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Digital Business Ecosystem Strategy, AI Capability, and Digital Innovation: Effects on Sustainable Organizational Performance

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Abstract

Digital transformation has intensified the need for digital business service companies to integrate ecosystem strategies, artificial intelligence, and innovation to achieve sustainable organizational performance. This study examines how digital business ecosystem strategy influences sustainable organizational performance through the mediating roles of AI capability and digital innovation among digital business service companies in Indonesia. A quantitative explanatory design was employed using 235 valid responses. Data were collected through a questionnaire and analyzed using variance-based structural equation modeling with SmartPLS 4 and 5,000 bootstrap resamples. The results show that digital business ecosystem strategy positively affects AI capability, AI capability positively affects digital innovation, and digital innovation positively affects sustainable organizational performance. Digital business ecosystem strategy and AI capability also have significant direct effects on sustainable organizational performance. Furthermore, AI capability significantly mediates the relationship between digital business ecosystem strategy and sustainable organizational performance, while digital innovation significantly mediates the relationship between AI capability and sustainable organizational performance. These findings indicate that ecosystem orchestration, AI capability, and digital innovation should be developed as interconnected strategic capabilities to strengthen sustainable performance. The study implies that managers should integrate ecosystem collaboration with AI development and continuous digital innovation.

Keywords

Artificial Intelligence Capability, Digital Business Ecosystem Strategy, Digital Innovation, Sustainable Organizational Performance.

1. Introduction

The acceleration of digital transformation has reshaped competition across industries, shifting organizations from firm-centric competition toward ecosystem-based competition in which multiple actors collaboratively create and capture value (Subramaniam, 2020). Digital business ecosystems connect organizations with customers, suppliers, technology providers, research institutions, and other stakeholders through digital platforms, enabling knowledge exchange, resource integration, and collaborative innovation (Adner, 2017; Autio et al., 2017; Secundo et al., 2025). Unlike traditional linear value chains, such ecosystems emphasize continuous interaction and strategic collaboration, allowing organizations to strengthen adaptability, operational flexibility, and resilience in dynamic markets (Jacobides et al., 2018). Digital business ecosystem strategy has become increasingly important because organizations must orchestrate complementary resources and align diverse stakeholders to generate sustainable value rather than relying solely on internally controlled assets (Kolagar, 2024; Ramadhani, 2024). This strategic orientation is particularly relevant for Digital Business Service Companies, which increasingly rely on artificial intelligence, cloud computing, big data analytics, robotic process automation, and digital platforms to improve efficiency and develop customer-oriented services (Verhoef et al., 2021).

This transformation is increasingly relevant in Indonesia, Southeast Asia's largest digital economy, with its digital economy projected to reach approximately USD 90 billion in Gross Merchandise Value in 2024, representing 13% year-on-year growth (Google Business Profile, 2024). This rapid expansion creates substantial opportunities while simultaneously increasing competitive pressure on digital business service companies to develop capabilities that support continuous innovation and sustainable performance. Within this context, artificial intelligence capability has evolved beyond a technological resource into a strategic organizational capability that combines technological infrastructure, data resources, analytical competencies, and managerial capabilities to support intelligent decision-making, process automation, and organizational responsiveness (Ramezani et al., 2023; Dwivedi et al., 2023). Strong AI capability can further facilitate digital innovation by enabling organizations to identify emerging opportunities, accelerate experimentation, and develop new products, services, processes, and business models through digital technologies (Nambisan et al., 2019). Ecosystem collaboration can reinforce this process by providing access to complementary knowledge, technologies, and partnerships that accelerate innovation (Schrepel, 2024).

