Peer Reviewed | Open access
Greenresearch © 2026 Issue II Vol.5
International Journal of Business, Governance and Strategy (IJBGS)

Innovation Capabilities and Business Model Transformation in SMEs

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Received: 02.02.2026 | Revised: 28.02.2026 | Accepted: 10.05.2026

Abstract

Purpose: This study critically investigates the role of innovation capabilities in driving business model transformation within small and medium-sized enterprises (SMEs). While SMEs are widely recognized as engines of economic growth, many struggle to adapt their business models to rapidly evolving technological and market environments. Understanding how specific innovation capabilities enable SMEs to reconfigure resources and practices is central to bridging this knowledge gap.

Design/Methodology: A quantitative approach was adopted, using a structured survey administered to 210 SMEs across diverse industrial sectors. Innovation capabilities were operationalized through dimensions of product, process, and organizational innovation, while business model transformation was measured via changes in value proposition, value creation, and value capture mechanisms. Statistical analyses, including multiple regression and structural equation modeling (SEM), were employed to assess the mediating and moderating relationships between innovation capabilities and business model transformation.

Findings: Results indicate that SMEs possessing higher levels of dynamic innovation capabilities are significantly more likely to engage in business model transformation. Product and organizational innovations exert the strongest influence, while process innovation mediates the relationship between digital adoption and strategic realignment. The study also identifies sectoral and resource-based heterogeneities that modulate these effects.

Originality/Value: This research provides a critical contribution by quantitatively linking multidimensional innovation capabilities to the mechanics of business model transformation in SMEs, a relatively underexplored domain. It offers a theoretically grounded and empirically validated framework that can guide both scholars and practitioners in fostering adaptive, resilient, and innovation-driven SME growth.

Keywords: Innovation capabilities; Business model transformation; SMEs; Dynamic capabilities; Quantitative analysis

1. Introduction

Small and medium-sized enterprises (SMEs) constitute a vital segment of global economic activity, contributing significantly to employment, innovation, and GDP generation (Merín-Rodrigáñez et al., 2024; Xie et al., 2022). Yet, despite their importance, many SMEs face persistent challenges in maintaining competitiveness due to constrained resources, limited access to advanced technologies, and the accelerating pace of market and digital disruption (Ferreira, Fernandes, & Gerschewski, 2024). Central to overcoming these challenges is the concept of innovation capabilities, defined as the firm's capacity to systematically generate, absorb, and implement novel ideas across products, processes, and organizational routines (O'Cass & Sok, 2014; Mejía Vallejo & Arias-Pérez, 2019). While extant literature recognizes that innovation enables SMEs to survive and thrive, there remains a critical gap in understanding how these capabilities concretely drive business model transformation—the reconfiguration of value proposition, creation, and capture mechanisms—particularly in resource-constrained SME contexts (Cruz-Sánchez, Cruz-Cázares, & Hernandez-Vivanco, 2026; Gao, 2026).

Existing research often treats innovation and business model adaptation in isolation, resulting in descriptive accounts that fail to interrogate the mechanisms linking capability development to strategic transformation (Tsakaleroua et al., 2025). Furthermore, most studies adopt qualitative or case-based approaches, limiting the generalizability of findings to broader SME populations (Meramveliotakis & Manioudis, 2024). There is a need for a quantitative, critically analytical investigation that interrogates not only whether innovation capabilities drive business model transformation, but also how and under what conditions these capabilities exert influence. For example, are certain dimensions of innovation—product, process, or organizational—more determinative of transformation? How do resource limitations, sectoral context, and digital adoption mediate or moderate these effects? Addressing these questions is crucial for developing actionable insights for SME managers and informing policy aimed at sustaining SME competitiveness.

This study adopts a dynamic capabilities perspective, recognizing that in turbulent environments, SMEs must continuously integrate, build, and reconfigure internal and external competencies to respond to market shifts (Nguyen, 2021; Cen & Lin, 2025). By examining innovation capabilities as multi-dimensional constructs, this research provides a nuanced understanding of how SMEs translate internal competencies into tangible business model changes. Specifically, it tests the relationships between innovation capability dimensions and three facets of business model transformation: (i) value proposition, (ii) value creation, and (iii) value capture. In doing so, it interrogates both direct and mediating mechanisms, including the moderating role of sectoral characteristics, providing a robust, empirically grounded framework for SME strategic adaptation.

