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AI Strategic Integration and Sustainable Organizational Performance

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Abstract: Artificial intelligence (AI) has evolved from an operational technology into a strategic organizational capability supporting managerial decision-making and governance. However, limited empirical research explains how strategic AI integration contributes to sustainable organizational performance through managerial and governance capabilities. This study examines the relationships among AI Strategic Integration, Augmented Management Capability, Intelligent Governance Systems, and Sustainable Organizational Performance using the Dynamic Capabilities perspective. A quantitative survey was conducted with 200 managerial-level respondents from organizations across multiple industries. Data were analyzed using Partial Least Squares Structural Equation Modeling with 5,000 bootstrap resamples. The findings show that AI Strategic Integration positively influences Augmented Management Capability, which strengthens Intelligent Governance Systems and subsequently contributes to Sustainable Organizational Performance. AI Strategic Integration also has a significant direct effect on Sustainable Organizational Performance and a significant sequential indirect effect through both mediators. The study demonstrates that AI creates organizational value through interconnected managerial and governance capabilities.

Keyword: Artificial Intelligence, AI Strategic Integration, Augmented Management Capability, Intelligent Governance Systems, Sustainable Organizational Performance.

INTRODUCTION

Artificial intelligence (AI) has emerged as an increasingly important strategic capability in contemporary organizations, reshaping decision-making processes, managerial practices, and governance mechanisms beyond operational automation. Advances in machine learning, predictive analytics, and intelligent decision-support systems enable organizations to process large volumes of data and generate insights that can support managerial judgment and strategic planning (Brynjolfsson & McAfee, 2014; Davenport & Ronanki, 2018; Jarrahi, 2018). As AI technologies become increasingly embedded in organizational decision infrastructures, they influence resource allocation, performance evaluation, strategic planning, and competitive decision-making across industries (Mikalef et al., 2019; Wamba et al., 2017). Recent empirical research further demonstrates that AI capability can contribute to organizational performance

through improved decision-making processes, including decision-making speed and quality (Management Decision, 2024). At the same time, the increasing organizational reliance on AI has raised concerns regarding transparency, accountability, human oversight, and responsible governance (Floridi et al., 2018; Floridi et al., 2021).

Within the management and information systems literature, AI has traditionally been conceptualized as a technological capability that enhances analytical capacity, prediction, and decision support (Agrawal et al., 2018; Raisch & Krakowski, 2021). Existing studies indicate that AI capabilities can improve operational efficiency, analytical performance, and organizational outcomes. Recent evidence also suggests that AI-driven decision-making is positively associated with firm performance and that complementary organizational capabilities are important in translating AI capabilities into improved decision-making outcomes (Management Decision, 2024; Journal of Global Information Management, 2025). These findings indicate that the organizational value of AI is not determined solely by technological implementation but also by the organizational capabilities and managerial processes through which AI-generated intelligence is utilized.

Despite these developments, an important research gap remains concerning the mechanisms through which AI strategic integration contributes to sustainable organizational performance. First, existing empirical studies have frequently examined the direct relationship between AI capabilities and organizational or firm performance, while relatively less attention has been given to the managerial mechanisms that explain how this relationship develops. Although recent research has identified decision-making processes as important mediating mechanisms between AI capability and organizational performance, the role of managerial capability in integrating AI-generated intelligence with human managerial judgment remains insufficiently examined. This gap is important because AI does not independently determine organizational decisions; rather, its value depends on how managers interpret, integrate, and apply AI-generated insights within organizational processes.

Second, the increasing interaction between human managerial judgment and machine-generated intelligence highlights the importance of augmented management. The automation–augmentation perspective suggests that AI can substitute for certain tasks while simultaneously augmenting human capabilities (Raisch & Krakowski, 2021). Recent research on AI–human decision-making similarly emphasizes that the effective integration of AI into organizational decision processes requires attention to the interaction between technological capabilities and human expertise. AI can provide analytical insights, predictions, and information that extend managerial cognitive capacity, but organizational outcomes still depend on how such intelligence is incorporated into managerial and team decision-making processes. Therefore, Augmented Management Capability can be viewed as an important organizational mechanism through which AI Strategic Integration may generate organizational value.

