



A critical literature review of

Exploring How Digital Technology Capabilities Shape SME Performance in Bangladesh: An RBV-Based Study

Module name: Critical Literature Review for Doctoral Research

Module code: LCDB7009

Submitted To

Prof. Ebad Banissi

Submitted By

Name: Sanjida Akther Eva

Student ID: 2510973

Term: 2

“Exploring How Digital Technology Capabilities Shape SME Performance in Bangladesh: An RBV-Based Study”

Abstract:

Digital transformation is increasingly important for SME competitiveness, yet its performance effects remain uneven in developing economies such as Bangladesh. This study examines how digital technology capabilities shape SME performance through a Resource-Based View (RBV) lens, supported by Dynamic Capability Theory. Using a systematic literature review guided by the PRISMA 2020 framework, the study analyses 70 peer-reviewed articles published between 2015 and 2026. The review shows that digital technologies do not improve performance by themselves; rather, their value depends on the development of firm-specific capabilities such as digital skills, infrastructure, leadership, and strategic alignment. The findings also highlight that in Bangladesh, digital transformation is constrained by financial limitations, weak infrastructure, skill shortages, and institutional barriers. The study contributes to theory by explaining how digital resources become performance-relevant only when embedded in organisational capabilities. It also provides practical insights for SME managers and policymakers seeking to strengthen digital capability development and achieve more sustainable performance outcomes

Key Words:

Digital transformation; digital capabilities; SME performance; Resource-Based View; Bangladesh

1.Introduction:

1.1Background

In this era digital technologies have become a critical part of organisational competitiveness, particularly for SMEs seeking to enhance efficiency, innovation, and market reach. However, the benefits of digital transformation depend not only on technology adoption but also on the development of digital capabilities (Bharadwaj, 2000; Warner & Wäger, 2019). The Resource-Based View (RBV) provides a useful framework for understanding how such capabilities contribute to sustained competitive advantage (Barney, 1991), while dynamic capabilities theory emphasises the ability of firms to adapt and reconfigure resources in rapidly changing environments (Teece, 2018). In developing economies such as Bangladesh, SMEs face significant resource and infrastructural constraints, making the effective development of digital capabilities particularly important (Kraus et al., 2021).

1.2. Problem Statement

Despite the increasing adoption of digital technologies, SMEs in Bangladesh continue to experience inconsistent performance outcomes (Verhoef et al., 2021). This is largely due to structural and institutional challenges, including limited access to finance, inadequate digital infrastructure, and a shortage of skilled human capital (Kraus et al., 2021). These constraints reduce firms' ability to effectively integrate and utilise digital technologies within their operations.

Furthermore, existing research tends to focus on technology adoption rather than the development of digital capabilities, leading to an incomplete understanding of how digital transformation influences performance (Karimi & Walter, 2015; Warner & Wäger, 2019). From a Resource-Based View perspective, performance improvements depend on the firm's ability to deploy and leverage resources effectively, rather than mere possession (Barney, 1991).

So, there is a need to examine how digital technology capabilities, rather than mere adoption, influence SME performance in the context of Bangladesh.

1.3.AIM of the study

This study aims to examine how digital transformation influences the growth and performance of SMEs in Bangladesh by identifying key gaps in digital capability development and utilisation. Although SMEs are increasingly adopting digital technologies, their impact on performance remains uneven due to limitations in organisational capabilities and strategic alignment (Vial, 2019; Verhoef et al., 2021).

Grounded in the Resource-Based View, this research seeks to explore how SMEs can more effectively integrate and leverage digital technologies alongside internal resources to enhance competitiveness (Barney, 1991). It also aims to identify practical ways to improve digital adoption and capability building by drawing insights from existing literature and best practices in digital transformation (Kraus et al., 2021; Warner & Wäger, 2019).

2. Conceptual foundation & Theory Building

This study based in the Resource-Based View and Dynamic Capabilities Theory, this study examines how digital transformation influences SME performance through internal capabilities (Vial, 2019; Teece, 2018). Digital transformation is treated as a strategic resource, while digital and innovation capabilities act as sequential mediators linking technology to performance. Digital strategy moderates this relationship. The study focuses on SMEs in developing economies where capability constraints shape digital outcomes.

The main prospective of the study is digital transformation, digital capability, innovation capability, and SME performance. Digital transformation is conceptualised as a strategic organisational resource, while digital and innovation capabilities function as key mechanisms linking technological investments to performance outcomes (Bharadwaj et al., 2013; Verhoef et al., 2021).

proposes a sequential relationship in which digital transformation enhances digital capability, which in turn enables innovation capability, ultimately leading to improved SME performance. This reflects a capability-driven pathway grounded in the Resource-Based View and Dynamic Capabilities Theory (Barney, 1991; Teece, 2007).

SMEs in developing economies face resource constraints, weak digital infrastructure, and capability gaps, which limit their ability to effectively adopt and utilise digital technologies. As a result, digital transformation does not automatically improve performance and depends on internal capability development (Canton, H. (2021)).

3. Methodology

This study adopts a systematic literature review approach to ensure a structured, transparent, and rigorous process of identifying and analysing relevant academic literature. The review is guided by the PRISMA 2020 Flow Diagram framework, which provides a clear procedure for literature identification, screening, eligibility assessment, and final selection.

The use of a systematic approach minimizes selection bias and enhances the reliability and validity of the review process. The selected studies are subsequently analysed using a thematic approach to identify key patterns, relationships, and research gaps related to digital technology capabilities, SME performance, and the Resource-Based View.

3.1. Database Section & Search Strategy:

The literature search was conducted by multiple academic databases to ensure broad coverage of relevant studies. For databases I use

- Google Scholar
- ResearchGate
- Scopus
- Web of Science
- ScienceDirect

These databases were selected due to their extensive indexing of peer-reviewed research in the fields of management, information systems, and digital transformation.

A structured keyword search strategy was applied using Boolean operators (AND, OR) to refine the search results. The main search terms included:

- “Digital transformation AND SME performance”
- “Digital capability AND organisational performance”
- “Resource-Based View AND SMEs”
- “Dynamic capabilities AND digital technology”
- “SMEs in developing countries AND digitalisation”

The search was limited to studies published between 2015 and 2026 to ensure relevance.

3.2. Inclusion & Exclusion Criteria

Certain inclusion and exclusion criteria were used to make sure the chosen studies were relevant and of high academic quality.

Inclusion Criteria:

- Peer-reviewed journal articles (2015–2026) focused on SMEs,
- examining digital technology.
- digital capability, or digital transformation.
- Based in frameworks such as RBV or dynamic capabilities.
- published in English.

Exclusion Criteria:

- Non-academic or non-peer-reviewed sources.
- Studies unrelated to SMEs or digital technology.
- Duplicates.
- Articles without clear methodology or empirical evidence.
- Research focused solely on large firms.

3.3. Screening & Study Selection

The PRISMA flow diagram illustrates a systematic and transparent study selection process consistent with rigorous review standards (Page et al., 2021). An initial pool of 172 records was identified through database and manual searches, with 152 retained after the removal of duplicates. These studies were subsequently

subjected to structured screening and full-text eligibility assessment based on predefined inclusion and exclusion criteria. This process resulted in a final sample of 70 studies, ensuring a robust, relevant, and methodologically sound evidence base for the review.