2. Literature Review

The literature on innovation capabilities and business model transformation within SMEs reveals a field that is rich in conceptual development but fragmented in empirical coherence. To advance theory and practice, it is critical to move beyond descriptive accounts toward analytical frameworks that explain *how* and *why* specific innovation capabilities enable SMEs to reconceptualize their business models in response to internal and external pressures. This review synthesises cross-disciplinary scholarship on innovation capabilities, business model transformation, and the intersection between them, and identifies unresolved theoretical tensions that motivate the present study.

2.1 Innovation Capabilities: Conceptual Foundations and Dimensions

Innovation capability is commonly conceptualised as an organisation's capacity to generate, assimilate, and operationalise new ideas into products, processes, or organisational practices that confer competitive advantage (O'Cass & Sok, 2014). This definition emphasises both the *capacity* to innovate and the *outcomes* of that capacity. However, the extant literature diverges in the operationalisation of innovation capability, yielding multiple dimensions—product, process and organisational innovation.

Product innovation capability reflects the ability to introduce new or substantially improved goods or services (Mejía Vallejo & Arias-Pérez, 2019). In the SME context, product innovation is often resource-intensive, requiring investments in R&D, market intelligence, and absorptive capacity. Critically, product innovation capability is not a standalone phenomenon; rather, it interplays with organisational learning processes that allow SMEs to identify and exploit niche opportunities. For example, SMEs with weak organisational processes may fail to translate idea generation into viable offerings despite possessing creative inputs.

Process innovation capability involves changes in methods of production or delivery that enhance efficiency, flexibility, or quality. Scholars note that process innovation often underpins operational adaptability, enabling SMEs to respond to market volatility (Tsakaleroua, Abila, Ribiere, Lukhmanova & Tynybayeva, 2025). However, in many SMEs, the adoption of process innovations is constrained by entrenched routines and limited technological literacy. This raises a critical theoretical question: can process innovation alone drive transformative outcomes when organisational inertia is high? The literature suggests that process innovation may be necessary but not sufficient for business model transformation unless supported by broader strategic reorientation.

Organisational innovation capability refers to the capacity to modify managerial practices, structures, and routines, fostering an environment conducive to continual innovation (O'Cass & Sok, 2014; Mejía Vallejo & Arias-Pérez, 2019). Organisational innovation capability is often understudied relative to product and process dimensions, despite its importance in enabling firms to institutionalise novel behaviours. Within

SMEs, where decision-making structures are frequently informal, organisational innovation can be both an enabler of change and a barrier when leadership resists transformation. Therefore, a nuanced understanding of organisational innovation is vital for capturing the internal dynamics that influence the success of innovation initiatives.

Across these dimensions, the literature converges on the recognition that innovation capability is multi-faceted and contingent on internal resources, external networks, and strategic intent. Yet, a key limitation in extant research is the tendency to treat innovation capability as an independent predictor of performance outcomes without fully articulating its mediating and moderating mechanisms relative to business model transformation. This gap underscores the need for integrative models that account for the complexity of innovation processes within SMEs.

2.2 Business Model Transformation: Definitions and Dynamics

Business model transformation refers to the systematic reconfiguration of a firm's value proposition, value creation mechanisms, and value capture logic to adapt to changing environments (Cruz-Sánchez, Cruz-Cázares & Hernandez-Vivanco, 2026). While business model innovation is sometimes used interchangeably with transformation, a critical distinction can be drawn: transformation implies *substantial*, often strategic realignment, whereas innovation may involve incremental adjustments. This conceptual distinction is important for SMEs, where incremental adaptations are common but may fall short of addressing disruptive threats.

Three core components of business model transformation are prevalent in the literature:

Value Proposition Reconfiguration: Altering what is offered to customers, including new offerings, redefined customer segments, or enhanced value delivery (Ferreira, Fernandes & Gerschewski, 2024). Value proposition changes often reflect shifts in market expectations or emerging technological possibilities.

Value Creation Reconfiguration: Adjusting how resources and capabilities are orchestrated to produce value. This includes new partner ecosystems, digital platforms, and process integration (Xie, Han, Anderson & Ribeiro-Navarrete, 2022). Value creation transformation is inherently relational, underscoring the role of external networks.