Third, although AI governance has received increasing attention, much of the existing literature has focused on ethical principles, regulatory requirements, accountability, transparency, and responsible AI frameworks. Recent research has highlighted the need to move beyond conceptual governance principles toward organizational mechanisms that embed AI governance within actual decision and management processes. Empirical evidence also indicates that responsible AI governance can be associated with improved corporate performance, suggesting that governance mechanisms may represent an important pathway through which organizations translate AI adoption into sustainable business value. However, the relationship between managerial augmentation and the development of intelligent governance systems remains comparatively underexplored. In particular, limited empirical attention has been given to whether stronger managerial capabilities resulting from AI integration facilitate governance systems characterized by data-driven monitoring, evaluation, coordination, and decision support.

These gaps suggest the need for a more integrated perspective that connects AI capabilities, managerial processes, governance mechanisms, and organizational performance. Rather than treating AI Strategic Integration, Augmented Management Capability, Intelligent Governance Systems, and Sustainable Organizational Performance as separate dimensions, this study conceptualizes them as interconnected organizational capabilities. AI Strategic Integration represents the extent to which AI technologies are embedded within strategic and managerial processes rather than being limited to operational automation. Augmented Management Capability refers to the organizational ability to combine human managerial judgment with AI-enabled analytical insights. Intelligent Governance Systems represent governance mechanisms enhanced by data-driven monitoring, analytics, and decision-support capabilities. Sustainable Organizational Performance reflects organizational outcomes associated with sustained effectiveness and long-term value creation.

The proposed relationships are grounded in the Dynamic Capabilities perspective, which emphasizes the ability of organizations to develop, integrate, and reconfigure capabilities in response to changing environments (Teece et al., 1997; Teece, 2007). From this perspective, AI Strategic Integration can be understood as a capability that enables organizations to incorporate AI resources into strategic and managerial activities. This capability can strengthen Augmented Management Capability by enabling managers to combine human expertise with AI-generated intelligence. In turn, stronger managerial capabilities may facilitate the development of Intelligent Governance Systems through improved monitoring, coordination, evaluation, and strategic control. These governance capabilities may subsequently support Sustainable Organizational Performance by improving decision processes, organizational alignment, and the effective use of organizational resources.

Accordingly, this study addresses an integrated research gap by examining not only whether AI Strategic Integration is associated with Sustainable Organizational Performance, but also how this relationship operates through organizational managerial and governance mechanisms. In particular, the study examines Augmented Management Capability and Intelligent Governance Systems as sequential mechanisms through which AI Strategic Integration can be translated into sustainable organizational outcomes. This perspective extends existing research that has primarily examined AI capability and organizational performance through direct effects or individual mediating mechanisms by proposing an integrated sequential pathway from AI integration to managerial augmentation, governance capability, and organizational performance.

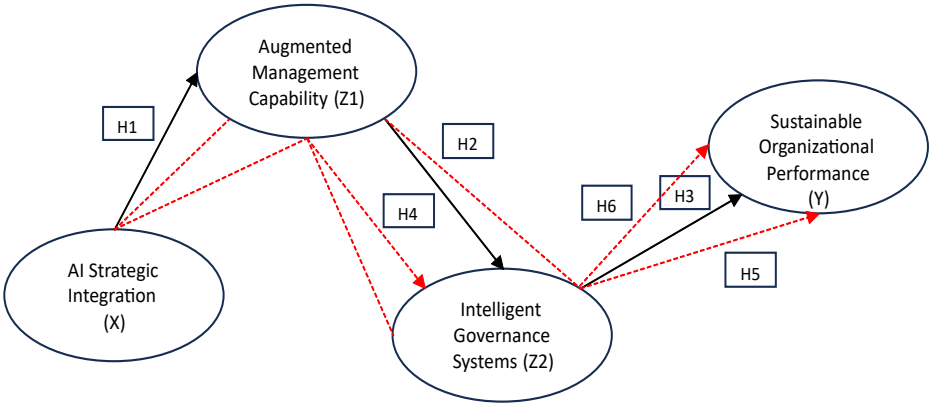
Based on this research gap, the present study aims to empirically examine the relationships among AI Strategic Integration, Augmented Management Capability, Intelligent Governance Systems, and Sustainable Organizational Performance. Specifically, the study seeks to determine whether AI Strategic Integration enhances Augmented Management Capability, whether Augmented Management Capability strengthens Intelligent Governance Systems, and whether Intelligent Governance Systems contribute to Sustainable Organizational Performance. The study also examines whether Augmented Management Capability and Intelligent Governance Systems function as mediating mechanisms, including their sequential mediation in the relationship between AI Strategic Integration and Sustainable Organizational Performance.

