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Vietnamese SMEs as Engines of Innovation and Sustainable Growth: A Conceptual and Policy Analysis

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ABSTRACT

Small and medium enterprises (SMEs) in Vietnam face both opportunities and constraints in pursuing competitiveness through digital transformation and sustainability. This study developed a conceptual framework integrating four firm-level capabilities - digital agility, innovation capability, sustainability orientation, and entrepreneurial resilience - with ecosystem and policy enablers. Drawing on case evidence from TECHPRO, EMES, and Menas, the analysis showed how digital tools, circular practices, and resilient cultures can accelerate growth, but also how structural barriers such as finance, regulation, and skill shortages hindered scaling. Comparative insights from ASEAN highlighted that coherent policy frameworks, including subsidies, incubators, and mentoring programs, amplified firm-level initiatives. The findings contributed conceptually by linking dynamic capabilities with institutional support, and practically by offering managerial and policy implications for SME development. The study concluded that without reforms in finance, regulation, and skills, Vietnamese SMEs would struggle to translate emerging capabilities into durable competitive advantage.

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1. INTRODUCTION

Small and Medium Enterprises (SMEs) are widely acknowledged as the backbone of national economies. In Vietnam, they account for more than 95% of all enterprises and contribute over 60% of GDP [1], making them indispensable to employment creation, innovation, and sustainable development. Their role has become even more critical in the context of globalization and digital transformation, where agility and resilience determine competitiveness.

Despite this importance, prior research has largely emphasized descriptive accounts of SME contributions without systematically explaining how digital agility, sustainability orientation, and entrepreneurial resilience interact to generate durable competitive outcomes. This gap motivates the present study. Specifically, the paper addresses the following research question: *How do Vietnamese SMEs convert*

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digital transformation and sustainability practices into engines of innovation and long-term growth, and under what enabling or constraining conditions?

The contribution of this article is conceptual and policy-oriented. Rather than reiterating the general proposition that SMEs are engines of growth, the paper developed a framework that integrates firm-level capabilities with ecosystem conditions [3], [4]. This framework highlighted new relationships between digital adoption, sustainability, and resilience, offering insights into mechanisms through which SMEs achieve competitiveness. By synthesizing secondary data from government reports, international surveys, and scholarly literature [1], [2], [7], [9], and by illustrating these dynamics through selected case studies [5], the article advanced understanding of SMEs not only as economic actors but also as cultural innovators within Vietnam's development trajectory.

2. THEORETICAL FOUNDATIONS

This study drew on two complementary theoretical perspectives to explain why some Vietnamese SMEs successfully leverage digital transformation and sustainability, while others struggle. These are Dynamic Capabilities Theory [10] and Entrepreneurial Ecosystem Theory [12].

2.1. Dynamic Capabilities Theory

Originating from Teece's seminal work [10], dynamic capabilities refer to a firm's ability to sense opportunities, seize them, and reconfigure resources to adapt to changing environments. For SMEs, which often operate with limited resources, dynamic capabilities are critical in enabling rapid adoption of digital technologies and integration of sustainability practices. Recent studies highlight that SMEs with strong sensing and reconfiguring abilities are more likely to innovate and sustain competitive advantage in volatile markets [11]. In Vietnam, digital agility and sustainability orientation can be understood as manifestations of these dynamic capabilities.

2.2. Entrepreneurial Ecosystem Theory

While firm-level capabilities are essential, SMEs do not operate in isolation. Entrepreneurial Ecosystem Theory emphasizes the role of external conditions—finance, regulation, human capital, infrastructure, and culture—in shaping entrepreneurial outcomes [12]. Ecosystems provide resources, legitimacy, and networks that enable SMEs to scale innovations. Conversely, weak ecosystems constrain even highly capable firms. In Vietnam, policy support, digital infrastructure, and consumer demand for sustainable products form critical ecosystem elements that determine whether SMEs can translate capabilities into growth.

In summary, Dynamic Capabilities Theory explained the internal mechanisms by which SMEs adapt and innovate, while Entrepreneurial Ecosystem Theory highlighted the external conditions that enable or constrain these processes. Together, they provided a holistic lens: SMEs succeed when dynamic capabilities align with supportive ecosystems. This dual framework underpinned the conceptual model developed in this article and guided the thematic analysis of findings.