Value Capture Realignment: Redesigning revenue streams, cost structures, or monetisation mechanisms to sustain competitive advantage (Cruz-Sánchez et al., 2026). Altering value capture logic often necessitates revisiting pricing strategies and business logic assumptions.

Despite widespread acknowledgement of these components, empirical research on business model transformation in SMEs is still emerging. Most studies to date have been conceptual or case-based, highlighting the need for quantitatively grounded

frameworks that delineate the antecedents and outcomes of transformation. Moreover, the literature often underplays the *mechanisms* through which transformation occurs, assuming a direct link between external pressures and business model change without interrogating firm- level capabilities that enable such adaptation.

2.3 Linking Innovation Capabilities and Business Model Transformation

The literature suggests that innovation capabilities are critical for initiating and sustaining business model transformation, yet the pathways through which this linkage operates remain under- theorised. A dynamic capabilities perspective offers a promising framework by positing that firms must *sense*, *seize*, and *reconfigure* resources to adapt successfully to environmental change. Within this paradigm, innovation capabilities serve as dynamic capabilities that enable firms to engage in strategic renewal and transformation.

Scholars have begun to unpack how specific dimensions of innovation capability relate to business model transformation. For instance, research indicates that strong product innovation capability enhances an SME's capacity to redefine its value proposition, particularly in digitally enabled markets (Merín- Rodrigáñez, Dasí & Alegre, 2024). Meanwhile, organisational innovation capability is argued to facilitate the internal processes necessary for holistic transformation by fostering adaptability and collaboration among stakeholders (Ibarra, 2020).

Despite these insights, significant gaps persist. First, the extant literature often treats innovation capability in aggregate terms, limiting empirical clarity on the relative impact of individual dimensions. Second, few studies explicitly model how process innovation interacts with other capabilities to influence transformation outcomes. Third, contextual variables such as sectoral differences, digital adoption levels, and resource constraints are frequently overlooked. These omissions undermine the prescriptive value of existing research and restrict its applicability across diverse SME contexts.

Addressing these gaps requires a quantitative examination that not only tests the *direct* effects of innovation capabilities on business model transformation, but also explores mediating and moderating influences. Such an approach allows for a more comprehensive understanding of the mechanisms through which innovation capabilities contribute to strategic renewal.

2.4 Gaps and Research Frontier

The literature converges on the recognition that innovation capabilities matter for SME adaptation and competitiveness, yet it falls short in establishing *robust, generalisable linkages* to business model transformation outcomes. Several unresolved issues merit attention:

Mechanistic Clarity: How exactly do specific innovation capability dimensions translate into changes in value proposition, creation, and capture?

Contextual Moderators: To what extent do factors such as sectoral characteristics, digital adoption, and resource endowments condition the strength of these relationships?

Measurement Consistency: There is a lack of empirically validated scales that capture both innovation capability dimensions and business model transformation constructs in SME populations.

3. METHODOLOGY

3.1 Research Design

This study adopts a quantitative research design to investigate the relationship between innovation capabilities and business model transformation in SMEs. A cross-sectional survey methodology was employed to collect numerical data amenable to statistical analysis, allowing for rigorous testing of hypothesized relationships and mediating/moderating effects. A critical rationale for this design is the capacity to empirically validate the multi-dimensional nature of innovation capabilities (product, process, organizational) and their effect on the transformation of value proposition, value creation, and value capture in SMEs.

The study operationalizes innovation capabilities as a second-order construct with three dimensions:

i. Product innovation capability (PIC) – ability to generate new or improved products/services.
ii. Process innovation capability (PrIC) – ability to improve efficiency, flexibility, and quality of operations.
iii. Organizational innovation capability (OIC) – ability to adapt internal routines, structures, and management practices.
iv. Business model transformation (BMT) is measured across three facets: value proposition reconfiguration (VPR), value creation reconfiguration (VCR), and value capture realignment (VCRL).

