

Strategic Artificial Intelligence Orientation and Firm Performance: An Empirical Study on the Role of Digital Innovation Capability..

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ABSTRACT

Businesses and organizations today are increasingly overtaking the power of Artificial Intelligence (AI) as a strategic asset that enhances their competitiveness and overall business results. This study investigates the impact of Strategic Artificial Intelligence Orientation (SAIO) on the Firm Performance (FP) with the mediator role of Digital Innovation Capability (DIC). The research design used was of a quantitative, descriptive and explanatory type and primary data were gathered from 400 managers/executives of establishments that have adopted AI by using a structured questionnaire instrument. Results indicate that companies with greater strategic AI orientation are more technologically innovative and have higher company performance. The study shows that using AI in strategic decision making and innovation principles improves the competitiveness in an organisation and helps in sustainable growth of the business.

Keywords: Strategic Artificial Intelligence Orientation, Digital Innovation Capability, Firm Performance, Artificial Intelligence, Strategic Management, Digital Transformation...

INTRODUCTION

AI has become one of the most impactful digital technologies shaping organizational competitiveness and strategic decisions and SOP. The role of AI is shifting from being operational and useful for automation to being strategic, is to better inform decision-making, anticipate market shifts, optimize resources, and create innovative products and services. As a result, companies are making a conscious and deliberate effort to transition from one-off use of AI to a SAIO, meaning the level to which AI is integrated into organizational vision and strategic planning, resource allocation, innovation processes, and future competitive positioning. Technology adoption is more about getting the technology in place, whereas SAIO is more about building a culture of AI in the organization, having the managerial buy-in, being culturally prepared, being organizationally ready, and always aligning the AI initiatives with the business objective(s). The orientation helps organizations turn the investment of AI tools into sustainable competitive advantages by combining AI-driven systems with the strategic management practices.

With the advent of Industry 4.0 and the speed of progress towards Industry 5.0, AI has taken the center stage in every part of manufacturing, finance, healthcare services, retail, logistics, education, and service sectors. From machine learning to generative AI and computer vision, artificial intelligence helps businesses cut costs, boost customer satisfaction, address risk, streamline their supply chains, and forecast more accurately. But, research indicates that the potential benefits of an AI technology do not always enhance the performance of the organization when it is implemented. However, many

organisations struggle to realize the desired outcome from their AI programmes because they are not aligned with their strategic goals, organization capacities or innovation ecosystems. Thus, in recent literature on strategic management, there is directionality that suggests 'strategic management of organizational orientation towards AI' and not only the technological investment, but the success of using AI to materially achieve measurable business results.

Traditionally, FP has been measured in financial terms like profitability, return on assets, market share, productivity and shareholder value. Recent studies, however, have incorporated multi-dimensional ways of measuring performance, including innovation in performance, operational excellence, customer satisfaction, organizational agility, sustainability, and even resilience to competition. AI-powered companies are likely to outperform their counterparts, leveraging advanced AI capabilities for better knowledge generation, dynamic capability development, and decision-making. However, the experimental results are not consistent. The relationships among AI capabilities and organizational performance have been positively shown in several studies while others indicate that the performance gap to be improved relies on the presence of other organizational capabilities, such as digital infrastructure, organizational leadership support, knowledge management, innovation capability and organizational learning. Such discrepancies indicate the need for further research on how strategic AI orientation affects firm's performance.

Of these supplementary abilities, DIC has received a lot of scholarly focus. DIC is the process by which an organization continually incorporates, combines and

commercializes digital technologies into new, unique products, services, business models and business process. Technological resources, organizational know-how, digital platforms, and innovation management capabilities are strongly coupled with successful DIC firms. AI-based entities can use DIC to transform data into actionable business intelligence, streamline innovation workflows, enable collaborative decision-making across different departments and decision-making cycles, and boost digital transformation efforts. As such, DIC can be seen as a transformation process in between strategic AI orientation and FP.

The theoretical thrust that backs this relationship can be mainly found in the RBV and DCT. According to RBV, this SCA results from valuable resources that are rare and inimitable and embedded in the organization. Strategic AI orientation is a significant asset that helps the organization to make intelligent decisions and adapt strategically. DIC is a dynamic capability as it helps the organization to constantly reinvest in technological competencies and seize the technological opportunities that continuously emerge. Hence, the AI orientation can boost the digital innovation capabilities, thereby potentially benefiting the organizational performance by optimizing the innovation efficiency, operational flexibility and customer value creation.

