

## THE MEDIATING ROLE OF CONTEXTUAL AMBIDEXTERITY IN THE RELATIONSHIP BETWEEN DIGITAL TRANSFORMATION, INNOVATION CAPABILITY, AND SME PERFORMANCE

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### Abstract

This study addresses a critical gap in SME research, where prior studies emphasize the direct effects of digital transformation (DT) and innovation capability (IC) on performance while overlooking the underlying organizational mechanisms. This study examines how SMEs convert DT and IC into performance through contextual ambidexterity (CA) in a developing economy. Using data from 350 SMEs in Indonesia and PLS-SEM analysis, the results show that DT ( $\beta = 0.270$ ,  $p < 0.01$ ) and IC ( $\beta = 0.170$ ,  $p < 0.05$ ) significantly improve performance, with DT having a stronger effect. CA also enhances performance ( $\beta = 0.260$ ,  $p < 0.01$ ) and mediates the effects of DT ( $\beta = 0.092$ ,  $p < 0.01$ ) and IC ( $\beta = 0.052$ ,  $p < 0.05$ ). These findings indicate that the performance impact of DT and IC depends on firms' ability to balance exploration and exploitation. This study contributes by offering a mechanism-based explanation that integrates DT and IC and positions contextual ambidexterity as a key driver of SME performance in emerging economies.

**Keywords:** *digital transformation, innovation capability, contextual ambidexterity, sme performance, developing economy*

### Introduction

Small and medium-sized enterprises (SMEs) constitute the backbone of economic activity across both developed and developing economies, playing a critical role in employment creation, income generation, and economic resilience, particularly in emerging markets. However, SMEs operate under conditions of heightened uncertainty, resource constraints, and institutional volatility, which intensify competitive pressures and threaten long-term sustainability (Avelar et al., 2024). In response, digital transformation (DT) and innovation have been widely recognized as key strategic levers for enhancing competitiveness and performance (N. Chen et al., 2022; P. Chen & Kim, 2023). Despite their growing importance, the mechanisms through which DT and innovation translate into superior SME performance remain theoretically underexplored and empirically inconclusive.

Digital transformation refers to the integration of digital technologies into organizational processes and value creation activities, fundamentally reshaping how firms operate and compete (Papadopoulos et al., 2020; Warner & Wäger, 2019). For SMEs, DT enables improvements in efficiency and responsiveness through digitally

enabled processes and business models (Bouwman et al., 2019; Peter et al., 2020), making it a strategic necessity in increasingly turbulent environments (Battistoni et al., 2023; Hinasah & Nuryakin, 2020). However, empirical evidence shows that the performance outcomes of DT are inconsistent, as many SMEs fail to convert digital investments into tangible results (Leal-Rodríguez et al., 2023; Zuzaku & Abazi, 2022). Prior studies predominantly focus on the direct effects of DT on performance, often overlooking the organizational conditions that determine its effectiveness (Mady et al., 2023; Parviainen et al., 2017).

Similarly, innovation capability (IC)—defined as a firm’s ability to generate and implement new ideas in products, services, and processes (Bahta et al., 2021; Iqbal, Rasheed, et al., 2021)—is widely acknowledged as a critical driver of SME adaptability and competitiveness (Cuevas-Vargas et al., 2023). Nevertheless, IC does not automatically lead to superior performance, as SMEs must navigate trade-offs between exploratory innovation and operational efficiency under resource constraints (Merín-Rodrigáñez et al., 2024). These limitations suggest that the effectiveness of DT and IC depends not only on their presence, but also on how firms manage the tension between exploration and exploitation.

This tension highlights the importance of contextual ambidexterity (CA), defined as the ability to simultaneously pursue exploratory and exploitative activities within a unified organizational context (Gibson & Birkinshaw, 2004). CA is particularly relevant for SMEs, given their limited structural complexity, which constrains the adoption of formal ambidextrous designs (Su et al., 2022; Trieu et al., 2024). Instead, SMEs rely on flexible work systems and adaptive managerial practices to dynamically balance experimentation and efficiency (Jing et al., 2023; Ramdan et al., 2022). In this regard, CA provides a critical mechanism through which DT and IC can be translated into performance outcomes, as digital transformation often requires exploration, while innovation capability depends on the effective exploitation of existing knowledge and routines (Ma et al., 2022; Wiratmadja et al., 2020). Without such balance, digital and innovation initiatives may remain fragmented or underutilized (Ürü et al., 2024), whereas CA enables their integration into operational routines and sustained performance gains (Li et al., 2025; Lu et al., 2023).