The research questions are formulated as follows:

1. **RQ1:** Does AI Strategic Integration positively influence Augmented Management Capability?
2. **RQ2:** Does Augmented Management Capability positively influence Intelligent Governance Systems?
3. **RQ3:** Do Intelligent Governance Systems positively influence Sustainable Organizational Performance?

4. **RQ4:** Do Augmented Management Capability and Intelligent Governance Systems mediate the relationship between AI Strategic Integration and Sustainable Organizational Performance, including through a sequential mediation mechanism?

By addressing these questions, this study contributes to the emerging literature on AI-enabled management by providing an integrated explanation of how strategic AI integration can be translated into sustainable organizational performance through managerial augmentation and intelligent governance. The study also provides practical insights for organizations seeking to move beyond AI adoption as a technological investment toward the development of managerial and governance capabilities that enable AI to generate sustainable organizational value.



Source: Data Research

Figure 1. Conceptual Framework and Hypothesis Development

Literature Review And Hypothesis Development

Dynamic Capabilities Theory

Dynamic Capabilities Theory provides the theoretical foundation for explaining how organizations transform technological resources into sustainable organizational outcomes. Dynamic capabilities refer to an organization's ability to integrate, build, and reconfigure internal and external competencies in response to changing environments (Teece et al., 1997; Teece, 2007). From this perspective, the value of artificial intelligence does not arise solely from technological possession but from the organizational capability to integrate AI into managerial processes, routines, and governance mechanisms.

AI Strategic Integration can therefore be viewed as a dynamic organizational capability through which AI resources are embedded in strategic and managerial activities. Such integration can strengthen managers' ability to combine AI-generated analytical intelligence with human expertise, subsequently supporting the development of governance capabilities and organizational performance. Recent empirical studies similarly indicate that AI capabilities contribute to organizational performance through decision-making and complementary organizational capabilities rather than through technological adoption alone (Mikalef et al., 2020; Neiroukh et al., 2024; Giachino et al., 2024).

Accordingly, this study conceptualizes the relationships among AI Strategic Integration, Augmented Management Capability, Intelligent Governance Systems, and Sustainable Organizational Performance as an interconnected capability-development process.

AI Strategic Integration and Augmented Management Capability

AI Strategic Integration refers to the extent to which AI technologies are embedded within strategic, managerial, and organizational decision-making processes rather than being limited to isolated operational applications. This distinction is important because AI adoption alone

does not ensure organizational value. Strategic integration requires AI-generated intelligence to become part of organizational routines and managerial decision processes (Mikalef et al., 2020).

The automation–augmentation perspective further suggests that AI can either automate tasks or augment human capabilities (Raisch & Krakowski, 2021). In managerial contexts, AI can process large volumes of information, identify patterns, generate predictions, and provide decision-support inputs, while managers contribute contextual knowledge, experience, and judgment. Recent research similarly emphasizes the importance of complementarity between human and AI capabilities in organizational decision-making (Carter & Wynne, 2024; Fügener et al., 2025).

Thus, strategic AI integration is expected to strengthen an organization's ability to combine AI-generated intelligence with managerial expertise, resulting in stronger Augmented Management Capability.

H1: AI Strategic Integration positively influences Augmented Management Capability.

Augmented Management Capability and Intelligent Governance Systems

Augmented Management Capability represents the organizational ability to combine human managerial judgment with AI-enabled analytical insights in managerial and strategic decision-making. When managers can effectively interpret and utilize AI-generated information, these capabilities can extend beyond individual decision-making and become embedded in organizational processes.