Despite these developments, organizations still struggle to translate digital and AI investments into consistent innovation and sustainable organizational performance. Successful digital transformation depends not only on technological implementation but also on organizational capabilities, leadership, collaborative culture, and ecosystem integration (Kane et al., 2021). Existing research by Santamato et al. (2024) has established the importance of AI capability for organizational performance, but largely treats it as an internal organizational resource and pays limited attention to the ecosystem conditions that enable organizations to maximize its value. Similarly, research on digital business ecosystem strategy has predominantly emphasized ecosystem governance, platform development, collaboration, and value co-creation, while providing limited explanation of how ecosystem strategy strengthens internal capabilities such as AI capability and digital innovation (Subramaniam et al., 2019). Research on digital innovation has likewise often examined it as an independent capability or direct determinant of performance, rather than considering its complementary role with AI capability within an ecosystem-oriented framework (Nambisan et al., 2019). Furthermore, many studies emphasize financial or operational outcomes, leaving

relatively limited empirical evidence on how ecosystem strategy, AI capability, and digital innovation collectively contribute to sustainable organizational performance encompassing economic, social, and environmental value creation (Elkington, 1997).

To address these gaps, this study proposes an integrated framework positioning digital business ecosystem strategy as a strategic antecedent of sustainable organizational performance through the mediating roles of AI capability and digital innovation, integrating Business Ecosystem Theory, the Resource-Based View, and Dynamic Capability Theory to explain how ecosystem orchestration strengthens organizational capabilities and stimulates innovation for sustainable value creation. This study examines how digital business ecosystem strategy influences sustainable organizational performance through the mediating roles of AI capability and digital innovation among digital business service companies in Indonesia. The study contributes by extending Business Ecosystem Theory toward internal capability development, enriching AI capability research by incorporating digital innovation as a complementary mechanism, and providing empirical evidence from an emerging digital economy.

2. Literature Review and Hypothesis Development

2.1. The Effect on AI Capability

Digital Business Ecosystem (DBES) strategy is a deliberate organizational orientation that orchestrates interconnected actors to co-create value through digital platforms (Adner, 2017; Demir & Demir, 2025). Unlike firm-centered strategies that emphasize internally controlled resources and linear value chains, DBES strategy enables organizations to coordinate suppliers, complementors, customers, and other stakeholders across organizational boundaries (Subramaniam et al., 2019). Jacobides et al. (2018) argue that ecosystem strategies depend on governance mechanisms, structural arrangements, and digital interfaces that facilitate coordination and knowledge sharing. In dynamic digital environments, such arrangements provide access to distributed resources and capabilities that may not be available within the focal firm.

The external resources generated through ecosystem participation can also create favorable conditions for developing AI capability. Continuous interaction with ecosystem partners can provide organizations with broader data sources, technological knowledge, and learning opportunities that support integrating AI into organizational processes. Kolagar (2024) emphasizes that orchestrating digital ecosystems requires organizations to coordinate distributed resources and align ecosystem participants, while Autio et al. (2017) highlight how digital technologies and cross-boundary connections reshape access to entrepreneurial and organizational resources. From this perspective, DBES strategy can strengthen the organizational foundation for selecting, integrating, and leveraging AI-related resources. Therefore, organizations that deliberately pursue ecosystem-oriented strategies are expected to develop stronger AI capability because ecosystem coordination expands the resources and learning mechanisms available for technological development.

H1: Digital business ecosystem strategy has a significant and positive effect on AI capability.

2.2. The Effect on Digital Innovation

AI capability refers to an organization's ability to deploy, integrate, and leverage AI-related resources to support operational and strategic activities (Mikalef & Gupta, 2021; Papagiannidis et al., 2025). This capability involves more than acquiring AI technologies because value depends on coordinating data, technological

infrastructure, human expertise, and organizational routines. Davenport and Ronanki (2018) and Bohr and Memarzadeh (2020) explain that AI can support process optimization, prediction, and decision-making, while Fountaine et al. (2019) emphasize the importance of organizational readiness, experimentation, and leadership commitment in building AI-powered organizations. Accordingly, stronger AI capability provides firms with valuable analytical and technological resources that can be mobilized to identify opportunities, reduce uncertainty, and support organizational renewal.