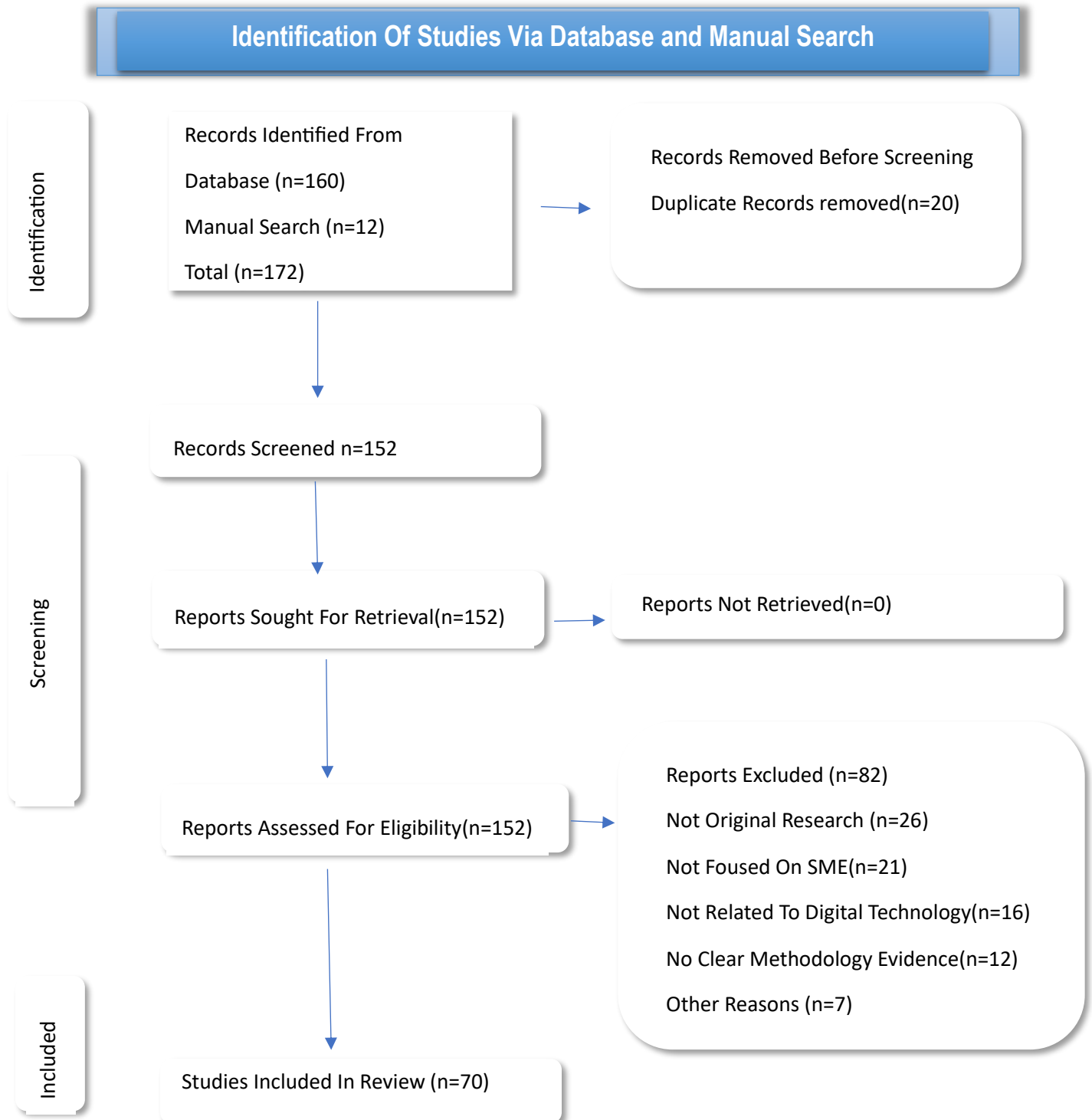


Figure 1.1 PRISMA Diagram

Reference: Crompton, H., & Burke, D. (2023). *Artificial intelligence in higher education: The state of the field*. International Journal of Educational Technology in Higher Education, 20(22).

4. Overview of the literature

My research on digital technology capabilities and SME performance shows that digital transformation enhances competitiveness, but performance gains depend on developing internal capabilities—skills, infrastructure, and strategic alignment—rather than technology adoption alone (Teece, 2018; Bharadwaj et al., 2013).

Most studies use quantitative survey methods to examine links between digital capabilities, innovation, and performance, but still they remain limited by a focus on developed economies, weak attention to capability-building processes, and insufficient insight into how SMEs convert digital capabilities into sustained performance outcomes.

5. Annotated Bibliography:

Annotated bibliography provides a synthesis and critical evaluation of key studies on digital technology capabilities and SME performance. Every work is assessed for its Key Arguments, theoretical contribution, methodology, findings, and relevance to this research. The bibliography is organised thematically to highlight patterns, inconsistencies, and gaps across the literature (Kraus et al., 2021). This structured approach strengthens theoretical integration, particularly within the Resource-Based View (Barney, 1991) and dynamic capabilities (Teece et al., 1997). Following best practices in systematic review enhances transparency and academic rigor (Matthew J Page et al., 2021)

While the main discussion prioritises the most relevant and analytically significant studies, a wider range of literature was systematically reviewed. These supplementary sources are presented in Appendix to maintain transparency and completeness in the review process.

5.1. Resource-Based View and Digital Capability

1. Warner, K. S. R., & Wäger, M. (2019)

The study shows that digital transformation is a continuous strategic-renewal process driven by dynamic capabilities—sensing, seizing, and transforming. Using qualitative multi-case evidence, it identifies nine micro foundations of digital capabilities. It is theoretically strong but limited by its focus on large German incumbents and lack of SME or quantitative validation. It is relevant to your study because it explains *how* digital transformation capabilities develop.

2. Li, X., Wu, T., Zhang, H., & Yang, D. (2022). Digital Technology Adoption and Sustainable Development Performance of Strategic Emerging Industries: The Mediating Role of Digital Technology Capability and the Moderating Role of Digital Strategy. *Journal of Organizational and End User Computing (JOEUC)*, 34(8),

This paper explore that Digital Technology Capability converts technological resources into performance, while Digital Strategy strengthens this effect. Grounded in the Resource-Based View and Dynamic Capabilities View, the study uses a quantitative survey of 385 managers in China and finds that technology adoption improves economic and environmental performance through capability mediation. However, its focus on high-tech firms and cross-sectional design limits generalisability. The study is relevant as it validates the RBV-based link between digital capability and SME performance.

3. Pundziene, A., & Geryba, L. (2023). Managing technological innovation: dynamic capabilities, collaborative innovation, and born-digital SMEs' performance. *IEEE Transactions on Engineering Management*, 71, 6968-6981.

Dynamic capabilities improve born-digital SME performance, especially when collaborative innovation mediates the relationship. Relational collaboration matters more than partnership networks. Quantitative survey of 268 born-digital SMEs across the US, Sweden, and Lithuania, analysing links between capabilities, collaboration, and performance. Dynamic capabilities boost performance mainly through

collaborative innovation; relational collaboration has a significant effect, while partnership networks do not. Strong contribution by focusing on born-digital SMEs and differentiating collaboration types, though limited by self-reported data and a three-country sample. his study is highly relevant as it directly links digital capabilities to SME performance. It supports your RBV framework and explains how collaboration enhances performance outcomes.

4. Van de Wetering, R., Doe, J., van den Heuvel, R., & Al Halbusi, H. (2023). How do SMEs shape business model innovation? A digital infrastructure, improvisational, and dynamic capability perspective. *A digital infrastructure, improvisational, and dynamic capability perspective* (October 11, 2023).

The author examines that technology adoption alone is insufficient, as Digital Technology Capability is essential for converting digital tools into organisational performance. Grounded in the Resource-Based View and Dynamic Capabilities View, the study employs a quantitative SEM approach using data from 385 managers in Chinese strategic industries. The findings show that capability fully mediates the relationship between technology adoption and performance, while digital strategy strengthens this effect. However, the focus on high-tech sectors in a developed Chinese region limits generalisability to traditional SMEs in developing contexts. The study is highly relevant as it provides strong empirical support for focusing on capabilities rather than mere technology adoption.

