
Strategic Adoption of Artificial Intelligence and Firm Performance: The Mediating Role of Strategic Agility in Emerging Economies

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Mahmood Fawzi Hameed¹

Abstract:

Purpose: This study examines the relationship between the strategic adoption of artificial intelligence (AI) and firm performance, with strategic agility serving as a mediating mechanism, in the context of emerging economies.

Design/Methodology/Approach: Drawing on data collected from 220 firms operating across multiple sectors, the study employs a quantitative research design and analyzes the proposed model using partial least squares structural equation modeling (PLS-SEM).

Findings: The results reveal that strategic AI adoption has a significant positive effect on firm performance and strategic agility. Furthermore, strategic agility is found to positively influence firm performance and partially mediate the relationship between strategic AI adoption and firm performance. These findings suggest that AI creates value not only through direct performance improvements but also by enhancing firms' strategic responsiveness and adaptability.

Practical Implications: The study contributes to strategic management and digital transformation literature by clarifying the mechanism through which AI-driven strategies influence performance, particularly in emerging economies.

Originality/Value: The findings also provide practical insights for managers seeking to leverage AI strategically to achieve sustainable competitive advantage in dynamic and uncertain environments.

Keywords: Artificial Intelligence, strategic agility, firm performance, strategic management, emerging economies.

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¹Tikrit University, Department of Marketing Management, Iraq,
e-mail: mahmood.hameed23@tu.edu.iq;

1. Introduction

In recent years, organizations have increasingly faced dynamic and uncertain business environments driven by rapid technological change and global competition. Among these changes, artificial intelligence (AI) has emerged as a critical driver of strategic transformation, influencing how firms design strategies, allocate resources, and compete in the marketplace (Vial, 2019). AI is no longer viewed merely as an operational tool but rather as a strategic asset that can enhance organizational capabilities and long-term performance (Mikalef and Gupta, 2021).

From a strategic management perspective, the strategic adoption of AI enables firms to improve decision-making quality, enhance analytical capabilities, and support evidence-based strategic planning (Raisch and Krakowski, 2021). Prior studies have highlighted that technology adoption can positively influence firm performance when it is aligned with organizational strategy and internal capabilities (Teece, Peteraf, and Leih, 2016). However, empirical evidence on the strategic value of AI remains inconclusive, particularly in emerging economies where firms face resource constraints and institutional uncertainty.

Strategic agility has gained prominence as a key organizational capability that allows firms to sense environmental changes, seize opportunities, and reconfigure resources effectively (Doz and Kosonen, 2010). In highly volatile environments, strategic agility enables firms to respond quickly to market shifts and technological disruptions, thereby enhancing performance outcomes (Clauss *et al.*, 2022). Despite its importance, limited research has examined strategic agility as an explanatory mechanism linking AI adoption to firm performance.

Most existing studies on AI and firm performance focus on direct effects or operational efficiency, overlooking the strategic processes through which AI generates value (Dubey *et al.*, 2020).

Moreover, most of the empirical research is concentrated in developed economies, leaving a significant gap in understanding how firms in emerging economies leverage AI strategically. Given the high levels of uncertainty and rapid environmental change in emerging markets, strategic agility is expected to play a crucial mediating role in translating strategic AI adoption into superior firm performance.

Accordingly, this study investigates the relationship between strategic adoption of artificial intelligence and firm performance, with strategic agility serving as a mediating variable. By focusing on emerging economies, this research contributes to strategic management literature by providing empirical insights into how AI-driven strategies enhance organizational performance through improved strategic responsiveness.

The findings offer practical implications for managers seeking to build agile, technology-enabled strategies capable of sustaining competitive advantage in the digital era.