These capabilities are particularly relevant to digital innovation because AI can accelerate experimentation, generate predictive insights, and facilitate the redesign of products, services, and processes. Nambisan et al. (2019) explain that digital technologies reshape innovation by expanding opportunities for value creation and changing how innovation activities are organized. Similarly, Yoo et al. (2010) describe how digitalization introduces a new organizing logic in which modular and generative digital architectures facilitate continuous innovation. Fountaine et al. (2019) further suggest that AI-driven insights can help organizations identify market opportunities and develop new offerings. Therefore, AI capability is expected to function as an organizational enabler that transforms AI resources and analytical knowledge into digital innovation and supports ongoing organizational renewal.

H2: AI capability has a significant and positive effect on digital innovation.

2.3. The Effect on Sustainable Organizational Performance

Digital innovation refers to creating or modifying products, services, processes, or business models enabled by digital technologies (Nambisan et al., 2019). Its flexible and generative nature enables organizations to adapt their offerings and operations to changing environments. Hinings et al. (2018) emphasize that digital innovation can drive broader organizational transformation, while Vial (2019) highlights digital technologies' role in organizational change. By improving operational efficiency, developing customer-oriented services, and facilitating rapid responses to market changes, digital innovation can support long-term value creation. Kraus et al. (2021) discuss the organizational implications of digital transformation, while George et al. (2021) highlight opportunities to address environmental and social challenges while creating economic value. Therefore, digital innovation is expected to enhance sustainable organizational performance through improved adaptability, resource utilization, and continuous innovation.

DBES can also strengthen sustainable organizational performance by facilitating collaboration, information exchange, and resource integration among ecosystem participants. Through digital platforms and interconnected partnerships, organizations can access complementary resources, improve operational coordination, and respond more effectively to market and sustainability challenges. These mechanisms can reduce resource duplication, strengthen supply chain responsiveness, and create opportunities for sustainable value creation. From a dynamic capabilities perspective, Teece (2018) emphasizes the importance of adapting and reconfiguring organizational resources to maintain performance in changing environments. The DBES strategy is expected to contribute positively to sustainable organizational performance by strengthening ecosystem collaboration and resource utilization. AI capability refers to an organization's ability to integrate and apply artificial intelligence technologies and related resources to support decision-making and operations (George et al., 2021). AI capability can improve analytical accuracy, automate routine tasks, identify inefficiencies, and optimize resource allocation. These benefits may enhance productivity, reduce waste, and strengthen organizational responsiveness to market and environmental changes.

When aligned with organizational objectives, AI capability can support more efficient operations and sustained value creation.

H3: Digital innovation has a significant and positive effect on sustainable organizational performance.
H4: Digital business ecosystem strategy has a significant and positive effect on sustainable organizational performance.
H5: AI capability has a significant and positive effect on sustainable organizational performance.

2.4. The Effect of AI Capability and Digital Innovation as a Mediator

The benefits of digital ecosystem participation may depend on the focal firm's ability to convert external resources into internal organizational capabilities. Although DBES strategy facilitates access to data, knowledge, and complementary resources, these resources do not automatically generate sustainable performance. Karhu et al. (2014) emphasize the importance of coordinating interdependent ecosystem actors and activities, while Kolagar (2024) shows that effective ecosystem orchestration requires capabilities for integrating distributed resources. AI capability can process complex information flows, generate insights, and transform ecosystem resources into actionable organizational intelligence (Mikalef & Gupta, 2021; Ayinaddis, 2025). Thus, the DBES strategy is expected to improve sustainable organizational performance partly through AI capability.

A similar mechanism can be applied to the relationship between AI capability and sustainable organizational performance. AI capability provides analytical and technological resources, but these resources require an organizational outlet to be converted into new value-creating activities. Fountaine et al. (2019) emphasize that AI value depends on embedding intelligent technologies into organizational processes, while Nambisan et al. (2019) identify digital innovation as a mechanism through which digital technologies reshape value creation. Digital innovation can therefore translate AI-enabled insights and capabilities into new offerings, redesigned processes, and adaptive business models that contribute to sustainable performance. This logic positions digital innovation as a mediating mechanism between AI capability and sustainable organizational performance.