5. Nasiri, M., Saunila, M., Ukko, J., Rantala, T., & Rantanen, H. (2023). Shaping digital innovation via digital-related capabilities. *Information Systems Frontiers*, 25(3), 1063-1080.

This c paper examines different bundles of digital capabilities are required depending on whether SMEs innovate internal processes or external products. Grounded in the Dynamic Capabilities perspective, the research adopts a quantitative survey of 280 SMEs in Finland and applies PLS-SEM analysis. The findings show that technical capabilities drive digital market offerings, while human capabilities influence internal processes, with collaboration and innovation capabilities playing indirect roles. However, the study is limited by its cross-sectional design and country-specific focus, which restricts generalisability. This study is relevant as it highlights how different capability configurations shape digital transformation and SME performance.

6.Clemente-Almendros, J. A., Nicoara-Popescu, D., & Pastor-Sanz, I. (2024). Digital transformation in SMEs: Understanding its determinants and size heterogeneity. *Technology in Society*, 77, 102483.

This study shows that SME digital adoption depends on firm size, managerial education, and internationalisation. Using the Resource-Based View with TOE and TAM, it analyses survey data from 1,044 Spanish SMEs. Findings indicate these factors jointly drive digital transformation, though the study is limited to one context and focuses mainly on adoption. It is relevant as it highlights key moderators of SME performance.

7.Li, L., Su, F., Zhang, W., & Mao, J. Y. (2018). Digital transformation by SME entrepreneurs: A capability perspective. *Information Systems Journal*, 28(6), 1129-1157.

This study shows that resource-poor SMEs can achieve digital transformation through platform-enabled support that builds managerial cognition and organisational capabilities. Using a qualitative multiple case study of seven SMEs on the Alibaba platform, it develops a process model linking capability development to transformation outcomes. However, its small sample and platform-specific focus limit generalisability. It is relevant as it explains how SMEs in developing contexts can overcome capability constraints to achieve digital success.

8.Gyamerah, S., Afshari, L., & Asante, D. (2025). Digital transformation in the SME context: The nexus between leadership, digital capabilities, and digital strategy. *International Small Business Journal*, 43(3), 303-328.

This study shows that digital transformational leadership drives SME digital transformation through capabilities and strategy. Grounded in the Dynamic Capabilities, it uses a quantitative SEM analysis of 256 SMEs in Ghana. Findings highlight leadership as a key enabler, though generalisability is limited by the single-country and cross-sectional design. It is relevant as it emphasises the role of leadership and human capabilities in digital transformation.

9.Zhao, Z., Hönigsberg, S., & Mandviwalla, M. (2025). Digital driven success: the digitalization effect on SME performance. *Information Technology for Development*, 31(4), 1090-1116.

This study shows that digitalisation improves SME performance only when it enhances dynamic capabilities, particularly seizing and transforming. Grounded in the Dynamic Capabilities framework, it uses a mixed-method approach combining large-scale archival data and a survey of SMEs. Findings highlight those digital technologies enhance performance through capability development, though the small survey sample limits generalisability. It is relevant as it emphasises the critical role of dynamic capabilities in translating digital investments into performance.

10. Ciasullo, M. V., Ferrara, M., & Lim, W. M. (2025). Dynamic capabilities and data-driven culture for digital transformation: evidence from agri-food SMEs. *British Food Journal*.

This study shows that digital transformation success depends on the synergy between big data analytics and digital capabilities in building a data-driven culture. Grounded in the Dynamic Capabilities framework, it uses PLS-SEM analysis on survey data from 300 SMEs. Findings indicate that capabilities drive a data-driven culture, which in turn enhances transformation, though generalisability is limited by context and self-reported data. It is relevant as it highlights the importance of data-driven mindset alongside technical capability.

11. Canhoto, A. I., Quinton, S., Pera, R., Molinillo, S., & Simkin, L. (2021). Digital strategy aligning in SMEs: A dynamic capabilities perspective. *The Journal of Strategic Information Systems*, 30(3), 101682.

The paper shows that digital strategy alignment in SMEs is a continuous process of reconfiguring internal routines to adapt to technological change. Using the Dynamic Capabilities perspective, the study applies a qualitative multi-case analysis of 43 SMEs across Europe. The findings identify four maturity levels—Passive Acceptance, Connection, Immersion, and Fusion—highlighting that alignment depends on organizational reconfiguration rather than technology alone. However, the qualitative design limits measurement of performance impact. The study is relevant as it provides a maturity model to assess SME digital transformation stages.

12. Philbin, S., Viswanathan, R., & Telukdarie, A. (2022). Understanding how digital transformation can enable SMEs to achieve sustainable development: A systematic literature review.

This study explores that digital transformation is a multidimensional process that must align with the triple bottom line to achieve SME sustainability. Using a systematic literature review of 64 studies, this paper identifies three key pillars—technological integration, organisational transition, and environmental impact—linking digitalisation to sustainable growth. However, the reliance on secondary data limits real-time applicability. It is highly relevant as it provides a structured framework connecting digital transformation with long-term sustainability outcomes

13. Martins, A. (2023). Dynamic capabilities and SME performance in the COVID-19 era: the moderating effect of digitalization. *Asia-Pacific Journal of Business Administration*, 15(2), 188-202.

This study examines that while dynamic capabilities improve SME performance, digitalisation acts as a multiplier that specifically enhances the transforming capability during crises. Grounded in the Dynamic Capabilities framework, this study uses a cross-sectional survey of 400 SMEs in Ghana analysed through hierarchical regression. The findings show that digitalisation strengthens performance mainly at the transformation stage, though the design limits long-term insights. This paper is relevant as it provides evidence from a comparable developing context and highlights the critical role of digital transformation in SME performance.

14. Foroudi, P., Gupta, S., Nazarian, A., & Duda, M. (2017). Digital technology and marketing management capability: achieving growth in SMEs. *Qualitative Market Research: An International Journal*, 20(2), 230-246.

This study shows that digital technology facilitates SME growth by enhancing both tangible and intangible assets, particularly strengthening marketing capabilities. Grounded in Resource-Advantage Theory, this study adopts a qualitative design using interviews and focus groups. The findings show that digital tools improve information quality and service convenience, which drive competitive advantage and growth. However, this paper may reflect large-firm bias and lacks quantitative validation. It is relevant as it links digital technology with marketing capability as a driver of SME performance.

15. Ndiaye, Ndeye, et al. "Demystifying small and medium enterprises'(SMEs) performance in emerging and developing economies." *Borsa Istanbul Review* 18.4 (2018): 269-281.

This study examines that SME performance is multidimensional and shaped by both internal and external factors, with key drivers differing between small and medium firms. Using large-scale Enterprise Survey data, this study identifies a limited set of significant determinants, including finance, technology, and infrastructure. However, this paper lacks strong theoretical integration and firm-level capability analysis. It is highly relevant as it highlights the combined influence of resources, environment, and technology on SME performance.

Synthesis:

Most studies agree that digital technologies do not create performance on their own—SMEs need strong internal capabilities. Dynamic capabilities consistently emerge as the core mechanism linking digitalization to performance. Internal readiness matters more than external support.

Studies differ on the role of external environment. They also disagree on which dynamic capability matters most. Collaboration shows mixed results—critical for born-digital firms but weaker for traditional SMEs.

There is limited research in developing economies like Bangladesh, little understanding of how SMEs build capabilities over time, and few longitudinal or mixed-method studies. The literature lacks a unified framework explaining how digital capabilities translate into sustained performance, especially under resource constraints.

5.2 Digital Technology Capabilities and SME Performance

16. Zhe, B. O. M., & Hamid, N. A. (2021). The impact of digital technology, digital capability and digital innovation on small business performance. *Research in Management of Technology and Business*, 2(1), 499-509.

Here they show that digital technology, capability, and innovation positively influence SME performance, with technology having the strongest effect. Using a quantitative survey of 120 SMEs in Malaysia, this study finds that effective use of digital resources generates both tangible and intangible benefits. However, this paper is limited by its small sample and narrow context. It is highly relevant as it provides direct evidence linking digital innovation and SME performance in a comparable developing economy.