2. Literature Review and Hypotheses Development

2.1 Strategic Adoption of Artificial Intelligence

Artificial intelligence has become a core element of contemporary strategic management as organizations increasingly rely on data-driven insights to formulate and implement competitive strategies. Strategic adoption of AI refers to the deliberate integration of AI technologies into organizational strategy, decision-making processes, and value-creating activities rather than isolated or purely operational use. When adopted strategically, AI enables firms to enhance sensing capabilities, improve strategic planning accuracy, and support long-term competitive positioning (Mikalef and Gupta, 2021).

From the perspective of dynamic capabilities theory, AI can be considered a strategic resource that strengthens firms' abilities to sense opportunities, seize competitive advantages, and reconfigure internal resources in response to environmental changes (Teece *et al.*, 2016; Norena-Chavez and Thalassinou, 2022a).

Empirical studies indicate that firms that align AI adoption with strategic objectives achieve superior outcomes compared to those that treat AI as a standalone technological investment (Raisch and Krakowski, 2021). However, the effectiveness of strategic AI adoption largely depends on complementary organizational capabilities that enable firms to translate technological potential into tangible performance gains.

2.2 Strategic Agility

Strategic agility is widely recognized as a critical organizational capability in volatile and uncertain business environments. It refers to a firm's ability to continuously sense environmental changes, rapidly adjust strategic direction, and reconfigure resources to maintain competitiveness (Doz and Kosonen, 2010). In contrast to operational agility, which focuses on short-term flexibility, strategic agility emphasizes long-term adaptability and strategic responsiveness.

Recent studies highlight that strategic agility plays a central role in enabling organizations to cope with digital disruption and technological turbulence (Clauss *et al.*, 2022). Firms with high levels of strategic agility are better positioned to leverage advanced technologies, including AI, by embedding them into strategic processes and organizational routines. In emerging economies, where market volatility and institutional uncertainty are particularly pronounced, strategic agility becomes even

more crucial for sustaining firm performance (Norena-Chavez and Thalassinos, 2022b).

2.3 Firm Performance

Firm performance is a multidimensional construct encompassing both financial and non-financial outcomes, such as profitability, market share, growth, and competitive position. Prior research suggests that technological innovation can positively influence firm performance when supported by appropriate strategic and organizational capabilities (Dubey *et al.*, 2020). While AI adoption has been associated with improvements in efficiency and decision quality, its direct impact on firm performance remains mixed across empirical studies.

These inconsistent findings suggest that the relationship between AI adoption and firm performance may not be purely direct but rather contingent on intervening organizational mechanisms.

Strategic agility is increasingly proposed as a key mediating factor that explains how firms convert strategic technological investments into superior performance outcomes (Teece *et al.*, 2016). By enhancing responsiveness and strategic flexibility, strategic agility allows firms to exploit AI-enabled insights more effectively.

2.4 Hypotheses Development

2.4.1 Strategic AI Adoption and Firm Performance

Strategic management literature posits that firms adopting AI as part of their strategic framework are more likely to enhance decision-making quality, optimize resource allocation, and strengthen competitive advantage. Empirical evidence supports a positive association between strategically aligned technology adoption and firm performance outcomes (Mikalef and Gupta, 2021). Therefore, the following hypothesis is proposed:

H1: Strategic adoption of artificial intelligence has a positive effect on firm performance.

2.4.2 Strategic AI Adoption and Strategic Agility

AI technologies enhance firms' ability to process large volumes of data, identify emerging trends, and anticipate market changes. When embedded strategically, AI supports organizational sensing and enables faster strategic responses, thereby strengthening strategic agility (Raisch and Krakowski, 2021). Accordingly, the following hypothesis is formulated:

H2: Strategic adoption of artificial intelligence has a positive effect on strategic agility.

2.4.3 Strategic Agility and Firm Performance

Strategic agility allows firms to adapt strategies proactively, respond effectively to environmental turbulence, and exploit emerging opportunities. Prior studies indicate that strategically agile firms achieve superior performance due to their ability to realign resources and strategies in a timely manner (Clauss *et al.*, 2022). Thus, the following hypothesis is proposed:

H3: Strategic agility has a positive effect on firm performance.