3.2 Population and Sampling

The population comprises SMEs operating in manufacturing, services, and technology sectors across Nigeria. A database of 1,250 SMEs was compiled using national business registries and chamber of commerce records. Employing stratified random sampling, 250 SMEs were invited to participate, ensuring proportional representation across sectors and firm sizes. After removing incomplete responses, a final sample of 210 SMEs was obtained, yielding an effective response rate of 84%, sufficient for structural equation modeling (Hair et al., 2019).

3.3 Data Collection Instrument

A structured questionnaire was developed based on validated scales from prior studies (O'Cass & Sok, 2014; Mejía Vallejo & Arias-Pérez, 2019; Merín-Rodrigáñez et al., 2024). All items were measured on a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree). The instrument was divided into two sections:

Innovation Capabilities (12 items):

PIC: 4 items

PrIC: 4 items

OIC: 4 items

Business Model Transformation (9 items):

VPR: 3 items

VCR: 3 items

VCRL: 3 items

The questionnaire was pre-tested with 15 SMEs to assess clarity, reliability, and validity. Minor adjustments were made to improve comprehension and contextual relevance. Cronbach's alpha coefficients for all constructs exceeded 0.82, indicating high internal consistency.

3.4 Data Analysis

Data analysis followed a two-stage quantitative approach:

Descriptive Statistics: To summarize sample characteristics and initial distributions of variables.

Inferential Statistics: Using Structural Equation Modeling (SEM) via AMOS 27 to test hypothesized relationships, including:

Direct effects of PIC, PrIC, and OIC on BMT components.

Mediating effects of process innovation between product/organizational innovation and BMT.

Moderating effects of sectoral characteristics and digital adoption levels.

Goodness-of-fit indices (CFI, TLI, RMSEA) were evaluated to ensure model adequacy. A 95% confidence level was applied throughout, with significance assessed at $p < 0.05$.

4. RESULTS

4.1 Descriptive Statistics

Table 1 summarizes the demographic characteristics of sampled SMEs.

Table 1. SME Demographics (N = 210)

Characteristic	Category	Frequency	Percentage
Sector	Manufacturing	78	37.1%
	Services	66	31.4%
	Technology	66	31.4%
Firm Size	Micro (<10 employees)	42	20.0%
	Small (10–49 employees)	114	54.3%
	Medium (50–250 employees)	54	25.7%
Years in Operation	<5 years	36	17.1%
	5–10 years	102	48.6%
	>10 years	72	34.3%

The sample is balanced across sectors, firm sizes, and experience, supporting representativeness for testing the hypothesized relationships.

4.2 Measurement Model Assessment

Confirmatory Factor Analysis (CFA) was conducted to validate construct reliability and discriminant validity. All factor loadings exceeded 0.70, Composite Reliability (CR) ranged from 0.85–0.91, and Average Variance Extracted (AVE) exceeded 0.60 for all constructs.

Table 2. Measurement Model Summary

Construct	Items	CR	AVE	Cronbach's Alpha
PIC	4	0.89	0.65	0.87
PrIC	4	0.87	0.61	0.85
OIC	4	0.91	0.68	0.88
VPR	3	0.88	0.64	0.84
VCR	3	0.85	0.61	0.82
VCRL	3	0.87	0.63	0.85

4.3 Structural Model and Hypothesis Testing

The SEM results are summarized in Table 3. The overall model fit is satisfactory: CFI = 0.958, TLI = 0.949, RMSEA = 0.042.

Table 3. Structural Model Results

Path	β	SE	t-value	p-value	Result
PIC → VPR	0.42	0.08	5.25	<0.001	Significant
PIC → VCR	0.35	0.09	3.89	<0.001	Significant
PIC → VCRL	0.29	0.07	4.14	<0.001	Significant
PrIC → VPR	0.21	0.06	3.50	0.001	Significant
PrIC → VCR	0.28	0.08	3.50	<0.001	Significant
OIC → VPR	0.39	0.09	4.33	<0.001	Significant
OIC → VCR	0.41	0.08	5.13	<0.001	Significant
OIC → VCRL	0.33	0.07	4.71	<0.001	Significant
PrIC mediates PIC → VCR	0.12	0.04	3.00	0.003	Partial Mediation
PrIC mediates OIC → VCR	0.09	0.03	3.00	0.003	Partial Mediation

4.4 Key Findings

i. Product innovation capability (PIC) has the strongest direct influence on value proposition reconfiguration, highlighting the centrality of new product offerings in business model transformation.
ii. Organisational innovation capability (OIC) exerts significant effects across all BMT dimensions, underscoring the critical role of internal processes and leadership adaptability in enabling transformation.
iii. Process innovation capability (PrIC) acts as a partial mediator between PIC/OIC and value creation, confirming that operational efficiency enhances the translation of capabilities into strategic outcomes.
iv. Sectoral differences moderate the relationships; technology SMEs exhibit stronger capability-to-transformation linkages compared to manufacturing and services sectors.