H6: AI capability mediates the relationship between digital business ecosystem strategy and sustainable organizational performance.
H7: Digital innovation mediates the relationship between AI capability and sustainable organizational performance.

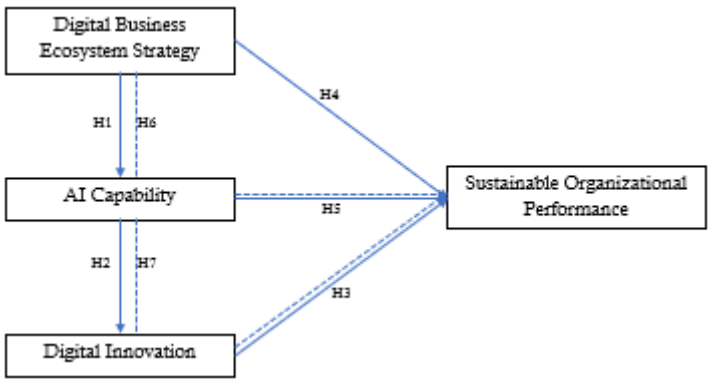


Figure 1. Conceptual Framework

Figure 1 illustrates the conceptual framework examining how digital business ecosystem strategy influences sustainable organizational performance, both directly and indirectly through AI capability and digital innovation. Solid lines represent direct relationships (H1–H4), while dashed lines indicate the proposed mediating roles of AI capability and digital innovation in explaining how digital business ecosystem strategy contributes to sustainable organizational performance.

3. Methods

This study employed a quantitative explanatory research design to examine the structural relationships among DBES strategy, AI capability, digital innovation, and sustainable organizational performance. The population comprised middle-to-top-level managers, IT directors, and operations heads working in digital business service companies operating in Indonesia. Purposive sampling was employed to ensure that respondents possessed relevant knowledge of their organizations' ecosystem strategies, technological capabilities, digital innovation activities, and long-term performance. A total of 235 valid responses were obtained and used for the empirical analysis. The sample size exceeded the minimum requirements based on the 10-times rule and the G*Power linear regression criterion for a structural model involving four latent variables and a maximum of three structural paths directed toward a single endogenous construct.

The study examined four latent variables: DBES, AI capability, digital innovation, and sustainable organizational performance. Each construct was operationalized using four reflective indicators, resulting in 16 measurement indicators. Data were collected through a self-administered web-based questionnaire distributed through professional networks. All indicators were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire captured respondents' assessments of their organizations' digital ecosystem strategies, AI-related capabilities, digital innovation practices, and sustainable organizational performance.

The collected data were analyzed using Variance-Based Structural Equation Modeling (VB-SEM) with SmartPLS 4. The analysis involved two stages: evaluating the measurement model and evaluating the structural model. The measurement model was assessed using standardized factor loadings for indicator reliability, Cronbach's Alpha and Composite Reliability (CR) for internal consistency, Average Variance Extracted (AVE) for convergent validity, and the Heterotrait-Monotrait Ratio (HTMT) for discriminant validity (Henseler et al., 2015). The structural model was evaluated using the coefficient of determination (R^2) to assess explanatory power and Q^2predict to assess predictive relevance. Hypothesis testing was performed using non-parametric bootstrapping with 5,000 resamples to examine direct and indirect relationships based on path coefficients, t-values, p-values, and 95% confidence intervals. Statistical significance was determined using a two-tailed 5% significance level, with relationships considered significant when the t-value exceeded 1.96 and the p-value was below 0.05.

4. Results

The reflective measurement model was evaluated using data from 235 respondents to ensure that the indicators adequately represented their respective latent variables. The assessment focused on indicator reliability, construct reliability, convergent validity, and discriminant validity. Indicator reliability was examined through factor loadings, while construct reliability was assessed using Cronbach's alpha and composite reliability. Convergent validity was evaluated using the AVE to determine whether the indicators shared sufficient variance in measuring their respective constructs.

