in textiles
AI Chatbots	24/7 customer service	65% queries resolved automatically
Process Automation	Faster operations	30% faster order processing
Predictive Maintenance	Fewer breakdowns	50% less factory downtime
AI Recruitment	Better hiring	35% faster hiring cycles

Table 2. Barriers to AI Adoption in Business: Root Causes and Strategic Solutions.

Barrier	Root Causes	Solutions
Skill Gap (60%)	Limited AI education, brain drain	Gov-funded training, industry-academia partnerships
Legacy Systems (47%)	Outdated tech, high migration costs	Phased AI integration, cloud-based solutions
Privacy Concerns (72%)	Weak data laws, public distrust	Strengthen regulations, transparent AI audits
High Costs (41%)	Expensive infrastructure, unclear ROI	SME subsidies, shared AI resources
Resistance (33%)	Job fears, leadership hesitation	Change management, pilot success stories

the skills shortage, which affected 60% of respondents. In a few cases staff shortages resulted from the lack of trained staff or the race for talented staff to migrate to other more developed economies. Bridging the skills shortage would require a coordinated and structured training with opportunities supported or sanctioned by government, along with more direct and stronger connections between the industry and academia, to provide a high level of AI talent into organizations (Gurick, 2024).

Integration with legacy systems is another significant challenge, cited by 47% of firms. Outdated infrastructure and incompatible databases make direct AI adoption technically complex and financially burdensome. The solution lies in phased integration strategies and increased reliance on cloud-native AI platforms, which reduce initial capital expenditure and enable scalable deployments (Rahman et al., 2024). Privacy and ethical concerns are also rising, with 72% of companies acknowledging these as critical issues. Weak regulatory frameworks, especially in developing regions, along with rising public apprehension about AI surveillance and data misuse, hinder broader adoption. Strengthening data protection laws, conducting transparent AI audits, and maintaining accountability in automated decisions are necessary for long-term AI sustainability (Musyoka, 2024). Additionally, high implementation costs (41%) and uncertain ROI (36%) contribute to hesitation, particularly among small and medium enterprises (SMEs). While large corporations can absorb initial AI investment, SMEs often require subsidized models or access to shared AI infrastructure to compete effectively (Bragger et al., 1998). Finally, organizational resistance (33%)—driven by fear of job loss and lack of leadership conviction—also impedes adoption. Effective change management, internal workshops, and pilot project success stories can mitigate these concerns by showcasing real-world benefits and encouraging inclusive digital transformation (Harris, 2022). The numerical evidence strongly supports AI's pivotal role in enhancing strategic business performance. From forecast accuracy (\uparrow 78%) and reduced stock outs (\downarrow 25%), to cutting customer service costs (\downarrow 55%) and claims processing time (\downarrow 70%), AI delivers tangible, quantifiable outcomes. Nonetheless, successful implementation demands a multidimensional approach addressing human capital, technical infrastructure, financial feasibility, and regulatory compliance. Organizations that proactively navigate these barriers will be best positioned to harness AI as a long-term strategic asset (Malik, 2023).

6. Conclusion

Integrating artificial intelligence to execute strategic business decision-making has demonstrated increased benefits in forecasting accuracy, customer engagement, operational efficiencies, and financial performance. Several sectors in

Bangladesh are beginning to experience these benefits; however, the sector will need to overcome some challenges to scale adoption, including skill gaps, legacy systems, and privacy issues. Overcoming these barriers through policy reform, education, and innovation is vital for developing the full potential of AI. As businesses continue to integrate and adopt new technologies, AI will be an important part of the process as they establish their competitive advantage and long-lasting sustainability over time.

Author contributions

M.S.A. conceptualized the study and developed the methodology. K.T. and R.H. prepared the original draft and contributed to the review and editing of the manuscript. M.Z.K. and K.T. performed data analysis and also participated in the review and revision of the writing.

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Competing financial interests

The authors have no conflict of interest.

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