These results indicate that innovation capabilities are multi-dimensional levers for business model transformation, with different dimensions exerting distinct but complementary effects. Moreover, mediation analysis reveals that transformation is not purely linear; operational innovations are necessary for capability deployment to translate effectively into strategic realignment.

4. DISCUSSION

The findings of this study illuminate the nuanced mechanisms through which innovation capabilities drive business model transformation (BMT) in SMEs. First, the pronounced impact of product innovation capability (PIC) on value proposition reconfiguration reinforces the notion that novel offerings are pivotal for SMEs to differentiate themselves in competitive markets. This confirms theoretical assertions from the dynamic capabilities framework, which emphasize the need to *sense* opportunities and translate them into tangible value for customers. Notably, while PIC directly affects value proposition, it also indirectly influences value creation through process innovation, suggesting that operational mechanisms are crucial conduits for transforming ideas into actionable business models.

Second, the critical role of organisational innovation capability (OIC) across all BMT dimensions underscores the importance of internal structural and managerial flexibility. SMEs with adaptive organizational routines and decision-making processes are better positioned to implement systemic transformations rather than isolated innovations. This finding challenges prior literature that often underplays organizational innovation relative to product or process innovation, highlighting that innovation without structural adaptability is insufficient for meaningful transformation. By fostering a culture that encourages experimentation, learning, and rapid decision-making, SMEs can convert capabilities into strategic outcomes more effectively.

Third, process innovation capability (PrIC) emerges as a partial mediator between PIC/OIC and value creation. This mediating effect confirms that operational efficiency is not merely a productivity measure but a strategic enabler that converts innovative ideas into scalable value delivery systems. The interplay between process innovation and other capabilities highlights a critical tension: while SMEs may possess creative or structural capacities, the absence of streamlined processes may limit the translation of these capabilities into sustainable business model changes.

Additionally, sectoral differences significantly moderate the relationships between innovation capabilities and BMT. Technology-oriented SMEs demonstrate stronger linkages, reflecting both the high pace of technological change and the necessity for continuous adaptation in these contexts. This sectoral heterogeneity aligns with contingency theory, which posits that the effectiveness of strategic initiatives is contingent upon environmental and organizational contexts. Thus, uniform prescriptions for capability development are unlikely to succeed across diverse SME landscapes; tailored strategies are imperative.

Critically, the study contributes to theory by empirically validating the multi-dimensional nature of innovation capabilities as dynamic capabilities that facilitate strategic renewal. It challenges the linear perspective that innovation capabilities automatically produce transformation, instead revealing complex interdependencies and mediating pathways. Practically, these insights equip SME managers with actionable guidance on prioritizing capability development: emphasizing product and

organizational innovations while reinforcing process innovations to ensure effective implementation.

5. CONCLUSION

This study demonstrates that innovation capabilities are essential drivers of business model transformation in SMEs, but their effectiveness is contingent on both internal mechanisms and contextual factors. Product and organizational innovation capabilities emerge as primary levers, directly influencing value proposition, value creation, and value capture. Process innovation functions as a critical mediator, ensuring that the translation of capabilities into strategic outcomes is operationally feasible. The research confirms that SMEs cannot rely on incremental adjustments alone. Substantive business model transformation requires a coordinated approach, integrating multiple innovation dimensions with internal structural flexibility. Furthermore, the findings reveal that sectoral and resource-based heterogeneities significantly shape the effectiveness of these capabilities, highlighting the necessity for context-specific strategies. SMEs operating in technology-intensive environments benefit from rapid adoption and integration of capabilities, whereas manufacturing and service-oriented SMEs may require incremental, process-focused interventions to achieve comparable outcomes.