Intelligent Governance Systems refer to governance mechanisms enhanced by AI-enabled analytics, data-driven monitoring, decision-support technologies, and managerial oversight. Such mechanisms support monitoring, evaluation, coordination, accountability, and strategic control. Recent AI governance research emphasizes that effective governance requires organizational mechanisms capable of operationalizing principles such as accountability, transparency, oversight, and responsible decision-making (Mökander et al., 2021; Papagiannidis et al., 2025).

From a Dynamic Capabilities perspective, augmented managerial capability can facilitate the transformation of AI-generated intelligence into organizational governance routines. Managers who are capable of combining human judgment with AI-supported analysis are better positioned to incorporate such intelligence into monitoring, evaluation, coordination, and strategic control. Therefore, stronger Augmented Management Capability is expected to contribute to stronger Intelligent Governance Systems.

H2: Augmented Management Capability positively influences Intelligent Governance Systems.

Intelligent Governance Systems and Sustainable Organizational Performance

Sustainable Organizational Performance refers to an organization's ability to maintain effective performance and create long-term organizational value through the effective deployment and coordination of organizational resources and capabilities. Dynamic Capabilities Theory suggests that sustainable performance depends on an organization's ability to adapt and reconfigure capabilities in response to changing environments (Teece et al., 1997; Teece, 2007).

Intelligent Governance Systems can strengthen this capability by improving organizational monitoring, evaluation, coordination, accountability, and strategic alignment. AI-enabled governance mechanisms allow organizations to process information more effectively and support timely managerial evaluation and decision-making. Recent empirical research also demonstrates that AI-related capabilities and decision-making mechanisms are associated with organizational performance (Neiroukh et al., 2024; Giachino et al., 2024).

Therefore, organizations with stronger Intelligent Governance Systems are expected to achieve higher Sustainable Organizational Performance.

H3: Intelligent Governance Systems positively influence Sustainable Organizational Performance.

Mediation and Sequential Mediation

The proposed relationships suggest that the effects of AI Strategic Integration may operate through organizational capability development rather than solely through direct technological effects. First, strategic AI integration can strengthen Augmented Management Capability, which subsequently enables organizations to incorporate AI-generated intelligence into governance processes. This provides the theoretical basis for the mediating role of Augmented Management Capability between AI Strategic Integration and Intelligent Governance Systems.

H4: Augmented Management Capability mediates the relationship between AI Strategic Integration and Intelligent Governance Systems.

Similarly, the performance implications of Augmented Management Capability may depend on its institutionalization within organizational governance mechanisms. Intelligent Governance Systems provide the organizational structures through which augmented managerial capabilities can be translated into monitoring, coordination, accountability, and strategic control, thereby contributing to organizational performance.

H5: Intelligent Governance Systems mediate the relationship between Augmented Management Capability and Sustainable Organizational Performance.

Taken together, the preceding arguments indicate a sequential capability pathway:

AI Strategic Integration → Augmented Management Capability → Intelligent Governance Systems → Sustainable Organizational Performance

This pathway reflects the central logic of Dynamic Capabilities Theory. AI Strategic Integration provides the technological and strategic foundation; Augmented Management Capability enables managers to transform AI-generated intelligence into managerial action; and Intelligent Governance Systems institutionalize these capabilities within organizational processes. The resulting governance capability is expected to contribute to sustainable organizational performance.

Accordingly, the study proposes the following sequential mediation hypothesis:

H6: AI Strategic Integration indirectly influences Sustainable Organizational Performance through the sequential mediation of Augmented Management Capability and Intelligent Governance Systems.

METHOD

Research Design and Sampling

This study employed a quantitative, cross-sectional survey design to examine the relationships among AI Strategic Integration (AISI), Augmented Management Capability (AMC), Intelligent Governance Systems (IGS), and Sustainable Organizational Performance (SOP). The unit of analysis was the organization as represented by managerial-level respondents with relevant knowledge and experience regarding artificial intelligence in managerial decision-making and governance-related activities.

Data were obtained from 200 managerial-level respondents representing multiple industries, including banking, manufacturing, technology, telecommunications, and the public sector. Respondents included senior managers, digital transformation leaders, IT managers, and governance officers. A purposive sampling technique was used because the study required respondents with relevant knowledge of AI integration in organizational strategic, managerial, decision-support, or governance-related functions.