These criteria are essential for establishing the measurement model's adequacy and consistency before assessing the structural model. Table 1 presents the results of the measurement model assessment for four latent variables: DBES strategy, AI capability, digital innovation, and sustainable performance. The results provide an initial evaluation of the reliability and validity of the measurement instruments, thereby establishing the basis for further empirical analysis and interpretation of the relationships among the constructs.

Table 1. Measurement Model Assessment

Latent Variable	Indicator	Factor Loading	Cronbach's Alpha	CR	AVE
DBES Strategy	DBES1	0.824	0.856	0.903	0.699
	DBES2	0.841			
	DBES3	0.860			
	DBES4	0.819			
AI Capability	AIC1	0.855	0.882	0.919	0.739
	AIC2	0.871			
	AIC3	0.844			
	AIC4	0.869			
Digital Innovation	DINN1	0.812	0.849	0.898	0.688
	DINN2	0.833			
	DINN3	0.840			
	DINN4	0.832			
Sustainable Performance	SOP1	0.866	0.890	0.924	0.752
	SOP2	0.880			
	SOP3	0.849			
	SOP4	0.874			

Table 1 shows that all indicators of the DBES strategy, AI capability, digital innovation, and sustainable performance have factor loadings ranging from 0.812 to 0.880, exceeding the recommended threshold of 0.708. Thus, all indicators demonstrate adequate indicator reliability. The Cronbach's Alpha values range from 0.849 to 0.890, while CR values range from 0.898 to 0.924. Both measures exceed the minimum threshold of 0.70, confirming satisfactory internal consistency reliability across all constructs. Furthermore, the AVE values for DBES strategy, AI capability, digital innovation, and sustainable performance are 0.699, 0.739, 0.688, and 0.752, respectively. All values exceed the minimum criterion of 0.50, indicating that convergent validity has been established. These results indicate that each construct explains more than 50% of the variance in its respective indicators. The findings in Table 1 confirm that the measurement instruments demonstrate adequate indicator reliability, internal consistency reliability, and convergent validity, supporting their use for subsequent structural model evaluation.

Table 2. Heterotrait-Monotrait Ratio (HTMT) Test Result

Latent Construct	DBES Strategy	AI Capability	Digital Innovation
AI Capability	0.642	-	
Digital Innovation	0.589	0.714	-
Sustainable Performance	0.521	0.680	0.735

Table 2 presents the HTMT results for assessing discriminant validity. The HTMT values among DBES strategy, AI capability, digital innovation, and sustainable performance range from 0.521 to 0.735. All values are below the conservative threshold of 0.85, indicating that the correlations between constructs remain sufficiently distinct. Therefore, the results confirm that discriminant validity is established, suggesting that each construct captures a conceptually and empirically distinct aspect of the proposed research model.

The structural model evaluation begins by examining the coefficient of determination (R^2) to assess the explanatory power of the proposed framework based on 235 responses. AI capability exhibits an R^2 value of 0.372, indicating that 37.2% of its variance is explained by the DBES strategy. Digital innovation yields an R^2 of 0.495, meaning AI capability accounts for 49.5% of its variance. Sustainable organizational performance shows an R^2 of 0.618, indicating that DBES strategy, AI capability, and digital innovation collectively explain 61.8% of its variance, representing substantial explanatory power in strategic management research. Additionally, the PLS-predict algorithm was employed to evaluate out-of-sample predictive relevance. All endogenous constructs produced Q^2predict values above zero (AI capability = 0.285, digital innovation = 0.391, and sustainable performance = 0.474), confirming the model's strong predictive capability.