17. Astuti, E. S., Sanawiri, B., & Iqbal, M. (2020). Attributes of innovation, digital technology and their impact on SME performance in Indonesia. *International Journal of Entrepreneurship*, 24(1), 1-14.

The study says that SMEs must use digital technology as a mediating tool to translate organisational readiness and strategic orientation into superior performance. Using a quantitative survey of manufacturing SMEs in Indonesia, this study finds that digital adoption significantly enhances performance and mediates the impact of internal factors such as innovation and readiness. However, this paper is limited to a single country and mainly focuses on internal factors. It is relevant as it highlights the mediating role of digital technology in SME performance.

18. Pundziene, A., & Geryba, L. (2023). Managing technological innovation: dynamic capabilities, collaborative innovation, and born-digital SMEs' performance. *IEEE Transactions on Engineering Management*, 71, 6968-6981.

The study discusses that performance in born-digital SMEs depends on the depth of relational collaboration rather than network size. Grounded in the Dynamic Capabilities and collaborative innovation perspectives, this study uses SEM analysis on 268 SMEs across multiple countries. The findings indicate that dynamic capabilities enhance performance through relational collaboration as a key mediator. However, this paper is limited to high-tech sectors and lacks insight into underlying processes. It is relevant as it highlights the importance of partnerships in driving SME performance.

19. Jalil, M. F., Ali, A., & Kamarulzaman, R. (2022). Does innovation capability improve SME performance in Malaysia? The mediating effect of technology adoption. *The International Journal of Entrepreneurship and Innovation*, 23(4), 253-267.

Author examines that in volatile markets, SME survival depends on innovation capability, with technology adoption acting as a bridge to performance. Using an Innovation–Performance model, this study applies SEM on data from 611 SMEs in Malaysia. The findings show that innovation capability strongly drives performance, with technology adoption partially mediating this relationship. However, this paper is limited by its single-country and cross-sectional design. It is highly relevant as it highlights the role of internal capabilities and technology in SME performance within developing countries.

20. Khin, S., & Ho, T. C. (2019). Digital technology, digital capability, and organizational performance: A mediating role of digital innovation. *International journal of innovation science*, 11(2), 177-195.

They examine that possessing digital tools alone is insufficient; firms must develop digital orientation and capability to drive innovation and performance. Using a quantitative survey with PLS-SEM on 105 Malaysian IT firms, this study finds that digital innovation mediates the relationship between capabilities and both financial and non-financial performance. However, this paper is limited by its small sample and sector-specific focus. It is highly relevant as it highlights the importance of measuring both financial and non-financial outcomes of digital transformation.

21. Rehman, N., Razaq, S., Farooq, A., Zohaib, N. M., & Nazri, M. (2020). Information technology and firm performance: mediation role of absorptive capacity and corporate entrepreneurship in manufacturing SMEs. *Technology Analysis & Strategic Management*, 32(9), 1049-1065.

IT improves SME performance only when supported by absorptive capacity and corporate entrepreneurship. Grounded in the Resource-Based View and Dynamic Capabilities Theory, this study uses SEM on survey data from 304 manufacturing SMEs in Pakistan. The findings show that IT creates value through internal learning and entrepreneurial processes rather than hardware alone. However, this paper is limited to manufacturing firms and may not fully apply to service-based SMEs. It is highly relevant as it highlights the importance of human learning in converting digital investment into performance.

22. Karadağ, H., Şahin, F., Karamollaoğlu, N., & Saunila, M. (2024). Disentangling the dynamic digital capability, digital transformation, and organizational performance relationships in SMEs: a configurational analysis based on fsQCA. *Information Technology and Management*, 1-17.

Karadağ et al. (2024) shows that digital transformation is not a linear process but occurs through different configurations of dynamic capabilities such as sensing, seizing, and reconfiguring. Using fsQCA on SME data, this study identifies multiple “causal recipes” where combinations of strategy, IT, skills, and maturity drive high performance. However, this paper relies on subjective data and a single-country sample. It is highly relevant as it highlights multiple pathways to SME performance under resource constraints.

23. Prakasa, Y., & Jumani, Z. A. (2024). Linking digital capability to small business performance: the mediating role of digital business transformation. *Cogent Business & Management*, 11(1), 2342486.

This paper shows that digital capability alone does not directly improve SME performance; its value is realised through digital business transformation. Grounded in the Dynamic Capabilities perspective, this study uses PLS-SEM on data from 216 SMEs in Indonesia. The findings show that transformation partially mediates the relationship between capability and performance, highlighting the importance of business model change. However, this paper is limited to a specific regional context. It is highly relevant as it emphasises that performance gains depend on transforming business processes, not just adopting technology.

24. Bianchi, C., Glavas, C., & Mathews, S. (2017). SME international performance in Latin America: The role of entrepreneurial and technological capabilities. *Journal of small business and enterprise development*, 24(1), 176-195.

The author wants to highlight that managerial and internet capabilities enhance SME international performance through opportunity recognition and international networks. Drawing on International Entrepreneurship and the Resource-Based View, this study uses SEM on data from 233 Chilean SMEs. The findings show that digital resources improve performance only when leveraged to identify global opportunities and build networks. However, this paper is limited by its cross-sectional design and single-country focus. It is highly relevant as it links digital capability with SME internationalisation and global competitiveness.

25. Chege, S. M., & Wang, D. (2020). Information technology innovation and its impact on job creation by SMEs in developing countries: an analysis of the literature review. *Technology Analysis & Strategic Management*, 32(3), 256-271.

The study shows that technology innovation significantly enhances SME performance and job creation in developing economies. Based on a structured literature review, this study shows that IT innovation improves competitiveness, market access, and productivity, linking technology to broader economic development. However, this paper relies solely on secondary data and lacks empirical validation. It is highly relevant as it demonstrates the pathway from digital innovation to performance and economic impact.

Synthesis:

Studies consistently agree that digital transformations improve SME performance only when supported by strong internal capabilities—digital skills, infrastructure, strategic alignment, leadership, and dynamic capabilities. Also agree that capability development and technology adoption both can drive competitiveness and sustainable value creation.

There is disagreement about the role of external factors: some studies believe that external support and environmental pressures weak, while others believe they matter only when internal readiness exists.

The literature lacks evidence from developing economies and offers limited insight into how SMEs build capabilities over time. There is also no unified framework explaining how digital capabilities translate into sustained performance

5.3 SMEs in Developing Economies

26. Rampaul, K. (2025). Digital transformation and SME growth in emerging markets. *Journal of Emerging Markets and Management*, 1(1), 15-25.

This paper explores that digital transformation in SMEs is a spatial strategy that shapes regional equity, infrastructure access, and urban–rural linkages. Using a qualitative, multi-scalar review of policy and literature, this study shows that digital infrastructure and governance significantly influence SME growth

across regions. However, this paper lacks empirical validation and generalisability. It is highly relevant as it highlights the role of spatial and institutional factors in SME performance.

27. Pandya, V. M. (2012, September). Comparative analysis of development of SMEs in developed and developing countries. In *The 2012 International Conference on Business and Management* (Vol. 6, No. 7, pp. 1-20).

The paper examines that SMEs are key drivers of economic growth globally, contributing significantly to GDP, employment, and exports. Using a comparative qualitative analysis of developed and developing economies, this study shows that while developed countries benefit from stronger strategic implementation, developing countries face constraints such as finance, skills, and governance. However, this paper relies on secondary data and lacks empirical validation. It is highly relevant as it provides a global baseline for understanding SME challenges and justifies context-specific research in developing economies like Bangladesh.

28. Algan, Neşe. "The importance of SMEs on world economies." In *Proceedings of International Conference on Eurasian Economies, Turkish Republic of Northern Cyprus*, vol. 12, pp. 56-61. 2019.