Eligible respondents were required to hold a managerial or governance-related position and have experience with organizations that had implemented AI in strategic, managerial, decision-support, or governance-related functions. These criteria were intended to ensure that respondents could provide informed assessments of the four research constructs.

Measurement and Operationalization

All constructs were measured using multi-item reflective scales adapted from prior validated studies. Responses were recorded using a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. The measurement model consisted of 16 indicators, with four indicators for each construct: AISI1–AISI4, AMC1–AMC4, IGS1–IGS4, and SOP1–SOP4.

Table 1. Operational Definition of Research Constructs

Construct	Operational Definition	Measurement
AI Strategic Integration (AISI)	The extent to which AI technologies are embedded within strategic and managerial processes rather than being limited to operational automation.	Reflective
Augmented Management Capability (AMC)	The organizational capability to combine human managerial judgment with AI-enabled analytical insights in managerial and strategic decision-making.	Reflective
Intelligent Governance Systems (IGS)	Governance mechanisms enhanced through AI-enabled analytics, data-driven monitoring, and decision-support capabilities.	Reflective
Sustainable Organizational Performance (SOP)	The organization's ability to sustain effective performance and create long-term organizational value.	Reflective

The questionnaire measured respondents' perceptions of strategic AI integration, augmented management capability, intelligent governance mechanisms, and sustainable organizational performance.

Data Analysis

The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) to examine the direct, indirect, and sequential mediation relationships among the constructs. The analysis comprised measurement model assessment and structural model assessment.

The measurement model was evaluated through indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. Indicator reliability was assessed using outer loadings, with values above 0.70 considered acceptable. Internal consistency was assessed using Cronbach's alpha and composite reliability (CR), with values above 0.70 indicating satisfactory reliability. Convergent validity was assessed using average variance extracted (AVE), with values above 0.50 considered adequate. Discriminant validity was examined using the heterotrait–monotrait (HTMT) ratio, with values below 0.90 indicating adequate discriminant validity.

Because the study used single-source survey data, potential common method bias was assessed using Harman's single-factor test and full collinearity variance inflation factor (VIF) assessments.

The structural model was assessed using path coefficients, coefficients of determination (R^2), effect sizes (f^2), predictive relevance (Q^2), and statistical significance. Hypothesis testing employed 5,000 bootstrap resamples, with path coefficients, t-values, and p-values used to evaluate the proposed relationships. Mediation was assessed through specific indirect effects, including the sequential pathway:

AI Strategic Integration → Augmented Management Capability → Intelligent Governance Systems → Sustainable Organizational Performance.

RESULTS AND DISCUSSION

The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) to evaluate the measurement model and the proposed structural relationships. The analysis included indicator reliability, internal consistency reliability, convergent validity, discriminant validity, explanatory power, direct effects, indirect effects, and effect sizes.

Measurement Model

Indicator reliability was assessed through outer loadings. As shown in Table 2, all loadings ranged from 0.823 to 0.901 and exceeded the recommended threshold of 0.70. Thus, all 16 indicators demonstrated adequate reliability and were retained for further analysis.

Table 2. Indicator Loadings

Construct	Items	Loading
AISI	AISI1	0.842
	AISI2	0.876
	AISI3	0.861
	AISI4	0.823
AMC	AMC1	0.884
	AMC2	0.891
	AMC3	0.853
	AMC4	0.872
IGS	IGS1	0.879
	IGS2	0.901
	IGS3	0.864
	IGS4	0.882
SOP	SOP1	0.847
	SOP2	0.865
	SOP3	0.873
	SOP4	0.851

Source: Data processed by Author

The highest loading was observed for IGS2 (0.901), whereas the lowest was AISI4 (0.823). Since all indicators exceeded 0.70, the measurement items adequately represented their respective constructs.

Internal consistency and convergent validity were assessed using Cronbach's alpha, composite reliability (CR), and average variance extracted (AVE). As shown in Table 3, all Cronbach's alpha and CR values exceeded 0.70, while all AVE values exceeded 0.50. These results confirm satisfactory reliability and convergent validity for all constructs.