From a theoretical perspective, these arguments align with the dynamic capabilities framework, which emphasizes firms’ abilities to sense, seize, and reconfigure resources in response to environmental change (Teece, 2018; Valdez-Juárez et al., 2024). Within SMEs, these capabilities are reflected not only in technology adoption or innovation outputs but also in the organizational context that governs resource orchestration (Hernández-Linares et al., 2021). Accordingly, CA can be viewed as a micro-foundation of dynamic capabilities that enables SMEs to align digital transformation and innovation with performance objectives.

Despite increasing scholarly attention to DT, IC, and SME performance, this study identifies a critical gap: prior research largely relies on direct-effect models and fails to explain the organizational mechanisms through which DT and IC are translated into performance outcomes, particularly in emerging economy contexts. Moreover, existing studies tend to examine DT and IC in isolation, rather than as interdependent processes requiring alignment. This study differs from prior research by explicitly positioning contextual ambidexterity as a mediating mechanism that links DT and IC to SME performance within a unified framework.

To address this gap, this study makes several contributions. First, it advances the SME and digital transformation literature by introducing contextual ambidexterity as a mechanism-based explanation for how DT and IC influence performance. Second, it integrates DT and IC into a single analytical framework, emphasizing the importance of balancing exploration and exploitation. Third, it provides empirical evidence from Indonesia as an emerging economy context, thereby extending the generalizability of existing theories beyond advanced economies. Finally, by conceptualizing contextual ambidexterity as a micro-foundation of dynamic capabilities, this study offers a more nuanced understanding of how SMEs achieve sustainable performance under conditions of uncertainty and resource constraints.

### **Literature Review and Hypotheses Development**

In increasingly volatile and digitally mediated markets, small and medium-sized enterprises (SMEs) face persistent challenges arising from resource scarcity, institutional constraints, and rapid technological change. Unlike large firms, SMEs typically lack slack resources and formalized structures, which heightens their vulnerability to environmental turbulence but also increases the strategic importance of adaptive capabilities (Xie et al., 2022). Within this context, dynamic capabilities theory offers a powerful lens for understanding how SMEs sustain competitiveness by sensing opportunities, seizing them through strategic action, and reconfiguring resources over time (Martins, 2023; Teece, 2018).

Dynamic capabilities enable SMEs to integrate, build, and reconfigure internal and external competencies in response to shifting market conditions (Bayón et al., 2021). Prior research suggests that such capabilities are critical for fostering innovation, organizational adaptability, and strategic renewal, particularly under conditions of uncertainty common to emerging economies (Weaven et al., 2021). Importantly, dynamic capabilities are not limited to technological assets; they also encompass organizational processes and contextual mechanisms that govern how firms deploy and coordinate resources (Pundziene, 2016).

Digital transformation (DT) represents a central manifestation of dynamic capabilities in SMEs. DT refers to the strategic application of digital technologies to business processes in order to enhance operational efficiency, support managerial decision-making, and enable innovation (Costa Melo et al., 2023; Melo et al., 2023). When implemented in alignment with organizational objectives, DT allows SMEs to overcome structural limitations, improve customer engagement, and expand market reach (Abudaqa et al., 2022).

From a dynamic capabilities perspective, DT strengthens firms' abilities to realign resources and adapt processes in response to environmental change (Leso et al., 2024; Marx et al., 2021). Empirical studies consistently report positive associations between DT and SME performance (SMEP), including financial performance, productivity, and customer satisfaction (Teng et al., 2022). Accordingly, DT is expected to enhance SME performance.

*H1: Digital transformation positively affects SME performance.*

Beyond digitalization, innovation capability (IC) constitutes a critical organizational resource for SMEs seeking sustainable competitive advantage. IC reflects a firm's ability to generate, develop, and implement valuable ideas across products, services, and

business processes (Iqbal, Moleiro Martins, et al., 2021). For resource-constrained SMEs, innovation serves as a strategic mechanism to compensate for size-related disadvantages and respond flexibly to evolving customer needs (Jalil et al., 2022).