Table 3. Structural Path Coefficients and Hypothesis Testing

Path / Relationship	β	t-value	p-value	95% (CI)	Result
DBES Strategy → AI Capability	0.610	11.452	< 0.001	(0.505, 0.712)	Supported
AI Capability → Digital Innovation	0.704	16.891	< 0.001	(0.619, 0.783)	Supported
Digital Innovation → Sustainable Performance	0.442	6.514	< 0.001	(0.312, 0.573)	Supported
DBES Strategy → Sustainable Performance	0.145	2.115	0.035	(0.012, 0.281)	Supported
AI Capability → Sustainable Performance	0.311	4.620	< 0.001	(0.183, 0.446)	Supported
DBES Strategy → AI Capability → Sustainable Performance	0.190	4.138	< 0.001	(0.103, 0.282)	Supported
AI Capability → Digital Innovation → Sustainable Performance	0.311	5.922	< 0.001	(0.210, 0.416)	Supported

Table 3 presents the structural path coefficients and hypothesis testing results for the direct and indirect relationships among DBES strategy, AI capability, digital innovation, and sustainable performance. The findings indicate that all five proposed direct relationships are positive and statistically significant. DBES strategy has a positive and significant relationship with AI capability ($\beta = 0.610$; $t = 11.452$; $p < 0.001$; 95% CI (0.505, 0.712)). Similarly, AI capability is positively associated with digital innovation ($\beta = 0.704$; $t = 16.891$; $p < 0.001$; 95% CI (0.619, 0.783)). Digital innovation also demonstrates a positive and significant relationship with sustainable performance ($\beta = 0.442$; $t = 6.514$; $p < 0.001$; 95% CI (0.312, 0.573)). These findings suggest that DBES strategy is associated with stronger AI capability, while AI capability is associated with greater digital innovation, which, in turn, is positively associated with sustainable performance.

The direct relationships between DBES strategy and sustainable performance and between AI capability and sustainable performance are also statistically significant. DBES strategy is positively related to sustainable performance ($\beta = 0.145$; $t = 2.115$; $p = 0.035$; 95% CI (0.012, 0.281)). Although its coefficient is comparatively smaller than those of the other direct paths, the relationship remains significant at the 5% level. Meanwhile, AI capability has a positive and significant relationship with sustainable performance ($\beta = 0.311$; $t = 4.620$; $p < 0.001$; 95% CI (0.183, 0.446)). The confidence intervals for both relationships exclude zero, supporting the statistical significance of the estimated coefficients. Accordingly, all five direct relationships are supported, indicating that DBES strategy and AI

capability are associated with sustainable performance both directly and through the relationships involving the other constructs.

The indirect effect results provide further evidence of the relationships among the constructs. AI capability significantly mediates the relationship between DBES strategy and sustainable performance ($\beta = 0.190$; $t = 4.138$; $p < 0.001$; 95% CI (0.103, 0.282)). Likewise, digital innovation significantly mediates the relationship between AI capability and sustainable performance ($\beta = 0.311$; $t = 5.922$; $p < 0.001$; 95% CI (0.210, 0.416)). Both indirect effects are statistically significant because their confidence intervals exclude zero and their p-values are below 0.05. These results support the proposed indirect relationships and indicate that AI capability and digital innovation represent significant pathways linking the respective antecedent constructs to sustainable performance. Thus, all seven direct and indirect relationships reported in Table 3 are statistically supported.

5. Discussion

The positive and significant effect of DBES strategy on AI capability ($\beta = 0.610$; $p < 0.001$) indicates that a well-developed ecosystem strategy can support the development of organizational AI capabilities. Organizations that actively coordinate digital platforms, external partners, technologies, and interorganizational resources can gain broader access to the knowledge and data needed to develop and refine AI applications. Adner (2017) emphasizes that ecosystem strategy depends on aligning the interdependent actors and activities required to realize a value proposition. This perspective suggests that ecosystem participation can expand the resources available for developing technological capabilities beyond organizational boundaries. This finding is also consistent with Verhoef et al. (2021), who view digital transformation as an organizational process that integrates technological, organizational, and interorganizational capabilities. Thus, DBES strategy can provide a strategic context through which external ecosystem resources are transformed into AI capability.