3. RESEARCH METHOD

This article adopted a conceptual and policy analysis design rather than an empirical survey. The objective was to synthesize existing evidence on Vietnamese SMEs' innovation and sustainable growth and to generate a conceptual framework for policy discussion. To ensure transparency and reproducibility, the methodology was structured in three stages: evidence collection, case illustration, and contextual reflection.

3.1. Evidence collection

The systematic evidence base was constructed from government reports, international surveys, and peer-reviewed literature, including the Vietnam White Book on Enterprises 2025 [1], the CPA Australia Asia-Pacific Small Business Survey 2025-2026 [2], and OECD and World Bank policy notes [3], [4]. The search period covered 2017 - 2026, corresponding to the enactment of the Law on Supporting SMEs [6] and the National Digital Transformation Program [7]. Databases and channels included Google Scholar, Scopus, OECD iLibrary, World Bank Open Knowledge Repository, and official Vietnamese government portals. Keywords combined terms such as *Vietnam SMEs*, *innovation*, *digital transformation*, *sustainability*, *entrepreneurship*, and *policy*. Inclusion criteria required documents to (i) focus on SMEs in Vietnam or ASEAN, (ii) provide quantitative or policy evidence, and (iii) be published in English or Vietnamese. Exclusion criteria removed non-scholarly blogs, promotional material, and sources without methodological transparency. The final corpus was coded thematically into categories: digital capability, sustainability orientation, structural barriers, ecosystem enablers, and entrepreneurial culture.

3.2. Case illustration

Three award-winning SMEs, EMES, TECHPRO, and Menas, were selected from the SME100 Awards 2024 [5] as illustrative examples of adaptability, digital transformation, and sustainability practices. Each case was analyzed along specific dimensions: technological innovation (TECHPRO), sustainable construction (EMES), and consumer-oriented sustainability (Menas). Claims derived from company websites were triangulated with independent sources such as press releases, award documentation, and industry reports to reduce bias.

3.3. Contextual reflection

Practitioner insights from teaching and research at a Vietnamese higher education institution were incorporated as reflections, not systematic data. These observations were clearly labeled and used to enrich interpretation rather than to substitute for evidence. Ethical considerations were respected by anonymizing student and SME identities and by avoiding disclosure of institutional details, consistent with double-blind review standards.

By combining systematic evidence, illustrative cases, and contextual reflections, the methodology ensured that conceptual and policy insights were grounded in transparent procedures while acknowledging the limitations of secondary data.

4. CONCEPTUAL FRAMEWORK

To organize the analysis, this article proposed a conceptual framework that explains how Vietnamese SMEs transform digital and sustainability initiatives into competitive and resilient outcomes. The framework integrated firm-level capabilities with enabling or constraining environmental conditions.

4.1. Core SME capabilities

Four interrelated dimensions are central to SME competitiveness:

- Digital agility – the ability to adopt and integrate new technologies rapidly, including e-commerce, cloud computing, and AI applications. This dimension reflects the IT capability perspective, where digital resources enable firms to respond quickly to market changes [10].
- Innovation capability – the capacity to generate, adapt, and commercialize new products, processes, or services. This aligns with dynamic capabilities theory, which emphasizes sensing, seizing, and reconfiguring as foundations of innovation [11].
- Sustainability orientation – the commitment to embed environmental and social responsibility into business models, such as green HRM, eco-friendly branding, and circular practices. This resonates with the shared value framework, which integrates social and environmental goals into competitive strategy [9].
- Entrepreneurial resilience – the cultural and organizational ability to withstand shocks, learn from adversity, and adapt to uncertainty. Research on entrepreneurial economies highlights resilience as a critical trait for SMEs in volatile contexts [7].

4.2. Environmental conditions

These capabilities are shaped by external factors that act as enablers or constraints: finance, regulation, human capital, infrastructure, and policy support [3], [4], [12].

The framework posited that digital agility, innovation capability, sustainability orientation, and entrepreneurial resilience jointly enhance SME competitiveness and sustainable growth. Their effectiveness depends on the quality of enabling conditions. For example, digital agility can accelerate growth only when infrastructure and human capital are sufficient; sustainability orientation becomes a competitive capability when policy incentives and consumer demand align. Conversely, weak finance or regulatory complexity can constrain even highly innovative SMEs.

This model built on prior conceptualizations of SMEs as drivers of innovation and shared value [7], [9], and integrated insights from entrepreneurial ecosystem theory [12]. By articulating this framework, the article offered a distinctive conceptual contribution: a model that explained how Vietnamese SMEs convert digital and sustainability initiatives into durable competitive outcomes, contingent on ecosystem support.