Prior studies indicate that SMEs with strong IC are more adaptive, responsive to industry trends, and capable of achieving differentiation-based advantages (Fan et al., 2021; Purwati et al., 2021). Within the dynamic capabilities framework, IC enables firms not only to react to change but also to proactively shape market conditions in ways that enhance performance outcomes (Fabrizio et al., 2022; Hermawati & Gunawan, 2021). Therefore, IC is expected to contribute positively to SME performance.

*H2: Innovation capability positively affects SME performance.*

While DT and IC provide strategic potential, their effectiveness depends on how SMEs manage competing organizational demands. Contextual ambidexterity (CA) refers to an organization's ability to simultaneously pursue exploratory activities (e.g., experimentation and learning) and exploitative activities (e.g., efficiency and refinement) within a single organizational context (Gibson & Birkinshaw, 2004). Unlike structural ambidexterity, which relies on formal separation, CA is particularly suited to SMEs due to their simpler structures and reliance on flexible work arrangements (Ramdan et al., 2022).

Through CA, SMEs can adapt quickly to environmental change without undermining operational efficiency (Aftab et al., 2022; Sinaga et al., 2025). Empirical evidence suggests that SMEs capable of balancing exploration and exploitation achieve superior and more sustainable performance outcomes (Chakma & Dhir, 2024; Lee & Park, 2024). Thus, CA is expected to exert a direct positive effect on SME performance.

*H3: Contextual ambidexterity positively affects SME performance.*

Although DT is often associated with improved performance, its impact depends on the organizational context in which digital technologies are embedded. DT can reshape work processes by increasing information transparency, enabling cross-functional collaboration, and enhancing organizational flexibility (Belhadi et al., 2022; Ragazou et al., 2022). These changes create conditions that support CA by allowing individuals and teams to alternate dynamically between exploratory and exploitative activities (Veiga et al., 2024).

Digital technologies facilitate real-time decision-making and experimentation while simultaneously enabling process standardization and efficiency gains (Abdalla & Nakagawa, 2021). As such, DT not only enhances technical capabilities but also fosters organizational contexts conducive to balancing exploration and exploitation.

*H4: Digital transformation positively affects contextual ambidexterity.*

Innovation capability also plays a critical role in cultivating CA. Organizations with strong IC tend to promote learning-oriented cultures, openness to experimentation, and tolerance for change, while maintaining sufficient operational discipline (Randhawa et al., 2021). These characteristics align closely with the behavioral foundations of CA, including role flexibility and adaptive decision-making (He & Wu, 2024).

By embedding innovation into daily routines, SMEs can create organizational contexts in which exploration and exploitation coexist and reinforce one another (Antara et al.,

2024; Fragoso et al., 2024). Therefore, IC is expected to enhance contextual ambidexterity.

*H5: Innovation capability positively affects contextual ambidexterity.*

Although DT and IC are frequently linked to SME performance, these relationships are not necessarily direct. Digital and innovation initiatives may fail to generate performance gains if organizations lack mechanisms to integrate change and manage competing demands effectively (Reischl et al., 2022). Contextual ambidexterity provides such a mechanism by translating strategic initiatives into coordinated action.

When SMEs develop CA, the benefits of DT and IC can be realized through improved efficiency, sustained innovation, and enhanced customer value. Conversely, without CA, SMEs risk organizational imbalance, where innovation efforts remain isolated or efficiency suppresses renewal (Ngammoh et al., 2023). Accordingly, CA is expected to mediate the relationships between DT, IC, and SME performance.

*H6: Contextual ambidexterity mediates the relationship between digital transformation and SME performance.*

*H7: Contextual ambidexterity mediates the relationship between innovation capability and SME performance.*

## Method

This study adopts a quantitative research design using a cross-sectional survey to examine how small and medium-sized enterprises (SMEs) convert digital transformation and innovation capability into performance through contextual ambidexterity. A quantitative approach is appropriate given the study's objective to test theoretically grounded relationships among latent constructs and to assess mediation effects explaining performance heterogeneity among SMEs in an emerging economy context.

Primary data were collected using a structured questionnaire administered to SME owners, who were selected as key informants due to their strategic authority over digital initiatives, innovation activities, and internal organizational processes. The study focuses on SMEs operating in the service, trade, and manufacturing sectors in Indonesia, a context characterized by SME dominance, persistent resource constraints, and uneven digital adoption, making it theoretically relevant for examining ambidexterity-based mechanisms.