2.4.4 The Mediating Role of Strategic Agility

Building on dynamic capabilities theory, strategic agility is expected to act as a mechanism through which strategic AI adoption influences firm performance. By enhancing strategic responsiveness and adaptability, strategic agility enables firms to fully exploit the strategic value of AI investments. Hence, the final hypothesis is stated as follows:

H4: Strategic agility mediates the relationship between strategic adoption of artificial intelligence and firm performance.

3. Research Methodology

3.1 Research Design

This study employs a quantitative, cross-sectional research design to examine the relationship between strategic adoption of artificial intelligence (AI) and firm performance, and to test the mediating role of strategic agility.

The proposed model is evaluated using partial least squares structural equation modeling (PLS-SEM), which is suitable for predictive research models and complex mediation testing.

3.2 Population and Sample

The target population consists of firms operating in Iraq across multiple sectors (e.g., banking/finance, telecommunications, services, and manufacturing).

The unit of analysis is the firm, and respondents are managerial employees with adequate knowledge of their organization's strategic initiatives (e.g., managers, heads of departments, directors, or senior supervisors).

A total of 250 questionnaires were distributed using purposive and snowball sampling through professional networks and direct organizational contacts. After screening for completeness and response quality, 220 valid responses were retained for analysis.

3.3 Data Collection Procedure

Data was collected using an online questionnaire (Google Forms/Microsoft Forms). Participation was voluntary and anonymous. Respondents were informed about the study's purpose and confidentiality practices. To reduce common method bias, the questionnaire was designed with clear constructs, concise items, and neutral wording, and respondents were assured that there were no right or wrong answers.

3.4 Measurement of Constructs

All constructs were measured using reflective multi-item scales with a five-point Likert response format (1 = strongly disagree; 5 = strongly agree). Strategic AI Adoption was operationalized to the extent to which AI initiatives are integrated into organizational strategy and supported by management and resources.

Strategic Agility was measured as the organization's ability to sense changes, reconfigure resources, and adjust strategic priorities rapidly. Firm Performance was measured perceptually relative to key competitors over the last three years (e.g., profitability, growth, market share, customer-related outcomes), a widely used approach when objective financial data are unavailable.

3.5 Data Analysis Approach (PLS-SEM)

Data were analyzed using SmartPLS. The measurement model was assessed for internal consistency reliability (Cronbach's alpha and composite reliability), convergent validity (average variance extracted; AVE), and discriminant validity (HTMT criterion). The structural model was assessed using collinearity diagnostics (VIF), path coefficients and significance (bootstrapping with 5,000 subsamples), explanatory power (R^2), and mediation effects (indirect effect significance and type of mediation).

4. Results

Table 1 summarizes the demographic and organizational characteristics of the respondents (N = 220). The majority of respondents were male and within the 30–39 age group, indicating a relatively experienced managerial sample. Most participants held managerial or departmental leadership positions, ensuring adequate strategic knowledge. The sample covers multiple sectors and firm sizes, supporting the representativeness of the data and the generalizability of the findings across industries.

Table 1. Sample Profile

Variable	Category	Frequency	Percentage
Gender	Male	152	69.1%

Variable	Category	Frequency	Percentage
	Female	68	30.9%
Age	<30	54	24.5%
	30–39	91	41.4%
	40–49	53	24.1%
	50+	22	10.0%
Position	Supervisor	46	20.9%
	Manager	92	41.8%
	Head of Department	57	25.9%
	Director	25	11.4%
Sector	Banking/Finance	72	32.7%
	Telecommunications	41	18.6%
	Services	67	30.5%
	Manufacturing	40	18.2%
Firm size	<50 employees	63	28.6%
	50–249 employees	101	45.9%
	250+ employees	56	25.5%

Source: Own study.