The study says that SMEs are the backbone of global economies, contributing significantly to employment, GDP, and innovation. Drawing on a development economics perspective, this study synthesises secondary data from international organisations to show that SMEs drive inclusive growth but face constraints such as finance, infrastructure, and regulatory challenges. However, this paper relies solely on secondary data and lacks country-specific analysis. It is highly relevant as it provides a global overview of SME contributions and challenges.

29. Wang, Y. (2016). What are the biggest obstacles to growth of SMEs in developing countries? –An empirical evidence from an enterprise survey. *Borsa Istanbul Review*, 16(3), 167-176.

Wang (2016) shows that while SMEs drive growth and job creation in developing economies, their expansion is constrained primarily by limited access to finance. Using World Bank Enterprise Survey data across multiple countries, this study finds that perceived barriers vary by firm characteristics such as size, age, and ownership. However, this paper relies on perception-based data and lacks firm-level capability

analysis. It is highly relevant as it highlights key financial and institutional constraints affecting SME performance.

30. Karadag, H. (2016). The role of SMEs and entrepreneurship on economic growth in emerging economies within the post-crisis era: An analysis from Turkey. *Journal of Small Business and Entrepreneurship Development*, 4(1), 22-31.

This study examines how SMEs contribute to GDP, employment, and economic recovery, particularly during crisis periods. Using comparative secondary data across multiple countries, this study finds that SMEs play a significant role in growth and resilience, with emerging economies showing stronger post-crisis recovery. However, this paper relies on secondary data and lacks firm-level and causal analysis. It is highly relevant as it highlights the resilience and economic importance of SMEs across different contexts.

31. Rahayu, R., & Day, J. (2017). E-commerce adoption by SMEs in developing countries: evidence from Indonesia. *Eurasian Business Review*, 7(1), 25-41.

The paper explores that SMEs in Indonesia remain at early stages of e-commerce adoption, yet higher adoption levels generate significant performance benefits. Using a survey of 292 SMEs, this study shows that deeper adoption improves sales, market reach, productivity, and communication. However, this paper is limited to a single-country context. It is highly relevant as it demonstrates how digital adoption enhances SME performance.

32. Ye, J., & Kulathunga, K. M. M. C. B. (2019). How does financial literacy promote sustainability in SMEs? A developing country perspective. *Sustainability*, 11(10), 2990.

The paper examines that financial literacy influences SME sustainability through access to finance and financial risk attitude, with the latter being the strongest driver. Using SEM on survey data from 291 SMEs in Sri Lanka, this study shows that internal knowledge-based capabilities significantly enhance sustainability outcomes. However, this paper is limited by its cross-sectional design and reliance on self-reported data. It is highly relevant as it highlights the role of financial capability in SME performance and sustainability.

33. Yoshino, N., & Taghizadeh-Hesary, F. (2018). *The role of SMEs in Asia and their difficulties in accessing finance* (No. 911). ADBI Working Paper Series.

The study shows that SMEs in Asian economies face severe financing constraints due to information asymmetry, high collateral requirements, and bank-dominated financial systems. Using market failure and financial infrastructure theory, it synthesises regional data and institutional cases to explain why weak information systems, limited collateral, high interest rates, and banks' preference for large firms restrict SME credit access. While it offers strong regional insights and practical policy remedies, it lacks empirical testing and cross-country causal analysis. It is highly relevant to my research because it highlights external financial barriers that directly shape SME performance and growth.

34. Khan, A., Bibi, S., Lorenzo, A., Lyu, J., & Babar, Z. U. (2020). Tourism and development in developing economies: A policy implication perspective. *Sustainability*, 12(4), 1618.

The study shows that tourism significantly drives economic development in emerging economies, with increases contributing to GDP, FDI, and poverty reduction. Using econometric analysis within a Tourism-Led Growth framework, this study finds strong links between tourism expansion and broader economic outcomes. However, this paper relies on aggregate data and has limited generalisability. It is moderately relevant as it provides macro-level context for SME operating environments.

35. Amoah, J., Belas, J., Dziwornu, R., & Khan, K. A. (2022). Enhancing SME contribution to economic development: A perspective from an emerging economy. *Journal of International Studies*.

SMEs are central to economic development in emerging economies, contributing significantly to GDP, employment, and innovation. Using PLS-SEM on survey data from 375 SMEs in Ghana, this study finds that job creation, innovation, and CSR positively influence economic development. However, this paper is limited by its cross-sectional design and sector-specific focus. It is highly relevant as it highlights the developmental role of SMEs in emerging economies.

36. Epede, M. B., & Wang, D. (2022). Global value chain linkages: An integrative review of the opportunities and challenges for SMEs in developing countries. *International Business Review*, 31(5), 101993.

SMEs in developing economies benefit from Global Value Chain (GVC) participation only when supported by adequate resources and strategic capabilities. Using an integrative literature review grounded in GVC theory and the Knowledge-Based View, this study identifies key enablers of SME internationalisation. However, this paper lacks empirical validation and gives limited attention to digital transformation. It is relevant as it highlights the role of external linkages and knowledge flows in SME growth.

Synthesis:

Across these studies, there is strong agreement that SMEs are central to economic growth, employment, poverty reduction, and regional development in emerging economies. They also agree that SME performance is shaped by a mix of internal factors and external conditions.

The studies differ on internal and external factor, some argue that internal managerial capabilities are strongest drivers and others say that external emphasize external institutional barriers. There is also disagreement on whether government support is effective. Additionally, studies vary on whether firm size or sector significantly changes performance determinants.

There is limited country-specific, primary empirical evidence for contexts like Bangladesh. Most studies rely on secondary data, cross-sectional surveys, or broad regional comparisons. There is also a lack of research linking digital transformation with institutional and spatial constraints.

5.4 Barriers and Challenges in Developing Digital Capabilities

37. Poole, D. L. (2018). Entrepreneurs, entrepreneurship, and SMEs in developing economies: How subverting terminology sustains flawed policy. *World Development Perspectives*, 9, 35-42.

The study shows that vague and inconsistent definitions of SMEs and entrepreneurship undermine effective policy design and evaluation. Using a conceptual analysis of policy and academic discourse, this study shows that definitional ambiguity weakens accountability and distorts SME support interventions. However, this paper lacks a concrete framework for standardisation. It is highly relevant as it highlights the need for conceptual clarity in SME development research.

38. Omowole, Bamidele Micheal, et al. "Barriers and drivers of digital transformation in SMEs: A conceptual analysis." *International Journal of Frontline Research in Multidisciplinary Studies* 5.2 (2024): 019-036.

The study says that digital transformation is essential for SME competitiveness and survival, shaped by internal capabilities and perceptions. Drawing on TAM, RBV, and digital transformation frameworks, this study identifies key drivers such as efficiency, innovation, and customer engagement, alongside barriers to adoption. However, this paper is conceptual and lacks empirical validation and cross-country comparison. It is highly relevant as it provides a comprehensive view of drivers and barriers influencing SME digital transformation.

39. Idemudia, S. O., Chima, O. K., Ezeilo, O. J., Ojonugwa, B. M., & Adesuyi, A. O. M. O. (2023). Digital infrastructure barriers faced by SMEs in transitioning to smart business models. *International Journal of Scientific Research in Science, Engineering and Technology*, 10(4), 353-370.

This paper examines that SMEs must address core digital infrastructure gaps before adopting advanced business models. Using a mixed-method approach (survey and interviews), this study identifies key barriers such as financial constraints, connectivity issues, skill shortages, and cultural resistance. However, this paper does not quantify the relative impact of these barriers or establish causal relationships. It is highly relevant as it highlights practical challenges in developing digital capabilities within SMEs.