Purposive sampling was employed to ensure conceptual validity. Respondents were required to meet three criteria: (1) firm operation for at least three years, (2) engagement in digital transformation initiatives for a minimum of one year, and (3) experience in developing product or service innovations. These criteria ensured that respondents possessed sufficient experiential knowledge to assess digital transformation, innovation capability, and exploration–exploitation practices.

A total of 350 valid responses were obtained from SMEs across multiple regions in Indonesia. This sample size exceeds the minimum requirements for Partial Least Squares Structural Equation Modeling (PLS-SEM), following the ten-times rule recommended by Hair *et al.* (2021), thereby ensuring adequate statistical power and robust parameter estimation. Data were collected online to enhance efficiency and geographic coverage.

Measurement items were adapted from established scales in prior studies. All constructs were measured using five-point Likert scales. Digital transformation was assessed using five indicators capturing the extent of digital technology adoption across

business processes and strategic activities (Minjie et al., 2025). Innovation capability was measured using six indicators reflecting idea development, product innovation, and risk tolerance (Aljuboori et al., 2021). Contextual ambidexterity was operationalized with ten indicators capturing the simultaneous pursuit of exploration and exploitation (Ramdan et al., 2022), while SME performance was measured using nine financial and non-financial indicators (Ramdan et al., 2022).

Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS software. PLS-SEM was chosen due to its suitability for complex mediation models, robustness to non-normal data, and appropriateness for explanation-oriented research in SME and entrepreneurship contexts (Hair et al., 2019).

## Result

This study applies Partial Least Squares Structural Equation Modeling (PLS-SEM) using SmartPLS to examine how digital transformation and innovation capability are converted into SME performance through contextual ambidexterity. The analysis follows a two-stage procedure, comprising evaluation of the measurement model and assessment of the structural model (Hair et al., 2019).

The final sample consists of 350 SME owners operating across the service, trade, and manufacturing sectors in Indonesia (Table 1). The demographic profile reveals a relatively balanced gender distribution and a predominance of owner-managers in their productive working age, with most firms having operated for more than five years. This profile suggests that respondents possess sufficient experiential knowledge to assess digital initiatives, innovation practices, and internal organizational processes.

Table 1. Respondent Demographics

Respondent Characteristics	Number of Respondents	Percentage (%)
<b>Gender</b>		
Male	182	52,00%
Female	168	48,00%
<b>Total</b>	<b>350</b>	<b>100%</b>
<b>Ages</b>		
<30 years	107	30,57%
30–39 years	154	44,00%
≥40 years	89	25,43%
<b>Total</b>	<b>350</b>	<b>100%</b>
<b>Education Level</b>		
Primary/Junior High School	57	16,29%
Senior High School	156	44,57%
Higher Education	137	39,14%
<b>Total</b>	<b>350</b>	<b>100%</b>
<b>Business Age</b>		
3–5 years	102	29,14%
6–10 years	148	42,29%
>10 years	100	28,57%
<b>Total</b>	<b>350</b>	<b>100%</b>
<b>Business Sector</b>		
Services	153	43,72%
Trade	118	33,71%
Manufacturing	79	22,57%
<b>Total</b>	<b>350</b>	<b>100%</b>

Descriptive statistics for the study variables are reported in Table 2. Digital transformation exhibits a moderate mean value (3.395), indicating that SMEs have begun to adopt digital technologies but have not yet reached advanced levels of digital integration. Innovation capability records the lowest mean value (2.363), reflecting persistent constraints in SMEs' ability to systematically develop and implement innovation. Contextual ambidexterity shows a moderate mean (3.125), suggesting that SMEs are attempting to balance exploration and exploitation, although this balance remains imperfect. In contrast, SME performance displays the highest mean value (3.806), indicating relatively favorable self-assessed performance outcomes despite uneven capability development across firms.

Table 2. Descriptive Statistics of Research Variables

Variable	Mean	Median	Min	Max	Standard Deviation
Digital Transformation (DT)	3.395	3.409	3.366	3.420	0.922
Innovation Capability (IC)	2.363	2.357	2.349	2.380	0.906
Contextual Ambidexterity (CA)	3.125	3.117	3.080	3.169	1.055
SME Performance (SMEP)	3.806	3.809	3.774	3.834	1.105

#### **Common Method Bias**

To assess the potential presence of common method bias, Harman's single-factor test was conducted (Kock, 2022). The results indicate that the largest factor accounts for 47.1% of the total variance, which is below the commonly accepted threshold. Accordingly, common method bias is unlikely to pose a serious threat to the validity of the findings.