The positive and significant effect of AI capability on digital innovation ($\beta = 0.704$; $p < 0.001$) further demonstrates that AI capability functions as an organizational enabler of innovation rather than merely as an operational technology. Organizations that can select, coordinate, and leverage AI-related resources can use data-driven insights, predictive analysis, and technological experimentation to identify opportunities and develop new digital solutions. Mikalef and Gupta (2021) conceptualize AI capability as an organizational ability to select, orchestrate, and leverage AI-specific resources and empirically demonstrate its positive relationship with organizational creativity and performance. Similarly, Nambisan et al. (2019) explain that digital technologies transform innovation by expanding opportunities for value creation and changing how innovation activities are organized. Therefore, stronger AI capability can reduce uncertainty in innovation processes and facilitate the development of new digital products, services, and processes.

Digital innovation also has a positive and significant effect on sustainable organizational performance ($\beta = 0.442$; $p < 0.001$). This finding indicates that digital innovation can contribute to longer-term organizational outcomes by enabling process improvements, new service development, resource efficiency, and adaptation to changing market and stakeholder demands. Nambisan et al. (2019) highlight the role of digital technologies in transforming value creation and capture, while Yoo et al. (2010) explain that digitalization creates new organizing logics that facilitate distributed and modular innovation. From a sustainability perspective, George et al. (2021) further argue that digital innovation can create opportunities to address social and environmental challenges while generating organizational value. The result

therefore supports the view that continuous digital innovation can translate technological capabilities into sustainable organizational outcomes.

The direct effects of DBES strategy and AI capability on sustainable organizational performance are also positive and significant, with coefficients of 0.145 ($p = 0.035$) and 0.311 ($p < 0.001$), respectively. The DBES strategy effect suggests that ecosystem alignment can contribute directly to performance by facilitating coordination among interdependent actors and resources, consistent with Adner (2017). Meanwhile, the positive effect of AI capability indicates that leveraging AI resources can directly support organizational performance through improved decision-making, processes, and value creation, consistent with Mikalef and Gupta (2021). However, the significant indirect effects provide further insight into how these capabilities contribute to performance.

The indirect effect of DBES strategy on sustainable organizational performance through AI capability is positive and significant ($\beta = 0.190$; $p < 0.001$), while the indirect effect of AI capability through digital innovation is also positive and significant ($\beta = 0.311$; $p < 0.001$). These relationships indicate that ecosystem resources can contribute to sustainable performance by strengthening internal AI capabilities, which can then be converted into performance benefits through digital innovation. This interconnected mechanism is consistent with Vial (2019) and Verhoef et al. (2021), who characterize digital transformation as a multidimensional process involving technology, organizational capabilities, innovation, and value creation. The findings support an integrated pathway in which DBES strategy establishes the ecosystem context, AI capability converts ecosystem resources into technological-organizational capacity, and digital innovation translates that capacity into sustainable organizational performance.

6. Conclusion

This study concludes that digital business ecosystem strategy, AI capability, and digital innovation form an interconnected mechanism for strengthening sustainable organizational performance among digital business service companies in Indonesia. The empirical results show that digital business ecosystem strategy positively and significantly affects AI capability, while AI capability strongly influences digital innovation. Digital innovation also positively affects sustainable organizational performance. In addition, both digital business ecosystem strategy and AI capability have significant direct effects on sustainable organizational performance. The mediation results further confirm that AI capability mediates the relationship between digital business ecosystem strategy and sustainable organizational performance, while digital innovation mediates the relationship between AI capability and sustainable organizational performance. The model explains 61.8% of the variance in sustainable organizational performance, indicating substantial explanatory power.

These findings imply that managers should not treat ecosystem strategy, AI capability, and digital innovation as isolated initiatives; instead, they should strategically connect ecosystem collaboration with AI development and continuous innovation to translate external resources into sustainable organizational value. Nevertheless, this study is limited by its cross-sectional design, purposive sampling, self-reported responses, and focus on digital business service companies in Indonesia, which may constrain the generalizability and causal interpretation of the findings. Future research should employ longitudinal or mixed-method designs, examine broader organizational and industry contexts, and consider additional factors such as organizational culture, leadership, data governance, digital maturity, and ecosystem governance to provide a more comprehensive explanation of sustainable performance.

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