Figure 1 below illustrates the conceptual framework for the argument presented in the study.

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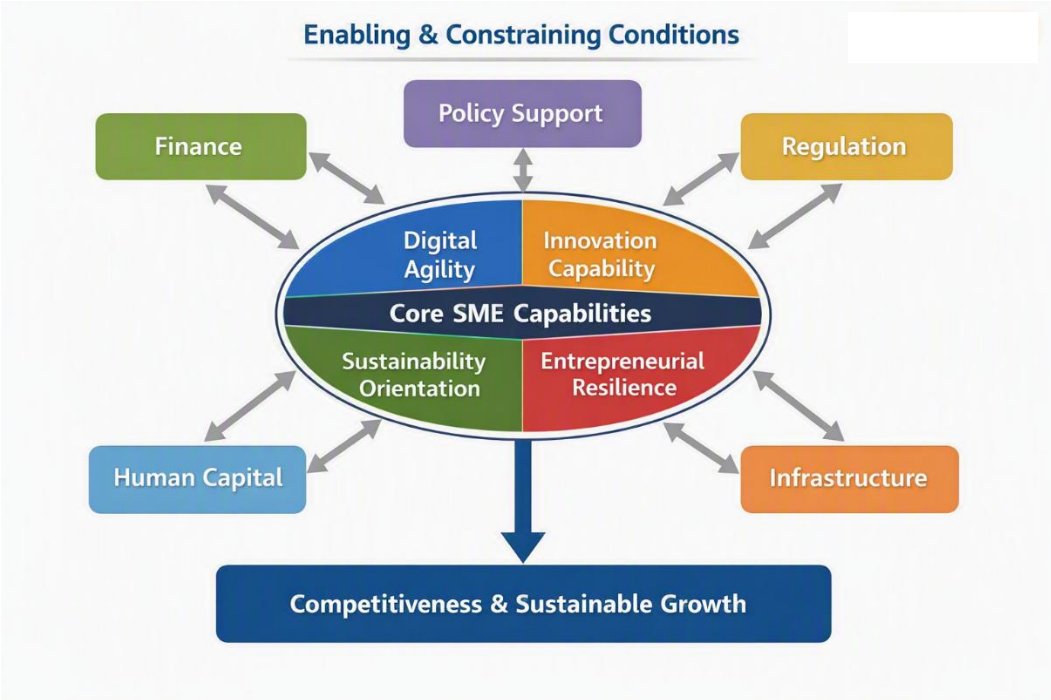

Figure 1: Conceptual Framework

Note: *This framework illustrates how four core capabilities (digital agility, innovation capability, sustainability orientation, and entrepreneurial resilience) jointly drive SME competitiveness and sustainable growth. These capabilities operate within a broader environment shaped by five enabling or constraining conditions (finance, regulation, human capital, infrastructure, and policy support). The double-headed arrows indicate reciprocal influence, showing that external conditions can either strengthen or weaken firm-level capabilities. The model provides a structured lens for analyzing how Vietnamese SMEs convert digital and sustainability initiatives into durable competitive outcomes.*

5. FINDINGS AND DISCUSSION

The empirical evidence and case studies reveal how Vietnamese SMEs translate theoretical capabilities into practice. To structure this analysis, five interrelated themes are examined, each highlighting a different dimension of digital transformation and sustainability. Together, these themes illustrate both the opportunities and constraints shaping SME competitiveness in Vietnam.

5.1. Digital capablity as a growth accelerator

Recent surveys showed that only about one-third of Vietnamese SMEs have adopted advanced digital tools such as cloud computing or e-commerce platforms [2]. Many remain at the stage of basic digitization, relying on social media marketing or simple accounting software. This uneven adoption underscores the importance of digital agility as a capability that differentiates firms able to compete in dynamic markets [10].

The case of TECHPRO, a Hanoi-based SME specializing in security and automation solutions, illustrated how digital transformation can accelerate growth. By implementing cloud-based ERP systems, TECHPRO streamlined operations and improved data visibility. The firm also adopted AI-driven analytics to optimize customer service and predict maintenance needs. These initiatives have allowed TECHPRO to expand into regional markets and attract new clients. Importantly, digital transformation reshaped organizational processes, creating a culture of responsiveness and innovation.