#### **Measurement Model Evaluation**

The measurement model was evaluated to establish convergent validity, construct reliability, and discriminant validity. As reported in Table 3, all indicators load strongly on their respective latent constructs, with outer loading values exceeding the recommended level. In addition, average variance extracted (AVE) values for all constructs range from 0.815 to 0.900, indicating that a substantial proportion of indicator variance is explained by the underlying constructs.

Construct reliability is further supported by high Cronbach's alpha and composite reliability values, demonstrating strong internal consistency among indicators. Discriminant validity was assessed using the Heterotrait–Monotrait (HTMT) ratio. As shown in Table 4, all HTMT values are well below the recommended cut-off, confirming that digital transformation, innovation capability, contextual ambidexterity, and SME performance are empirically distinct constructs. Overall, these results indicate that the measurement model exhibits satisfactory psychometric properties and provides a reliable basis for structural model evaluation.

Table 3. Convergent Validity and Composite Reliability

Variable	Code	Outer Loading	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Digital Transformation	DT1	0.935	0.960	0.969	0.863
	DT2	0.926			

(Minjie et al., 2025)	DT3	0.931			
	DT4	0.928			
	DT5	0.925			
Innovation Capability (Aljuboori et al., 2021)	IC1	0.902			
	IC2	0.912			
	IC3	0.916	0.955	0.964	0.815
	IC4	0.901			
	IC5	0.886			
	IC6	0.899			
Contextual Ambidexterity (Ramdan et al., 2022)	CA1	0.927			
	CA2	0.916			
	CA3	0.935			
	CA4	0.929			
	CA5	0.924	0.982	0.984	0.862
	CA6	0.942			
	CA7	0.936			
	CA8	0.924			
	CA9	0.934			
	CA10	0.915			
SME Performance (Ramdan et al., 2022)	SMEP1	0.944			
	SMEP2	0.958			
	SMEP3	0.956			
	SMEP4	0.953			
	SMEP5	0.940	0.986	0.988	0.900
	SMEP6	0.950			
	SMEP7	0.952			
	SMEP8	0.942			
	SMEP9	0.945			

Table 4. Discriminant Validity

Variable	Contextual Ambidexterity	Digital Transformation	Innovation Capability	SME Performance
Contextual Ambidexterity				
Digital Transformation	0.414			
Innovation Capability	0.295	0.255		
SME Performance	0.424	0.428	0.320	

### Structural Model Evaluation

Prior to hypothesis testing, collinearity among predictor constructs was examined using variance inflation factor (VIF) values. As reported in Table 5, all VIF values fall well below critical levels, indicating that multicollinearity does not bias the estimated path coefficients.

Table 5. Collinearity Assessment (Inner VIF)

Variable	VIF
DT → SMEP	1.220
IC → SMEP	1.114
DT → CA	1.064
IC → CA	1.064
CA → SMEP	1.249

The explanatory power of the model was assessed using coefficients of determination ( $R^2$ ). Digital transformation and innovation capability jointly explain 19.5% of the

variance in contextual ambidexterity, while digital transformation, innovation capability, and contextual ambidexterity together explain 26.8% of the variance in SME performance (Table 6). Although these values indicate modest explanatory power, they are theoretically meaningful given the heterogeneous and context-dependent nature of SME behavior in emerging economies, where performance outcomes are shaped by multiple interacting organizational processes rather than by single dominant capabilities.

The predictive relevance of the model was evaluated using Stone–Geisser’s  $Q^2$  statistic. The results indicate strong predictive relevance for contextual ambidexterity ( $Q^2 = 0.714$ ) and adequate predictive relevance for SME performance ( $Q^2 = 0.197$ ), demonstrating that the model possesses meaningful predictive capability beyond in-sample explanatory power (Table 6). Model fit assessment further supports the adequacy of the structural model, with SRMR values well below recommended thresholds (Table 7).