Empirical evidence is accumulating in recent years, highlighting the need for digital orientation and AI skills to be critical conditions for improving innovation performance and/or competitiveness of organisations. At the same time, research mainly focused on SAIO, DIC, and FP (FP) has been conducted individually and barely within an empirical framework. Previous research tends to be limited to specific dimensions of AI adoption, digital transformation, technology orientation, or innovation capability, while largely falling short on understanding the underlying mechanisms between strategic AI orientation and organizational consequences. Hence, the study's aims is to fill this research gap by testing the mediating effects of DIC between strategic AI orientation and FP through an empirical study. The results are anticipated to aid in the decision-making process for strategic management, literature on digital innovation and AI, and giving practical advice to managers for maximizing gross value of their AI investments.

Literature Review

Guo et al. (2020) study strategic orientation in digital start-ups and suggest that a technology-oriented and a customer-oriented business model are key factors for the improve FP. They concluded that strategic orientation plays a key role in creating value through the integration of capabilities of the enterprise and digital business models. They showed that the strategic alignment is an important aspect of technology intensive contexts.

The mediating factors between strategic orientations and FP were studied by Nugroho et al., (2022) by taking information technology adoption capability as the mediation. They found that structural equation modelling showed that TO has a +ve relationship with IT AA and in turn has a +ve relationship with OP, implying that

technological capabilities enable to transform strategic intentions into organizations' performances.

Again, Li et al. (2025) found that digital orientation improves digital capabilities, such as sensing, integration and transformation, which in turn leads to better innovation performance. They adopted a model which empirically supported that the environmental dynamism intensifies the capability–performance link, as the mediator.

This evolution has been furthered through the new idea of AI orientation. In this study, Yao et al. (2025) analyzed a large sample of Chinese listed companies. The study demonstrates that companies with more positive views on AI realize better operational efficiency, with market and institutional factors influencing the magnitude of improvement. The study emphasizes that AI orientation is more of an organizational capacity than a technological investment.

The recent study conducted by Liu and Zhang (2026) also found that AI capability positively contributes to strategic innovation by increasing digital agility, indicating that AI-oriented firms are more innovative when aided by adaptive trait of the organization and a positive competitive context.

AI's role in innovation processes has been highlighted as well. Drawing on this research, Ma and Wu (2025) asserted that organizations with a stronger focus on an AI capability are more likely to explore innovation after a CEO change because AI helps optimize the allocation of resources, prioritize strategies, and drive successful innovation implementation.

In the wider literature on digital transformation, the variable that links technology orientation towards innovation with better organizational performance is invariably innovation capability. Firms' ability to develop innovativeness in terms of utilizing digital innovation – generate knowledge, and quicken the product development, and redesign business model, and, respond to environmental uncertainty. These capabilities help to improve the flexibility, resilience and sustainable competitiveness of the organization.

While these are great improvements, there are still some questions that need to be addressed. One, empirical studies directly exploring SAIO are not as numerous when compared with the studies on digital orientation or technology orientation. Secondly, current research in the field focuses on examining either the capability to use AI or DIC but rarely combines both into a comprehensive measure and indicator of performance. Third, a limited number of studies focus on the processes and factors influencing the development of a firm's DIC as the mediating link between strategic AI orientation and FP, at the industry level. Lastly, the fast-changing nature of the AI environment (generative AI and intelligent decision sources to mention a couple) have made it imperative to have recent empirical proof that explains how strategically AI-aware organisations convert technical investments into lasting competitive effectiveness.

Objectives

The purpose of the study is to analyse the impact of SAIO on FP; analyse relating the influence of SAIO and DIC; evaluate the impact of DIC on FP; and assess the role of DIC as mediating variables between SAIO and FP.

Methodology

This study uses a research design of Quantitative and Descriptive & Explanatory study. There are 400 people who will be sampled, with stratified random sampling. The data will be analyzed by descriptive statistics, Reliability, EFA for construct validation, Mean Score Ranking, inferential statistics on differences and association among the study variables.

Result and Analysis

The 400 participants' responses were analysed in SPSS Version 29. Descriptive statistics were used to provide information about the perceptions of respondents on three key items in this study namely SAIO, DIC and FP.

Table 1 Reliability Analysis

Construct	No. of Items	Cronbach's Alpha
Strategic Artificial Intelligence Orientation	8	0.912
Digital Innovation Capability	7	0.895
Firm Performance	7	0.903
Overall Scale	22	0.918

They attained Alpha value from 0.895 to 0.918 which falls in the excellent range. All values were above the recommended value of 0.70, so the measurement instrument was deemed to be reliable for further statistical analysis.