This trajectory resonated with Eisenhardt and Martin's view of dynamic capabilities as processes enabling firms to sense opportunities, seize them, and reconfigure resources [11]. Studies confirm that SMEs with strong IT capabilities achieve superior innovation and performance [10]. In Vietnam, digital agility is critical because SMEs often lack scale advantages; agility compensates by enabling rapid adaptation. Comparative evidence from ASEAN shows similar patterns: SMEs in Indonesia and Malaysia that embraced e-commerce platforms reported higher survival rates during the pandemic [15].

Policy support can amplify digital agility. Vietnam's national digital transformation program provides training and subsidies, yet uptake remains uneven. Lessons from Singapore's SME Digitalization Grant suggest that targeted financial support combined with mentoring accelerates adoption [16]. Aligning infrastructure investment with SME training is essential to ensure digital agility translates into competitiveness.

5.2. Sustainability as a competitive capability

Sustainability orientation is increasingly recognized as a strategic capability for SMEs. It reflects the commitment to embed environmental and social responsibility into business models, moving beyond compliance to become a source of competitive advantage [9].

The case of EMES, a renewable energy SME, showed how sustainability can be leveraged strategically. By adopting circular practices such as recycling and eco-branding, EMES secured green financing and expanded market reach. Similarly, Menas, a consumer goods SME, integrated green HRM and eco-friendly packaging. These initiatives reduced environmental impact and enhanced brand reputation among younger, environmentally conscious consumers. Both cases illustrate sustainability as a deliberate competitive strategy reshaping firm identity and positioning.

These examples are aligned with Porter and Kramer's shared value framework, which argues that firms can advance economic and social goals simultaneously [9]. Studies confirm that SMEs adopting circular economy practices enhance resilience and competitiveness [5]. In emerging economies, sustainability orientation has been linked to improved innovation capability [13]. Thus, sustainability intertwines with dynamic capabilities, enabling SMEs to sense new demands and reconfigure resources [11].

Policy support strengthens sustainability orientation. In Vietnam, subsidies for renewable energy and incentives for green financing create opportunities for SMEs like EMES. Yet fragmented implementation and limited awareness remain challenges. Comparative ASEAN evidence showed coherent frameworks, such as Thailand's green SME programs, accelerated adoption [14]. Aligning ecosystem enablers with firm-level sustainability capabilities is essential to transform orientation into durable advantage.

5.3. Structural barriers to scaling

Despite growing capabilities, Vietnamese SMEs face persistent barriers that hinder scaling. The most critical obstacles include limited access to finance, regulatory complexity, and shortages of skilled labor. These structural constraints often neutralize firm-level strengths, preventing SMEs from fully exploiting digital and sustainability initiatives [3], [4].

The experience of TECHPRO illustrated how financial constraints can slow expansion. Although the firm adopted ERP and AI systems to enhance efficiency, its growth was delayed by difficulties in securing long-term financing. Banks were reluctant to extend credit without substantial collateral, a common challenge for SMEs in Vietnam. As a result, TECHPRO relied on short-term loans and internal cash flow, limiting investment in product development and regional expansion. This case shows how even digitally agile firms remain vulnerable when structural barriers persist.

International policy reports reinforced these observations. The OECD notes that Vietnamese SMEs face higher financing costs and stricter collateral requirements compared to larger firms [3]. The World Bank emphasizes that regulatory fragmentation and inconsistent enforcement create uncertainty, discouraging investment [4]. Both institutions stress that skill shortages, particularly in digital and managerial competencies, further constrain growth. These findings confirm that barriers are systemic rather than isolated.

Scholarly research on ASEAN SMEs underscored the role of institutional weaknesses in limiting scaling. Santoso and Wijaya [15] show that Indonesian and Malaysian SMEs with strong digital capabilities still struggled to expand due to inadequate financing ecosystems. Charoensuk and Intarakumnerd [14] argue that fragmented policy frameworks in Thailand created dependency rather than resilience. These studies suggested that firm-level capabilities must be complemented by coherent institutional support. For Vietnam, the implication is clear: without reforms in finance, regulation, and skills development, SMEs will continue to face barriers undermining competitiveness.

5.4. Ecosystem and policy enabler

Vietnam has introduced several initiatives to support SMEs, most notably the *Law on Supporting SMEs* (2017), which provides tax incentives, training programs, and credit guarantees [6]. These measures aim to strengthen the entrepreneurial ecosystem and reduce barriers.