Table 3. Reliability and Convergent Validity

Construct	Cronbach's Alpha	CR	AVE
AISI	0.879	0.915	0.729
AMC	0.902	0.931	0.771
IGS	0.910	0.937	0.787
SOP	0.885	0.921	0.745

Source: Data processed by Author

Discriminant validity was examined using the heterotrait–monotrait (HTMT) ratio. As presented in Table 4, all HTMT values ranged from 0.68 to 0.78 and remained below 0.90, indicating that AISI, AMC, IGS, and SOP are empirically distinct constructs.

Table 4. HTMT Ratio

Constructs	AISI	AMC	IGS	SOP
AISI	—	0.74	0.71	0.68
AMC	—	—	0.76	0.72
IGS	—	—	—	0.78
SOP	—	—	—	—

Source: Data processed by Author

Overall, the measurement model demonstrates adequate indicator reliability, internal consistency, convergent validity, and discriminant validity. The structural model can therefore be evaluated.

Structural Model and Hypothesis Testing

The coefficient of determination (R^2) was examined to assess the explanatory power of the structural model. As shown in Table 5, AISI explains 48.2% of the variance in AMC, AMC explains 56.3% of the variance in IGS, and the model explains 64.7% of the variance in SOP. The highest explanatory power is therefore observed for Sustainable Organizational Performance.

Table 5. Coefficient of Determination (R^2)

Endogenous Construct	R^2
AMC	0.482
IGS	0.563
SOP	0.647

Source: Data processed by Author

Hypothesis testing was conducted using bootstrapping with 5,000 resamples. As shown in Table 6, all proposed direct relationships are positive and statistically significant. AISI has a strong positive relationship with AMC, AMC has the strongest direct relationship with IGS, and IGS has a positive relationship with SOP. AISI also has a significant direct relationship with SOP, although the coefficient is comparatively smaller.

Table 6. Direct Effects

Relationship	β	t-value	p-value	Decision
H1: AISI → AMC	0.694	14.782	<0.001	Supported
H2: AMC → IGS	0.751	16.904	<0.001	Supported
H3: IGS → SOP	0.583	9.842	<0.001	Supported
Direct effect: AISI → SOP	0.192	2.874	0.004	Significant

Source: Data processed by Author

The results support H1, H2, and H3. The strongest direct relationship is between AMC and IGS (β = 0.751), suggesting that the ability to combine human managerial judgment with AI-generated intelligence is closely associated with the development of intelligent governance mechanisms. The relationship between IGS and SOP (β = 0.583) further indicates that governance mechanisms supported by AI-enabled analytics and monitoring are associated with stronger organizational performance. The significant but smaller direct effect of AISI on SOP suggests that AI integration contributes to performance both directly and through intermediate organizational capabilities.

Mediation Analysis

The indirect effects were assessed using bootstrapping with 5,000 resamples. Table 7 shows that all three indirect pathways are positive and statistically significant.

Table 7. Indirect Effects

Hypothesis	Indirect Path	β	t-value	p-value	Decision
H4	AISI → AMC → IGS	0.521	11.403	<0.001	Supported
H5	AMC → IGS → SOP	0.438	8.962	<0.001	Supported
H6	AISI → AMC → IGS → SOP	0.305	7.816	<0.001	Supported

Source: Data processed by Author

The significant indirect effect of AISI on IGS through AMC supports H4, indicating that strategic AI integration contributes to governance development partly by strengthening the organization's augmented management capability. H5 is also supported, showing that the performance implications of AMC operate partly through IGS. Most importantly, the significant sequential indirect effect of AISI on SOP through AMC and IGS supports H6. Together with the significant direct effect of AISI on SOP, these results indicate a partial mediation pattern in which AI Strategic Integration contributes to performance both directly and through the proposed capability pathway.

Effect Size

Effect sizes were assessed using f^2. As shown in Table 8, AISI → AMC and AMC → IGS demonstrate large effects, IGS → SOP demonstrates a medium effect, and the direct effect of AISI → SOP is small.

Table 8. Effect Size (f^2)

Path	f^2	Effect Size
AISI → AMC	0.48	Large
AMC → IGS	0.56	Large
IGS → SOP	0.34	Medium
AISI → SOP	0.07	Small

Source: Data processed by Author

The effect-size pattern reinforces the proposed capability pathway. The strongest effects occur in the relationships connecting AI integration to managerial capability and managerial capability to governance, whereas the direct technological effect on performance is relatively small. This suggests that the organizational contribution of AI is more strongly associated with the development of complementary managerial and governance capabilities than with direct technological implementation alone.