Table 6. R-square and Q-square

Variable	R-square	Q-square
Contextual Ambidexterity	0.195	0.714
SME Performance	0.268	0.197

Table 7. SRMR

Model Fit	Saturated Model	Estimated Model
SRMR	0.024	0.024

Effect size analysis ( $f^2$ ) provides further insight into the relative importance of the explanatory variables. As shown in Table 8, digital transformation exerts the strongest influence on contextual ambidexterity, approaching a moderate effect, while the remaining relationships display small but non-trivial effects. This pattern suggests that no single capability independently drives SME performance; instead, performance emerges from the combined and complementary effects of digital, innovative, and organizational balancing capabilities.

Table 8. F-square

Variable	F-square
DT → SMEP	0.083
IC → SMEP	0.036
DT → CA	0.147
IC → CA	0.047
CA → SMEP	0.074

### **Hypothesis Testing**

Hypotheses were tested using a bootstrapping procedure with 5,000 subsamples. The results of the hypothesis testing are presented in Table 9. The analysis indicates that digital transformation, innovation capability, and contextual ambidexterity each have significant positive effects on SME performance. In addition, digital transformation and innovation capability are found to significantly enhance contextual ambidexterity.

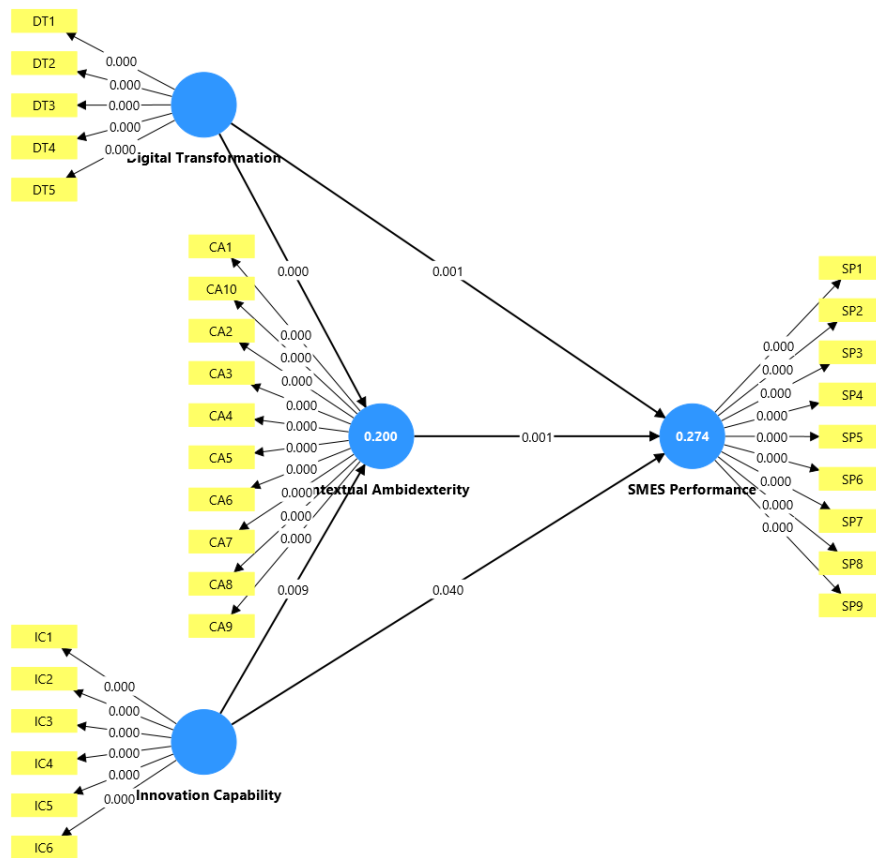
Importantly, mediation analysis confirms that contextual ambidexterity significantly mediates the relationships between digital transformation and SME performance, as well as between innovation capability and SME performance. These findings indicate

that SMEs do not automatically derive performance benefits from digitalization and innovation. Rather, such benefits materialize when firms are able to enact digital and innovative initiatives through organizational contexts that balance exploration and exploitation in daily operations.