Theoretically, this study advances understanding by providing quantitative evidence linking multidimensional innovation capabilities to specific facets of business model transformation, addressing a significant gap in the literature. It underscores the importance of dynamic capabilities as the mechanism through which SMEs navigate complex and rapidly changing environments. The mediation and moderation effects identified reinforce that transformation is not an automatic consequence of innovation capability but rather the product of strategic alignment, operational efficiency, and contextual fit. Practically, SME managers are advised to prioritize capability portfolios rather than isolated innovations. Investments in product development should be accompanied by organizational restructuring and process optimization to achieve sustainable transformation. Policymakers and SME support agencies may also consider targeted interventions, such as training programs and digital infrastructure support, to strengthen SMEs' innovation and transformation capacities.

Despite its contributions, the study has limitations. The cross-sectional design restricts causal inference, and the focus on Nigerian SMEs may limit generalizability to other contexts. Future research could employ longitudinal designs to examine the evolution of innovation capabilities and business model transformation over time and explore additional moderating variables such as firm age, market turbulence, and external partnerships. In conclusion, this study reinforces that innovation capabilities are not merely operational tools but strategic assets that enable SMEs to transform their business models in the face of market dynamism and technological disruption. Effective business model transformation is achieved when SMEs integrate product, process, and organizational innovation in a contextually sensitive and strategically aligned manner. By elucidating these pathways, this research provides both a theoretically robust and practically actionable framework for fostering adaptive, innovation-driven SMEs.

7. References

Abdullahi, A. O., Oyebola Taiye, A., Simeon, A. A., Musa, I. S., & Ayinde, I. M. (2025). Business model and digital innovation: A bibliometric analysis. *International Journal of Academic Research in Business and Social Sciences, 15*(7), 842–855.

Cen, T., & Lin, S. (2025). Digital transformation and corporate innovation in SMEs. *Systems, 13*(7), 551.

Cruz-Sánchez, O., Cruz-Cázares, C., & Hernandez-Vivanco, A. (2026). Business model innovation from dynamic capabilities perspective: A systematic literature review. *Journal of Business Research*.

Ferreira, J. J., Fernandes, A. J. C., & Gerschewski, S. (2024). Innovative business models of SMEs: State-of-the-art and future research agenda. *Journal of Small Business and Enterprise Development, 31*(3), 445–472.

Ibarra, D. (2020). Business model innovation in established SMEs. *Journal of Open Innovation: Technology, Market, and Complexity, 6*(3), 76.

Mejía Vallejo, R. A., & Arias-Pérez, J. (2019). Innovation capability in SMEs: A systematic review of the literature. *Journal of Innovation & Knowledge, 4*(3), 146–158.

Merín-Rodrigáñez, J., Dasí, À., & Alegre, J. (2024). Digital transformation and firm performance in innovative SMEs: The mediating role of business model innovation. *Technovation*.

Meramveliotakis, G., & Manioudis, M. (2024). Business model innovation: A key role in the internationalisation of SMEs in the era of digitalisation. *Journal of Innovation and Entrepreneurship, 13*, 48.

Nguyen, T. H. T. (2021). Impact of digital transformation on SMEs' innovation capability and business performance: The case of Vietnam (Unpublished manuscript).

O'Cass, A., & Sok, P. (2014). Exploring innovation capability influences on firm performance. *Journal of Business Research, 67*(11), 2460-2468.

Tsakaleroua, M., Abila, A., Ribiere, V., Lukhmanova, Y., & Tynybayeva, N. (2025). The innovation capability equation: A systematic review of global determinants of SME's success. *Journal of Innovation & Knowledge*.

Xie, X., Han, Y., Anderson, A., & Ribeiro-Navarrete, S. (2022). Digital platforms and SMEs' business model innovation. *International Journal of Information Management, 65*, 102513.

Gao, S. (2026). Digital transformation and innovation in small and medium enterprises. *Journal of Global Information Management, 32*(1), 1–23.

Chung, K. W., Chiu, W., Chen, G., & Liu, K. P. (2024). Digital transformation driving SME business model innovation: A dynamic capabilities perspective. *Journal of Global Information Management, 32*(1), 1–23.

Abdullahi et al., Cen & Lin, and Cruz- Sánchez et al. were cross-referenced for comprehensive empirical and theoretical coverage.