Discussion of Findings

AI Strategic Integration and Augmented Management Capability

The positive relationship between AISI and AMC supports H1 and indicates that strategic AI integration is associated with stronger organizational capability to combine AI-generated analytical intelligence with human managerial judgment. This finding is consistent with Dynamic Capabilities Theory, which emphasizes that organizational value depends on the ability to integrate and reconfigure resources rather than merely possess them (Teece et al., 1997; Teece, 2007). It also supports the automation–augmentation perspective, which distinguishes AI-enabled task automation from the augmentation of human capabilities (Raisch & Krakowski, 2021). Recent research on human–AI collaboration similarly emphasizes the importance of complementarity between AI capabilities and human expertise (Carter & Wynne, 2024; Fügener et al., 2025).

The implication is that AI integration should not be evaluated solely by technological deployment. Its organizational value also depends on whether managers can interpret and incorporate AI-generated insights into decision-making processes. Thus, AISI functions as an enabling capability for managerial augmentation.

Augmented Management Capability and Intelligent Governance Systems

The positive relationship between AMC and IGS supports H2 and suggests that managerial capability is an important bridge between AI-enabled intelligence and organizational governance. Managers who can interpret and integrate AI-generated information are better positioned to embed that intelligence into monitoring, evaluation, coordination, and strategic control.

This finding extends the human–AI augmentation perspective from individual decision support toward organizational governance. It also complements AI governance research emphasizing that effective AI governance requires organizational mechanisms that operationalize oversight, accountability, and responsible decision-making.

From a Dynamic Capabilities perspective, AMC represents an intermediate organizational capability through which technological intelligence becomes embedded in organizational routines. Therefore, governance effectiveness depends not only on AI infrastructure but also on the managerial capability to use AI meaningfully within governance processes.

Intelligent Governance Systems and Sustainable Organizational Performance

The positive relationship between IGS and SOP supports H3. The finding suggests that AI-enabled governance mechanisms can contribute to organizational performance by strengthening monitoring, evaluation, coordination, accountability, and strategic alignment.

This result reinforces the Dynamic Capabilities perspective because governance mechanisms provide organizational routines through which information and capabilities can be coordinated and adapted. Intelligent governance therefore represents more than a technological or compliance mechanism; it can function as an organizational capability that helps translate AI-supported intelligence into sustained organizational outcomes.

AI Strategic Integration and Sustainable Organizational Performance

The significant direct relationship between AISI and SOP indicates that strategic AI integration can contribute to organizational performance independently of the mediating pathway. However, the smaller direct effect and the larger effects observed for AISI → AMC and AMC → IGS indicate that AI's organizational value is unlikely to be fully realized through technological integration alone. The finding is consistent with recent research showing that AI capability can influence organizational performance through decision-making processes and complementary organizational capabilities.

Thus, AI integration provides an important foundation, but managerial and governance capabilities appear to determine how effectively that foundation is translated into broader organizational outcomes.

Sequential Mediation

The most important finding is the significant sequential pathway:

AI Strategic Integration → Augmented Management Capability → Intelligent Governance Systems → Sustainable Organizational Performance

The significant indirect effect supports H6 and provides empirical evidence that AI integration can initiate a capability-development process. AI first strengthens the organization's ability to combine algorithmic intelligence with managerial expertise; this augmented

capability then supports the development of intelligent governance; and governance mechanisms subsequently contribute to sustainable performance.

This finding extends the Dynamic Capabilities perspective by connecting technological, managerial, and governance capabilities within a single empirical pathway. It also moves beyond a simple AI–performance relationship by showing that organizational value is generated through the interaction of technology, human managerial capability, and governance structures. The smaller direct effect of AISI on SOP relative to the capability-pathway effects further supports this interpretation.

Theoretical and Practical Implications

The findings make three principal theoretical contributions. First, they extend Dynamic Capabilities Theory by showing how AI can initiate a sequence of capability development rather than functioning solely as a technological resource. Second, they position AMC as an organizational mechanism connecting AI-generated intelligence with managerial judgment and governance. Third, they position IGS as a performance-relevant organizational capability rather than only an ethical or compliance mechanism.