Table 9. Hypothesis Testing Results

Hypothesis	Structural Path	Path Coefficient t	t-statistics	p-value	Result
H1	DT → SMEP	0.270	3.326	0.001	Supported
H2	IC → SMEP	0.170	2.051	0.040	Supported
H3	CA → SMEP	0.260	3.323	0.001	Supported
H4	DT → CA	0.354	4.671	0.000	Supported
H5	IC → CA	0.200	2.618	0.009	Supported
H6	DT → CA → SMEP	0.092	2.661	0.008	Supported
H7	IC → CA → SMEP	0.052	2.021	0.043	Supported

To illustrate the structural relationships and the strength of the hypothesized paths, Figure 1 presents the estimated PLS-SEM model, including standardized path coefficients, significance levels, and explained variance (R<sup>2</sup>).



Picture 1. Structural model results (PLS-SEM)

## Discussion

This study deepens the understanding of how small and medium-sized enterprises (SMEs) in emerging economies convert digital transformation (DT) and innovation capability (IC) into performance outcomes. Rather than treating DT and IC as self-sufficient drivers of firm performance, the findings demonstrate that their effects are fundamentally contingent on SMEs' ability to balance exploration and exploitation through contextual ambidexterity (CA). By empirically validating CA as a central mediating mechanism, this study shows that digitalization and innovation generate performance benefits only when embedded within organizational contexts that reconcile competing strategic demands.

The results confirm that DT has a positive effect on SME performance, consistent with prior research emphasizing efficiency gains, market expansion, and data-driven decision-making enabled by digital technologies (Adi, 2023; Prihandono et al., 2024; Teng et al., 2022). However, extending beyond a technology-centric perspective, the findings indicate that DT should be understood as an organizational capability rather than a purely technical upgrade. In resource-constrained and institutionally volatile environments, digital technologies alone are insufficient to guarantee superior performance. Instead, DT contributes to performance insofar as it enables flexible coordination, adaptive routines, and informed trade-offs between efficiency-oriented and innovation-oriented activities. This reframes DT as a capability whose value depends on its enactment within everyday organizational practices rather than on the mere adoption of digital tools.

Innovation capability is also found to positively influence SME performance, reaffirming its strategic importance for smaller firms (Fan et al., 2021; Jalil et al., 2022; Purwati et al., 2021). Nevertheless, the relatively modest effect size observed suggests that innovation does not automatically translate into strong performance outcomes. In emerging economy SMEs, innovation is often incremental and tightly coupled with existing routines rather than radical or disruptive. This finding challenges the implicit assumption in much of the innovation literature that innovation capability uniformly yields substantial performance gains, highlighting instead its conditional and context-dependent nature under resource constraints.

A key contribution of this study lies in demonstrating that contextual ambidexterity exerts a direct and substantive effect on SME performance (Jing et al., 2023; Ramdan et al., 2022). Unlike large firms that can rely on formal structural separation to manage competing demands, SMEs typically lack the scale, hierarchy, and slack resources required to sustain parallel structures. Consequently, their performance depends more heavily on how individuals and teams flexibly allocate attention and resources across exploratory and exploitative activities within a shared organizational context. Contextual ambidexterity thus emerges as a critical organizational capability in its own right, rather than a by-product of structural design.

The findings further reveal that DT significantly enhances contextual ambidexterity by improving information transparency, accelerating communication flows, and enabling real-time coordination (Dąbrowska et al., 2022; Warner & Wäger, 2019). Importantly, this effect operates not through formal organizational restructuring but through changes in how work is coordinated and decisions are made in daily practice. Similarly, innovation capability contributes to contextual ambidexterity by fostering cultures of experimentation, learning, and openness to change (He & Wu, 2024; Randhawa et al.,

2021). In this sense, innovation capability shapes behavioral norms and cognitive frames that support the integration of exploration and exploitation, rather than merely producing product or process outcomes.

Most importantly, this study provides empirical evidence that contextual ambidexterity constitutes the primary mechanism through which DT and IC are converted into realized performance gains. While prior research has largely emphasized the direct effects of digitalization and innovation on performance (Bagheri et al., 2019; Chege et al., 2020; Parviainen et al., 2017; Teng et al., 2022), the present findings challenge the assumption that such capabilities are inherently performance-enhancing. Without an organizational context capable of balancing exploration and exploitation, digital and innovation initiatives may remain underutilized or misaligned with operational realities. Contextual ambidexterity functions as an internal coordination mechanism that aligns strategic intent with operational execution, enabling SMEs to embed digital and innovative initiatives into routine activities.