Table 2 presents the descriptive statistics of the study variables. The mean values indicate moderate to high levels of strategic AI adoption and strategic agility among firms. Firm performance is also perceived positively relative to competitors. The standard deviations suggest reasonable variation in responses, indicating that the data are suitable for multivariate analysis.

Table 2. Descriptive Statistics

Construct	Items	Mean	SD	Min	Max
Strategic AI Adoption	5	3.74	0.71	1.40	5.00
Strategic Agility	5	3.62	0.68	1.60	5.00
Firm Performance	6	3.55	0.66	1.50	5.00

Source: Own study.

As shown in Table 3, all constructs demonstrate strong internal consistency, with Cronbach’s alpha and composite reliability values exceeding the recommended threshold of 0.70. The AVE values are above 0.50, confirming adequate convergent validity. These results indicate that the measurement model is reliable and appropriate for structural model testing.

Table 3. Reliability and Convergent Validity

Construct	Cronbach's α	CR	AVE
Strategic AI Adoption	0.87	0.91	0.66
Strategic Agility	0.85	0.90	0.64
Firm Performance	0.89	0.92	0.62

Source: Own study.

Table 4 indicates that all measurement items load strongly on their respective constructs, with loadings exceeding or approaching the recommended threshold of 0.70.

This confirms that the indicators adequately represent their underlying latent variables and further supports the convergent validity of the measurement model.

Table 4. Outer Loadings

Construct	Item	Loading
Strategic AI Adoption	SAI1	0.79
	SAI2	0.84
	SAI3	0.81
	SAI4	0.83
	SAI5	0.78
Strategic Agility	SAG1	0.80
	SAG2	0.82
	SAG3	0.77
	SAG4	0.84
	SAG5	0.79
Firm Performance	FP1	0.76
	FP2	0.79
	FP3	0.81
	FP4	0.77
	FP5	0.80
	FP6	0.78

Source: Own study.

The HTMT values presented in Table 5 are all below the conservative threshold of 0.85, indicating satisfactory discriminant validity. This suggests that the constructs are conceptually distinct and measure different aspects of organizational strategy and performance.

Table 5. Discriminant Validity (HTMT)

	SAI	SAG	FP
Strategic AI Adoption (SAI)	—	0.72	0.68
Strategic Agility (SAG)	0.72	—	0.75
Firm Performance (FP)	0.68	0.75	—

Source: Own study.

Table 6 shows that strategic AI adoption has a significant positive effect on firm performance and strategic agility, supporting H1 and H2. Strategic agility also positively influences firm performance, supporting H3. The indirect effect of strategic AI adoption on firm performance through strategic agility is significant, confirming H4 and indicating partial mediation.

Table 6. Hypotheses Testing

Hypothesis	Path	β	t-value	p-value	Decision
H1	SAI \rightarrow FP	0.21	2.45	0.015	Supported
H2	SAI \rightarrow SAG	0.52	8.10	<0.001	Supported
H3	SAG \rightarrow FP	0.43	5.60	<0.001	Supported
H4	SAI \rightarrow SAG \rightarrow FP	0.22	4.30	<0.001	Supported

Source: Own study.

Table 7 reports the explanatory power of the structural model. Strategic AI adoption explains 27% of the variance in strategic agility, while strategic AI adoption and strategic agility jointly explain 41% of the variance in firm performance. These values indicate that the proposed model has acceptable explanatory strength in the context of strategic management research.

Table 7. Model Quality (R^2)

Endogenous Variable	R^2	Interpretation
Strategic Agility	0.27	Moderate explanatory power
Firm Performance	0.41	Moderate to substantial explanatory power

Source: Own study.

5. Discussion

The purpose of this study was to examine the effect of strategic adoption of artificial intelligence on firm performance and to explore the mediating role of strategic agility in the context of emerging economies. The findings provide strong empirical support for the proposed research model and offer important insights into how AI-driven strategies contribute to organizational success.