Practically, organizations should integrate AI into strategic planning, managerial decision-making, performance monitoring, and governance rather than treating it as a standalone technology. Managerial training should emphasize interpretation of AI-generated insights, critical evaluation of algorithmic recommendations, and effective human–AI collaboration. Organizations should also establish governance mechanisms for monitoring, evaluation, accountability, and strategic control so that AI-generated intelligence can be translated into organizational action and sustainable value.

CONCLUSION

This study examined how AI Strategic Integration contributes to Sustainable Organizational Performance through Augmented Management Capability and Intelligent Governance Systems. The findings demonstrate that AI Strategic Integration positively influences Augmented Management Capability, which in turn strengthens Intelligent Governance Systems. Intelligent Governance Systems subsequently contribute positively to Sustainable Organizational Performance. AI Strategic Integration also has a significant direct effect on Sustainable Organizational Performance, while the significant sequential indirect effect confirms that Augmented Management Capability and Intelligent Governance Systems form an important pathway through which AI integration contributes to sustainable organizational performance.

The findings indicate that the organizational value of AI extends beyond technological adoption. AI is more effectively translated into sustainable organizational outcomes when it is integrated into managerial processes and embedded within governance mechanisms. The proposed pathway—**AI Strategic Integration → Augmented Management Capability → Intelligent Governance Systems → Sustainable Organizational Performance**—therefore provides an integrated explanation of how technological capabilities can be transformed into organizational value.

Theoretical Implications

The study extends the **Dynamic Capabilities perspective** by demonstrating that AI can function as a strategic capability that initiates a broader process of organizational capability development. The findings also contribute to human–AI augmentation research by positioning Augmented Management Capability as an organizational mechanism connecting AI-generated intelligence with managerial judgment. In addition, the study positions Intelligent Governance Systems as a performance-relevant organizational capability rather than solely a mechanism for monitoring, accountability, or compliance. The significant sequential mediation further

integrates technological, managerial, and governance capabilities within a single empirical framework.

Practical Implications

For managers, the findings suggest that AI should be integrated into strategic planning, managerial decision-making, performance monitoring, and governance processes rather than treated as a standalone technological investment. Organizations should strengthen managers' ability to interpret AI-generated insights and combine them with organizational knowledge and professional judgment. They should also establish governance mechanisms that support monitoring, evaluation, accountability, coordination, and strategic control. AI initiatives should therefore be evaluated not only through technology adoption or short-term efficiency but also through managerial capability development, governance effectiveness, and long-term organizational performance.

Limitations and Future Research

This study has several limitations. First, its cross-sectional design limits causal interpretation and does not capture how AI-related capabilities develop over time. Second, the use of self-reported responses from managerial-level respondents may introduce perceptual bias. Third, purposive sampling across multiple industries may not fully capture sector-specific differences in AI implementation and governance. Future research should employ longitudinal designs, objective or multi-source performance measures, and comparative studies across industries, organizational sizes, and institutional contexts. Future studies may also extend the model by examining organizational AI readiness, digital maturity, organizational learning, leadership capability, and responsible AI practices.

Overall, the findings demonstrate that sustainable organizational value from AI depends on the alignment of **technological capability, managerial capability, and intelligent governance**. Strategic AI integration becomes more valuable when organizations develop the managerial and governance capabilities necessary to transform AI-generated intelligence into sustained organizational performance.

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Author Contributions

Erina Sovania contributed to the conceptualization, research design, theoretical framework development, methodology, data analysis, interpretation of findings, and preparation of the original manuscript. Agus Salim and Fatchur Rohman contributed to the conceptualization, theoretical development, research design discussions, interpretation of findings, and critical review of the manuscript. All authors contributed substantive intellectual input throughout the research process, critically reviewed and refined the manuscript, and approved the final version for publication.

Data Availability Statement

The respondent-level dataset is not publicly available due to confidentiality and data protection considerations. The anonymized analytical dataset and SmartPLS analysis outputs supporting the findings of this study are available through Zenodo at https://doi.org/10.5281/zenodo.21944045.

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