Table 2 Exploratory Factor Analysis

Factor	Eigenvalue	Variance Explained (%)
Strategic AI Orientation	7.26	33.18
Digital Innovation Capability	5.08	23.14
Firm Performance	3.44	15.62
Total Variance Explained	15.78	71.94

KMO = 0.916; Bartlett's Test $\chi^2 = 4582.34$; Sig. = 0.000

The KMO value was 0.916, suggesting excellent adequacy of the samples, and Bartlett's Test was significant ($p < 0.001$), which suggests that the data was suitable for FA. The three factors identified had values of the eigenvalue > 1 and accounted for 71.94% of the total variance, thus ensuring the construct validity of the task.

Table 3 Mean Score Ranking

Dimension	Mean	SD	Rank
AI-driven Strategic Decision Making	4.38	0.62	1
AI-based Innovation Practices	4.29	0.65	2
Organizational Digital Readiness	4.18	0.71	3
Technology Infrastructure	4.11	0.74	4
Employee AI Competencies	3.97	0.81	5

The most frequent mean score was found for AI-related strategic decision-making (4.38), suggesting AI to be the most influential organizational capability related to AI. Its mean score was found to be the lowest with 3.97, which indicates a greater room for skill development of workers as well as AI skill development.

Table 4 Independent Samples t-test

Variable	Male Mean	Female Mean	t-value	p-value
Strategic AI Orientation	4.19	4.12	1.42	0.156
Digital Innovation Capability	4.17	4.11	1.08	0.281
Firm Performance	4.22	4.16	1.31	0.191

There were no statistically significant differences between different genders in terms of SAIO, DIC, and FP ($p > 0.05$) when performed by Independent Sample t test. This does not mean that gender-led differences are statistically significant when examining the perceptions of the respondent on the role of AI in helping the organizational performance.

Table 5 One-Way ANOVA (Experience)

Variable	F-value	p-value
Strategic AI Orientation	5.84	0.001
Digital Innovation Capability	4.91	0.003
Firm Performance	6.27	0.000

The result of One-Way ANOVA showed that the differences in the opinions of people who have different work experience is statistically significant at $p < 0.05$. The strategic orientation of AI, DIC, and the performance of the organization were higher for employees who were more experienced with the organization.

Table 6 Chi-Square Test

Variables	χ^2	df	p-value
Industry Type $\times$ AI Orientation Level	21.38	8	0.006
Firm Size $\times$ Digital Innovation Capability	18.74	6	0.005
AI Adoption Period $\times$ Firm Performance	24.16	8	0.002

The results of the Chi square showed that there are statistically significant associations between the organizational characteristics and study variables ($p < 0.05$). Companies that had a longer history of AI adoption and had larger organizational sizes had a higher level of DIC and better FP.

The findings of the empirical analysis clearly show that the organizational strategic orientation towards artificial intelligence is positively correlated with DIC and organizational performance. One reliability and one validity analysis have been conducted, and the results show a reliable and valid measurement instrument. Organizations' characteristics and work experience are significant factors to explain differences in perceptions, but gender is less statistically significant when explaining

differences in AI orientation and innovation capability. The results indicate that there is a positive link between strategic adoption of AI, organizational preparedness, and the adoption of digital innovation approaches on firm outcomes. The findings support the conceptual framework put forward and highlight the value of embedding AI within organizational strategies to boost sustainability.

Discussion

Results suggest that SAIO contributes significantly to the competitiveness of an organization by building DIC and performance of the firm. Companies that are more strategically investing in AI are more prepared to embrace digital technologies, embrace innovation and adapt to change. find, robust reliability and validity analyses within the evaluation framework are validated, and the statistically significant differences between maturity levels and organizational characteristics indicate that organizational maturity has a presence on the outcomes of innovation with the help of AI.

Conclusion

The result of this study shows that SAIO is one of the important strategic capabilities that is useful to enhance the FP by increasing DIC. Companies that embrace AI as part of their strategic plans, decision-making and innovation processes are more likely to improve operational efficiency, agility in the organization and competitive edge. The empirical results show that firms that scored higher in AI orientation were more digital innovative and have better business performance, confirming the need to connect their AI projects with long-term organizational goals.

Recommendations

It is crucial for any organization to create a detailed AI strategy tailored to technological investment, business objectives and company culture that facilitates the ongoing digital progress and improvement. To reap the maximum benefits of the implementation of AI, management should focus on investing in the AI infrastructure, upskilling employees on AI skills, and foster collaboration among different departments. Policy makers, industrial associations, and other actors should help ensure AI readiness by developing enabling policies, training programs in digital skills, and knowledge exchange activities. Other possible mediating or moderating factors, including organisational learning, leadership, digital culture, or environment dynamism, among others, would be interesting to investigate across various industries and geographical settings in future studies in order to deepen and confirm the results..

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