By positioning contextual ambidexterity at the center of the DT–innovation–performance nexus, this study advances dynamic capabilities theory by shifting attention from capability possession to capability enactment. Rather than conceptualizing dynamic capabilities as discrete strategic assets, the findings emphasize their operationalization through everyday organizational contexts. Moreover, the study contributes to ambidexterity research by demonstrating that contextual ambidexterity is not merely an alternative to structural ambidexterity, but a more viable and contextually appropriate mechanism for SMEs in emerging economies. In doing so, it responds to calls for greater contextual sensitivity in entrepreneurship research and challenges the dominance of models derived from large firms in developed economies.

### ***Theoretical Implications***

This study makes three key theoretical contributions to entrepreneurship and SME research in emerging economies. First, it challenges the prevailing assumption that digital transformation and innovation capability uniformly enhance firm performance. The findings demonstrate that their performance effects are conditional upon contextual ambidexterity, reframing digital and innovation capabilities as latent resources whose value depends on how exploration–exploitation tensions are managed in practice.

Second, the study extends dynamic capabilities theory by shifting attention from capability possession to capability enactment. Rather than functioning as static strategic assets, digital and innovation capabilities generate performance outcomes only when embedded in organizational contexts that support the continuous balancing of competing demands. This highlights the importance of micro-level behavioral and contextual mechanisms in explaining dynamic capability deployment in resource-constrained SMEs.

Third, the findings advance ambidexterity literature by empirically establishing contextual ambidexterity as a more viable mechanism for SMEs than structural ambidexterity. Unlike large firms that rely on formal separation, SMEs manage strategic tensions through flexible role enactment, shared norms, and adaptive routines. By situating these mechanisms in an emerging economy, the study further underscores the need for greater contextual sensitivity in entrepreneurship theory.

### ***Practical and Managerial Implications***

The findings suggest that digital transformation and innovation initiatives do not automatically translate into superior SME performance. Instead, performance gains depend on whether these initiatives are supported by organizational contexts that enable employees to dynamically balance efficiency-oriented and innovation-oriented activities.

Managers should therefore focus not only on technology adoption but also on organizing work around digital tools in ways that enhance information transparency, coordination, and feedback. Cultivating innovation capability as a behavioral and cultural resource—through experimentation, learning, and adaptive problem-solving—is critical to sustaining ambidextrous practices.

Given persistent resource constraints, SMEs are advised to adopt a staged approach to digital transformation and innovation, prioritizing technologies and practices that directly support learning, coordination, and flexibility rather than pursuing comprehensive digitalization strategies that may exceed organizational capacity.

### **Conclusion**

This study enhances understanding of how small and medium-sized enterprises (SMEs) in emerging economies convert digital transformation and innovation capability into superior performance outcomes. Rather than assuming that digitalization and innovation are inherently performance-enhancing, the findings demonstrate that their effectiveness depends on SMEs' ability to balance exploration and exploitation within everyday organizational practices. This shifts the analytical focus from the possession of strategic capabilities to the mechanisms through which such capabilities are enacted.

The study's central contribution lies in identifying contextual ambidexterity as a critical organizational mechanism that enables SMEs to translate digital and innovative initiatives into realized performance gains. By emphasizing flexible work contexts rather than structural separation, the findings provide a theoretically grounded explanation that aligns with the resource constraints and organizational simplicity typical of SMEs in developing economies. In doing so, the study extends dynamic capabilities theory by highlighting that capability effectiveness hinges on behavioral and contextual alignment, not merely strategic intent.

Beyond confirming established relationships, this research reframes digital transformation and innovation as conditional processes whose outcomes are shaped by how SMEs manage internal tensions between efficiency and adaptation. This perspective responds to calls for more context-sensitive theorizing in entrepreneurship research and challenges linear assumptions regarding technology–performance linkages in small firms.

Several limitations should be acknowledged. The cross-sectional design limits insight into the temporal evolution of ambidexterity and digital capabilities, while reliance on perceptual data may introduce response bias. In addition, the sectoral focus constrains generalizability beyond the sampled industries. Future research could adopt longitudinal and comparative designs to examine how digital transformation, innovation capability, and ambidexterity co-evolve across institutional contexts. Exploring complementary factors such as leadership cognition, entrepreneurial learning, and ecosystem embeddedness would further deepen understanding of how SMEs sustain performance under digital uncertainty.

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