40. da Costa Júnior, J. F., dos Santos Cabral, E. L., & Galdino de Araújo, A. (2022). A STUDY ON THE INTERNATIONALIZATION BARRIERS AND CHALLENGES FACED BY DIGITALBASED SMEs. *Revista Eletrônica de Estratégia & Negócios*, 15(3).

The study shows that digital SMEs face complex internationalisation barriers, with external challenges intensified by weak internal strategy and capability gaps. Using a qualitative design with snowball sampling, this study identifies how poor knowledge management and unstructured networking hinder global expansion. However, this paper is limited by its small sample and exploratory nature. It is highly relevant as it highlights strategic and capability-related barriers in SME digital transformation.

41. Rupeika-Apoga, R., & Petrovska, K. (2022). Barriers to sustainable digital transformation in micro-, small-, and medium-sized enterprises. *Sustainability*, 14(20), 13558.

Rupeika-Apoga and Petrovska (2022) explore that Sustainable Digital Transformation in SMEs is constrained by structural and capability-related barriers, particularly IT security risks and shortages of digital specialists. Using survey data and qualitative comparative analysis on Latvian SMEs, this study identifies key barriers that vary by firm characteristics. However, this paper is limited to a single-country context. It is highly relevant as it highlights critical capability and resource constraints in SME digital transformation.

42. Schmid, D., Bueechl, J., Härting, R. C., Beldarrain, Y., Schwörer, R., & Naeve, J. (2024). Opportunities and barriers of agility and digital processes in HR in SMEs. *Procedia computer science*, 246, 3605-3613.

The paper examines that agility and digital business processes enhance SME performance by improving flexibility, collaboration, and efficiency. Using a qualitative multi-case study, this research shows that digitalisation acts as a dynamic capability but may also reduce flexibility through standardisation, especially under financial constraints. However, this paper is limited by its small sample and single-country focus. It is highly relevant as it highlights the role of organisational culture and human-centric processes in SME digital transformation.

43. Restrepo-Morales, J. A., Ararat-Herrera, J. A., López-Cadavid, D. A., & Camacho-Vargas, A. (2024). Breaking the digitalization barrier for SMEs: a fuzzy logic approach to overcoming challenges in business transformation. *Journal of Innovation and Entrepreneurship*, 13(1), 84.

The study explore that SME digitalisation is constrained by interconnected financial, human, cultural, and technological barriers. Grounded in the Resource-Based View, this study uses fuzzy logic modelling to assess the relative importance of barriers such as cost, skill shortages, and resistance to change. However, this paper is limited by its single-country focus and reliance on self-reported data. It is highly relevant as it identifies key constraints and offers structured approaches to overcoming digital transformation challenges.

44. Sonar, H., Ghag, N., Singh, R. K., Daim, T. U., & Agrawal, S. (2025). Digitalization of operations for sustainable value creation by SMEs: analysis of barriers in the era of Industry 4.0. *Journal of Knowledge Management*, 29(6), 2018-2045.

The study explore that SMEs face deep-rooted human, organisational, and structural barriers that hinder digitalisation readiness. Grounded in the Resource-Based View and systems thinking, this study shows that resistance to change, weak culture, skill gaps, and financial constraints limit transformation. However, this paper relies on expert-driven methods and lacks broad empirical validation. It is highly relevant as it highlights how internal and structural barriers constrain SME digital transformation.

Synthesis:

Studies agree that SMEs in developing economies face major structural and capability barriers—limited finance, weak digital infrastructure, low skills, and resistance to change. They also agree that internal capabilities and external conditions jointly shape SME performance and digital transformation.

They disagree on whether internal factors or external factors matter more. Some studies show government support helps, while others find it weak or inconsistent. There is also conflict over which barriers are most critical—technical, financial, cultural, or ecosystem-level.

There is little country-specific evidence for Bangladesh, limited longitudinal or mixed-method research, and weak understanding of how SMEs overcome barriers. Most studies identify obstacles but do not link them clearly to performance results or explain how digital transformation deliver time.

5.5. Gap Matrix:

gap matrices are widely used in systematic and critical literature reviews to strengthen research justification and theoretical contribution (Booth et al., 2021; Snyder, 2019; Xiao & Watson, 2019).

Table no 1: Gap Matrix:

Study	Theory Gap	Method Gap	Context Gap	Key Insight
Warner & Wäger (2019)	Strong dynamic capability theory but lacks SME-focused RBV integration	Qualitative multi-case, no quantitative validation	Focus on large German firms	Digital transformation is driven by dynamic capabilities (sensing, seizing, transforming)
Li et al. (2022)	Focuses on capability–performance but limited integration of broader SME theory	Cross-sectional survey limits causality	Based on Chinese high-tech firms	Digital capability mediates between technology adoption and performance
Pundziene & Geryba (2023)	Focus on collaboration but limited RBV explanation of capability bundling	Self-reported survey data	Developed-country SMEs only	Collaboration + dynamic capability improves SME performance
Arroyabe et al. (2024)	Combines theories but lacks deeper RBV capability explanation	Large quantitative dataset but lacks qualitative insight	European SMEs only	Internal capabilities matter more than external support
Nasiri et al. (2023)	Focus on capability bundles but lacks unified theoretical model	Cross-sectional (no longitudinal analysis)	Finland SMEs only	Different capabilities drive different innovation outcomes
Li et al. (2018)	Strong process model but limited	Small qualitative sample	Platform-based SMEs only	SMEs build capability through

	theoretical generalisation			learning and platforms
Gyamerah et al. (2025)	Leadership integrated but limited RBV depth	Cross-sectional SEM	Ghana SMEs (single country)	Leadership drives digital capability and performance
Karadağ et al. (2024)	Lacks unified theory explaining multiple configurations	Complex fsQCA difficult for generalisation	Turkey SMEs only	Multiple capability combinations lead to performance
Omrani et al. (2022)	Focus on adoption drivers, not capability development theory	Large dataset but lacks depth	EU-focused, limited developing context	Internal readiness drives digital adoption

6.Findings and discussions

6.1. Resource-Based View and Digital Capability

The literatures shows that digital transformation improves SME performance only when supported by strong internal capabilities, as technology alone is not sufficient to create value (Warner & Wäger, 2019). Technology alone is insufficient for SME development; its benefits materialise only when firms possess the internal capabilities required to effectively deploy, integrate, and leverage digital tools. Across studies, Dynamic Capabilities Theory dominates, with sensing, seizing, and transforming repeatedly identified as

the mechanisms that translate digital tools into performance outcomes (Pundziene & Geryba, 2023; Zhao et al., 2025). Internal readiness—skills, innovation capability, leadership, and strategy—consistently outweighs external environmental support, which becomes effective only when firms already possess internal capability (Arroyabe et al., 2024; Omrani et al., 2022). SME outcomes are also shaped by contextual factors such as managerial education, firm size, and cultural or territorial conditions, showing that digital transformation is not uniform across settings (Clemente-Almendros et al., 2024; Cannas, 2023). Leadership and strategic alignment further enable capability development and organisational reconfiguration (Gyamerah et al., 2025; Canhoto et al., 2021). Overall, the evidence confirms that multiple capability configurations—not a single pathway—can lead to SME performance (Karadağ et al., 2024), while highlighting a major gap in developing-country contexts like Bangladesh, where capability-building under resource constraints remains underexplored (Li et al., 2018; Martins, 2023).

6.2 Digital Technology Capabilities and SME Performance

The evidences show that SME performance improves when digital technology and digital capability innovation is combined, rather than through technology adoption alone (Zhe & Hamid, 2021; Khin & Ho, 2019). Studies consistently highlight that internal capabilities ICT infrastructure, skills, innovation capability, absorptive capacity, and leadership—are the mechanisms that translate digital tools into performance outcomes (Castillo-Vergara et al., 2025; Rehman et al., 2020; Kim & Jin, 2024). Research also confirms that SMEs succeed through multiple capability configurations, not a single linear pathway, especially in resource-constrained environments (Ullah et al., 2023; Karadağ et al., 2024). Overall, the findings support that technology only creates value when SMEs possess the capabilities and strategic readiness to leverage it, which is particularly critical for developing economies like Bangladesh.