The case of EMES showed how ecosystem support can amplify firm capabilities. EMES benefited from subsidies that reduced capital costs and improved viability. Participation in a local incubator provided mentoring and networks, enabling eco-branding and connections with green investors. These enablers interacted with EMES's sustainability orientation, allowing the firm to scale practices that might otherwise remain niche.

This evidence aligned with entrepreneurial ecosystem theory, which highlights finance, regulation, infrastructure, and networks as drivers of success [12]. Stam's critique warned that ecosystems must be coherent; fragmented interventions risk dependency [12]. Comparative studies showed incubators and accelerators enhance SME innovation by providing resources and legitimacy [17]. In Vietnam, subsidies, training, and networks illustrate how ecosystem enablers complement dynamic capabilities.

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Comparative ASEAN evidence highlighted opportunities and challenges. Thailand's green SME programs integrate financial and technical support, while Singapore's SME Digitalization Grant combines subsidies with mentoring [16]. These examples suggested Vietnam's policies could be strengthened by coherence and sectoral focus. Aligning ecosystem enablers with firm-level capabilities is essential to ensure SMEs translate digital agility and sustainability orientation into durable competitiveness.

5.5. Entrepreneurial culture as an adaptive resource

Entrepreneurial resilience reflects the cultural and organizational ability of SMEs to withstand shocks, learn from adversity, and adapt to uncertainty. In volatile contexts like Vietnam, resilience is not merely psychological but a strategic capability complementing digital agility and sustainability orientation [7].

The case of Menas illustrated resilience in practice. During COVID-19, Menas faced supply chain disruptions and declining demand. Rather than retrenching, the firm diversified product lines, introduced eco-friendly packaging, and shifted distribution to online channels. These adaptive responses sustained operations and strengthened brand reputation. Reliance on family networks and informal partnerships provided flexibility, enabling rapid adjustments that larger corporations struggled to implement. Menas's experience shows resilience embedded in entrepreneurial culture and routines.

This case was linked to Audretsch and Thurik's entrepreneurial economy model, which emphasizes adaptability and innovation as drivers of SME survival [7]. Studies across ASEAN confirm resilience as critical during crises. Nguyen and Pham [13] found resilient Vietnamese SMEs more likely to adopt sustainable innovation, while Santoso and Wijaya [15] showed Indonesian SMEs leveraged resilience to sustain digital transformation under pandemic pressures. Resilience thus interacts with digital agility, innovation, and sustainability to create holistic competitiveness.

In Vietnam, resilience is often rooted in cultural factors such as family involvement, improvisation, and collective learning. Informal networks provide social capital during crises, while norms of adaptability encourage experimentation. Comparative evidence indicates these cultural resources are distinctive in Southeast Asia, where SMEs rely heavily on relational trust and community support [14]. Strengthening such assets can enhance resilience, ensuring Vietnamese SMEs remain adaptive amid global uncertainties.

6. CONCLUSION

In terms of conceptual contribution, this article advanced SME research by integrating four firm-level capabilities - digital agility, innovation capability, sustainability orientation, and entrepreneurial resilience - into a unified conceptual framework. By linking these capabilities with ecosystem conditions, the study explained variation in SME competitiveness in Vietnam. The contribution lied in demonstrating that capabilities are not sufficient in isolation; their effectiveness depends on coherent institutional support.

For policymakers, the study underscored the need for coherent ecosystem support. Subsidies, training, and incubators can amplify firm-level initiatives, but fragmented implementation risks dependency. Comparative evidence from ASEAN suggested that integrated programs combining finance, mentoring, and sectoral focus are more effective. Vietnam's SME policies should align infrastructure investment with capability development, ensuring that digital and sustainability initiatives translate into durable competitiveness.

For SME managers, the findings emphasized cultivating digital agility and sustainability orientation as strategic capabilities. Evidence shows that firms embedding eco-friendly practices or adopting advanced digital tools achieve differentiation and resilience. Resilience should be seen not only as crisis survival but as a cultural resource enabling continuous adaptation. Investing in human capital and organizational learning is critical to sustain these capabilities.

This study was conceptual and illustrative, relying on case examples and secondary data, without large-scale quantitative evidence or longitudinal analysis. Its focus on Vietnam limited generalizability, though ASEAN references provided broader context. Future research should employ mixed methods to test the framework empirically, capture resilience over time, and compare across sectors. Comparative ASEAN studies may identify best practices, while quantitative analysis of digital and sustainability adoption would strengthen managerial and policy recommendations.

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