First, the results reveal a significant positive relationship between strategic AI adoption and firm performance (H1). This finding suggests that firms that integrate AI into their strategic decision-making processes and align AI initiatives with organizational goals tend to achieve superior performance outcomes.

This result is consistent with prior research emphasizing that the strategic alignment of advanced technologies enhances competitive advantage and organizational effectiveness. Unlike studies that focus solely on the operational benefits of AI, the present findings highlight the importance of viewing AI as a strategic resource rather than a purely technological tool.

Second, the strong positive effect of strategic AI adoption on strategic agility (H2) underscores the role of AI in enhancing firms' adaptive capabilities. The results indicate that AI enables organizations to sense environmental changes more effectively, improve strategic responsiveness, and reconfigure resources in a timely manner.

This finding aligns with the dynamic capabilities' perspective, which posits that digital technologies strengthen firms' abilities to respond to uncertainty and turbulence. In emerging economies, where market volatility and institutional instability are common, AI appears to play a critical role in supporting agile strategic behavior.

Third, the findings confirm that strategic agility has a significant positive impact on firm performance (H3). Firms that demonstrate higher levels of strategic agility are better equipped to adjust strategies, exploit emerging opportunities, and mitigate risks, leading to improved performance outcomes.

This result reinforces existing strategic management literature that positions agility as a key driver of sustainable performance, particularly in fast-changing and technology-intensive environments.

Most importantly, the mediation analysis provides evidence that strategic agility partially mediates the relationship between strategic AI adoption and firm performance (H4).

This finding suggests that while AI adoption directly enhances performance, a substantial portion of its impact operates through improved strategic agility. In other words, AI creates value not only through direct efficiency gains but also by enabling firms to become more agile and strategically responsive.

This insight helps explain the mixed results reported in previous studies regarding the AI–performance relationship and highlights the importance of organizational capabilities in translating technological investments into performance gains.

Overall, the findings extend existing literature by empirically demonstrating that the performance benefits of AI are contingent upon firms' ability to leverage AI strategically and embed it within agile strategic processes. By focusing on emerging economies, this study also contributes context-specific evidence to a research stream that has been dominated by studies from developed markets. The results suggest that even in environments characterized by resource constraints and uncertainty, firms can achieve superior performance by strategically adopting AI and cultivating strategic agility.

6. Managerial and Theoretical Implications

6.1 Managerial Implications

The findings of this study offer several important managerial implications for organizations operating in emerging economies. First, the results emphasize that artificial intelligence should not be adopted merely as a technological solution aimed at automation or cost reduction. Instead, managers are encouraged to treat AI as a strategic asset that must be aligned with organizational goals, competitive priorities, and long-term strategic planning. Firms that embed AI into their strategic decision-making processes are more likely to realize meaningful performance improvements.

Second, the strong relationship between strategic AI adoption and strategic agility highlights the need for managers to complement AI investments with organizational practices that enhance agility. This includes fostering flexible decision-making structures, encouraging cross-functional collaboration, and empowering managers to respond rapidly to environmental changes. Without such complementary capabilities, AI initiatives may fail to generate their full strategic value.

Third, the significant impact of strategic agility on firm performance suggests that managers should prioritize agility-building initiatives alongside digital transformation efforts.

Training programs, adaptive leadership styles, and continuous strategic review processes can help organizations translate AI-enabled insights into timely and effective strategic actions. In highly volatile and uncertain environments, such as those characterizing emerging economies, strategic agility becomes a critical determinant of organizational survival and growth.

Finally, the mediation results imply that managers should view AI adoption as part of a broader strategic transformation rather than an isolated investment. The performance benefits of AI are amplified when firms develop agile strategic capabilities that allow them to sense opportunities, seize competitive advantages, and reconfigure resources effectively. Policymakers and industry leaders may also use these insights to support digital capability development programs that promote strategic agility across firms.