6.3 SMEs in Developing Economies

The reviewed studies show that SME performance in emerging economies is shaped by a combination of internal capabilities—such as management support, financial literacy, innovation capability, and digital readiness—and external structural conditions, including spatial infrastructure, institutional quality, and access to finance (Rampaul, 2025; Mladenova, 2024; Ye & Kulathunga, 2019). While some studies emphasise internal managerial capability as the strongest driver of digital adoption and performance, others

highlight persistent external barriers such as weak infrastructure, financing constraints, and institutional inefficiencies that limit SME growth (Wang, 2016; Motilewa et al., 2015). Evidence also shows that SMEs contribute significantly to GDP, employment, and regional development, but their performance determinants vary by size, sector, and country context, reinforcing the need for context-specific strategies rather than one-size-fits-all models (Ndiaye et al., 2018; Algan, 2019). Overall, the findings confirm that SME development in countries like Bangladesh depends on the interaction between internal capability-building and external enabling conditions, including spatial equity, governance quality, and financial access.

6.4 Barriers and Challenges in Developing Digital Capabilities

The reviewed studies show that SME performance and digital transformation in developing economies are shaped by a combination of internal strategic capabilities—such as entrepreneurial orientation, management support, digital skills, and organizational culture—and external structural conditions, including government programs, infrastructure quality, financing constraints, and institutional weaknesses (Nakku et al., 2020; Mladenova, 2024; Wang, 2016). While some studies emphasise that internal capabilities and leadership drive digital adoption and performance, others highlight that systemic barrier—poor connectivity, limited finance, weak regulatory support, and skill shortages—significantly restrict SMEs' ability to digitalize and compete (Idemudia et al., 2023; Ilias et al., 2025). The evidence also shows that SMEs face intertwined human, financial, and technological barriers that require coordinated capability-building and ecosystem-level interventions rather than isolated firm-level efforts (Rupeika-Apoga & Petrovska, 2022; Sonar et al., 2025). Overall, the findings confirm that SME development in contexts like Bangladesh depends on the interaction between internal capability development and external enabling conditions, reinforcing that digital transformation cannot succeed without both strategic readiness and supportive infrastructure.

7. Conceptual Framework

Conceptual framework means when a researcher-created model that defines the main concepts in a study and explains the relationships between them, grounded in existing theory and literature (Stevens (2024). A conceptual framework helps readers understand how research will proceed and what it aims to discover. It

shows the relationships between key variables and explains the logic behind your study, guiding how data will be collected, analysed, and interpreted.

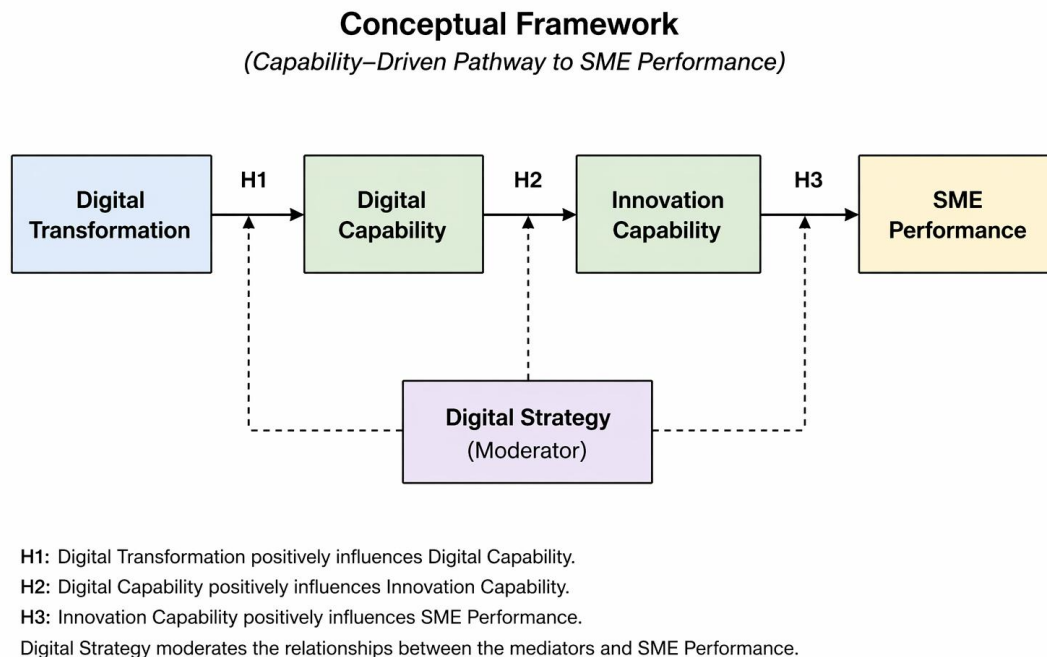


Figure 2: Conceptual Framework

My research is all about how digital transformation impacts SME performance in Bangladesh. The framework — basically, it's my roadmap that ties together external factors (like government support) and internal strengths (like leadership) to show how this shape digital adoption and ultimately lead to growth and innovation.

8.Gaps and future Research

There is many existing research on digital transformation in SMEs remains fragmented and largely adoption-led, with limited integration of RBV and dynamic capability perspectives to explain how digital investments translate into performance (Teece, 2018; Verhoef et al., 2021). Methodologically, the

dominance of cross-sectional studies restricts understanding of the dynamic evolution of capabilities over time (Snyder, 2019). Contextually, the literature is heavily concentrated in developed economies, with insufficient attention to developing countries such as Bangladesh, where SMEs face more severe infrastructural, financial, and capability constraints (OECD, 2021).

Future research should therefore develop integrated RBV–dynamic capability frameworks, adopt longitudinal and mixed-method approaches, and focus on Bangladeshi SMEs to better explain how firms overcome barriers and translate digital capabilities into sustainable performance outcomes.

9. Research Questions:

Based on review there are my proposed research questions:

- What digital technologies are most important for SMEs in Bangladesh?
- How do these technologies help SMEs build digital capabilities?
- How do digital capabilities affect SME performance?
- What factors (such as barriers, infrastructure, and policy) influence this relationship?

10. Contribution to theory and practice

10.1 Contribution to Theory

The study extends the Resource-Based View (RBV) by showing that digital technologies do not directly improve performance; instead, their value depends on how they are embedded within firm-specific digital capabilities. Drawing on dynamic capability theory, it highlights how SMEs must integrate and reconfigure digital resources to achieve sustained competitive advantage, particularly in resource-constrained contexts (Barney, 1991; Teece, 2018). It provides a more integrated and context-sensitive theoretical explanation of digital transformation, extending RBV beyond static resource ownership to dynamic capability development in emerging economy settings.

10.2 Contribution to Practice

The study makes a significant practical contribution by enabling SME owners and policymakers to move beyond technology adoption toward capability-driven digital transformation. It identifies which digital investments generate the greatest strategic value and demonstrates how these can be embedded within firm-specific capabilities to deliver measurable performance outcomes. By providing a structured understanding of the resource–capability–performance pathway, the study informs more effective managerial decision-making and supports the design of targeted policy interventions, particularly in resource-constrained and emerging economy contexts such as Bangladesh (OECD, 2021, 2021; Warner & Wäger, 2019; Bharadwaj et al., 2013).

11. Managerial Implications:

SMEs must embrace a capability-driven digital transformation strategy, in which digital technologies are integrated into essential business operations, rather than a technology-centric approach. In order to ensure that technologies are not utilized in isolation but rather integrated to create value, this calls for intentional investments in digital skills, IT infrastructure, and strategic alignment. Such an approach aligns with the view that competitive advantage arises not from resources alone but from how they are deployed and reconfigured within the firm (Teece, 2018).