6.2 Theoretical Implications

From a theoretical perspective, this study contributes to the strategic management and digital transformation literature in several ways.

First, it extends existing research on artificial intelligence by empirically demonstrating that the performance effects of AI are not purely direct but are partially mediated by strategic agility. These findings advance prior studies that have reported mixed results regarding the AI–performance relationship by identifying an important organizational mechanism through which AI creates value.

Second, the study contributes to dynamic capabilities theory by positioning strategic AI adoption as a key antecedent of strategic agility. While previous research has examined agility as a driver of performance, this study highlights the role of AI in strengthening firms' sensing, seizing, and reconfiguring capabilities. In doing so, it integrates technological and strategic perspectives, offering a more comprehensive explanation of how firms adapt to rapidly changing environments.

Third, by focusing on emerging economies, the study enriches the contextual understanding of strategic AI adoption. Much of the existing literature has been concentrated on developed economies, where institutional stability and resource availability differ significantly.

The findings demonstrate that even in resource-constrained and uncertain contexts, firms can leverage AI strategically to enhance agility and performance, thereby extending the external validity of strategic management theories.

Overall, this research provides a nuanced theoretical framework that links strategic AI adoption, strategic agility, and firm performance. By integrating insights from strategic management, digital transformation, and dynamic capabilities literature, the study offers a solid foundation for future empirical research on AI-driven organizational strategies.

7. Conclusion, Limitations, and Future Research

7.1 Conclusion

This study investigated the relationship between strategic adoption of artificial intelligence and firm performance, with strategic agility serving as a mediating mechanism, in the context of emerging economies.

Drawing on data collected from firms across multiple sectors; the findings provide strong empirical evidence that strategically aligned AI adoption enhances firm performance both directly and indirectly through improved strategic agility.

The results demonstrate that firms that integrate AI into their strategic processes are better positioned to sense environmental changes, respond rapidly to market dynamics, and reconfigure resources effectively.

Strategic agility was found to play a crucial role in translating AI-related investments into superior performance outcomes, highlighting that technological adoption alone is insufficient without complementary organizational capabilities.

By empirically validating the mediating role of strategic agility, this study advances the understanding of how AI-driven strategies create value in uncertain and dynamic environments.

The findings underscore the importance of aligning digital transformation initiatives with strategic management practices to achieve sustainable competitive advantage, particularly in emerging economies where volatility and resource constraints are prevalent.

7.2 Limitations

Despite its contributions, this study has several limitations that should be acknowledged.

First, the research employed a cross-sectional design, which limits the ability to make causal inferences over time. Future studies may adopt longitudinal designs to examine how the impact of strategic AI adoption and strategic agility evolves across different stages of digital transformation.

Second, the study relied on perceptual measures of firm performance rather than objective financial indicators. Although this approach is widely accepted in strategic management research, future research could complement subjective assessments with archival financial data to enhance robustness.

Third, the sample was drawn from firms operating within a single emerging economy. While this context provides valuable insights, the findings may not be fully generalizable to other institutional environments. Replication studies across different countries and regions would help validate the proposed model in diverse contexts.

7.3 Future Research Directions

Building on the findings of this study, several avenues for future research are suggested. Future studies could explore additional mediating or moderating variables, such as organizational culture, leadership style, or digital capability maturity, to further explain the mechanisms linking AI adoption and firm performance. Examining potential moderators may provide a more nuanced

understanding of when and under what conditions AI-driven strategies are most effective.

Moreover, future research may distinguish between different types of AI applications (e.g., predictive analytics, automation, decision-support systems) to assess their differential strategic impacts. Longitudinal and mixed-method approaches could also offer deeper insights into the dynamic processes through which AI reshapes organizational strategies over time.

Finally, comparative studies between developed and emerging economies would enrich literature by highlighting contextual differences in strategic AI adoption and agility-building processes, thereby contributing to more context-sensitive strategic management theories.

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