SMEs should also adopt more agile and data-driven decision processes, enabling faster responses to market changes and customer needs. This implies a stronger focus on strategic alignment, continuous capability development, and external partnerships to enhance digital transformation outcomes (Verhoef et al., 2021; Warner & Wäger, 2019)

Several risks are introduced by the shift to digital transformation, such as organizational resistance to change, financial risks from misallocated digital investments, and cybersecurity vulnerabilities. Furthermore, SMEs may experience capability gaps, which result in less-than-ideal performance outcomes when technology adoption exceeds the development of required structures and capabilities. In developing contexts such as Bangladesh, these risks are further intensified by limited infrastructure, regulatory challenges, and resource constraints, requiring careful risk management and strategic planning (OECD, 2021; Verhoef et al., 2021).

12.Conclusion

SMEs in Bangladesh are increasingly adopting digital technologies but their performance outcomes remain inconsistent and underexplained. Existing research is largely adoption-focused, with limited attention to how digital technologies translate into performance through capability development, especially in resource-constrained contexts (Teece, 2018; Verhoef et al., 2021; Ciasullo et al., 2025).

Digital transformation does not create value on its own, SMEs achieve better performance when digital technologies are supported by firm-specific capabilities, such as digital skills, infrastructure, leadership, and strategy (Bharadwaj et al., 2013; Warner & Wäger, 2019). In developing countries like Bangladesh, these processes are more complex due to structural challenges, including financial constraints, weak digital infrastructure, institutional limitations, and skill shortages, which restrict SMEs' ability to fully benefit from digitalisation (OECD, 2021; Kraus et al., 2021). These challenges highlight that digital transformation in developing economies is not only a technological issue but also a capability and ecosystem issue.

Overall, the study contributes by providing a more comprehensive explanation of how Bangladeshi SME performance is influenced by digital technology skills. By proving that digital technologies only become performance-relevant when integrated into organizational capabilities, it expands on RBV and Dynamic Capability Theory. Crucially, the research emphasizes that in poor nations like Bangladesh, these capability-building processes are shaped by resource constraints and institutional challenges, making the technology–performance link more complex. It also provides practical insights for SME managers and policymakers to focus on capability development and supportive ecosystems to achieve sustainable performance (Barney, 1991; Teece, 2018; Verhoef et al., 2021).

Reference:

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of management*, 17(1), 99-120.

Teece, D. J. (2018). Business models and dynamic capabilities. *Long range planning*, 51(1), 40-49.

Kraus, S., Jones, P., Kailer, N., Weinmann, A., Chaparro-Banegas, N., & Roig-Tierno, N. (2021). Digital transformation: An overview of the current state of the art of research. *Sage Open*, 11(3), 21582440211047576.

Bharadwaj, A., El Sawy, O. A., Pavlou, P. A., & Venkatraman, N. V. (2013). Digital business strategy: toward a next generation of insights. *MIS quarterly*, 37(2), 471-482.

Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J. Q., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of business research*, 122, 889-901.

Teece, D. J. (2007). Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance. *Strategic management journal*, 28(13), 1319-1350.

Canton, H. (2021). Organisation for economic co-operation and development—OECD. In *The Europa directory of international organizations 2021* (pp. 677-687). Routledge.

PRISMA 2020 Flow Diagram of Study Selection Source: Adapted from Page et al. (2021)

Teece, D. J. (2018). Business models and dynamic capabilities. *Long range planning*, 51(1), 40-49.

Bharadwaj, A., El Sawy, O. A., Pavlou, P. A., & Venkatraman, N. V. (2013). Digital business strategy: toward a next generation of insights. *MIS quarterly*, 37(2), 471-482.

Kraus, S., Jones, P., Kailer, N., Weinmann, A., Chaparro-Banegas, N., & Roig-Tierno, N. (2021). Digital transformation: An overview of the current state of the art of research. *Sage Open*, 11(3), 21582440211047576.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of management*, 17(1), 99-120.

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic management journal*, 18(7), 509-533.

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., ... & Moher, D. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *bmj*, 372.

Warner, K. S., & Wäger, M. (2019). Building dynamic capabilities for digital transformation: An ongoing process of strategic renewal. *Long range planning*, 52(3), 326-349.

Li, X., Wu, T., Zhang, H., & Yang, D. (2022). Digital Technology Adoption and Sustainable Development Performance of Strategic Emerging Industries: The Mediating Role of Digital Technology Capability and the Moderating Role of Digital Strategy. *Journal of Organizational and End User Computing (JOEUC)*, 34(8),

Pundziene, A., & Geryba, L. (2023). Managing technological innovation: dynamic capabilities, collaborative innovation, and born-digital SMEs' performance. *IEEE Transactions on Engineering Management*, 71, 6968-6981.

Arroyabe, M. F., Arranz, C. F., De Arroyabe, I. F., & de Arroyabe, J. C. F. (2024). Analyzing AI adoption in European SMEs: A study of digital capabilities, innovation, and external environment. *Technology in Society*, 79, 102733.

Van de Wetering, R., Doe, J., van den Heuvel, R., & Al Halbusi, H. (2023). How do SMEs shape business model innovation? A digital infrastructure, improvisational, and dynamic capability perspective. *A digital infrastructure, improvisational, and dynamic capability perspective* (October 11, 2023)

Nasiri, M., Saunila, M., Ukko, J., Rantala, T., & Rantanen, H. (2023). Shaping digital innovation via digital-related capabilities. *Information Systems Frontiers*, 25(3), 1063-1080.

Zulkifli, M. DIGITAL TECHNOLOGY AND MARKETING MANAGEMENT CAPABILITY: ACHIEVING GROWTH IN SMES, A CRITICAL REVIEW

Cannas, R. (2023). Exploring digital transformation and dynamic capabilities in agrifood SMEs. *Journal of Small Business Management*, 61(4), 1611–1637.

Clemente-Almendros, J. A., Nicoara-Popescu, D., & Pastor-Sanz, I. (2024). Digital transformation in SMEs: Understanding its determinants and size heterogeneity. *Technology in Society*, 77, 102483.

Li, L., Su, F., Zhang, W., & Mao, J. Y. (2018). Digital transformation by SME entrepreneurs: A capability perspective. *Information Systems Journal*, 28(6), 1129-1157.

.Inan, G. G. (2024, September). Building digital capabilities in manufacturing SMEs. In *IFIP International Conference on Advances in Production Management Systems* (pp. 135-147). Cham: Springer Nature Switzerland.

Gyamerah, S., Afshari, L., & Asante, D. (2025). Digital transformation in the SME context: The nexus between leadership, digital capabilities, and digital strategy. *International Small Business Journal*, 43(3), 303-328.

Karadağ, H., Şahin, F., Karamollaoğlu, N., & Saunila, M. (2024). Disentangling the dynamic digital capability, digital transformation, and organizational performance relationships in SMEs: a configurational analysis based on fsQCA. *Information Technology and Management*, 1-17.

Omrani, N., Rejeb, N., Maalaoui, A., Dabić, M., & Kraus, S. (2022). Drivers of digital transformation in SMEs. *IEEE transactions on engineering management*, 71, 5030-5043.

Zhao, Z., Hönigsberg, S., & Mandviwalla, M. (2025). Digital driven success: the digitalization effect on SME performance. *Information Technology for Development*, 31(4), 1090-1116.

Ciasullo, M. V., Ferrara, M., & Lim, W. M. (2025). Dynamic capabilities and data-driven culture for digital transformation: evidence from agri-food SMEs. *British Food Journal*.

Canhoto, A. I., Quinton, S., Pera, R., Molinillo, S., & Simkin, L. (2021). Digital strategy aligning in SMEs: A dynamic capabilities perspective. *The Journal of Strategic Information Systems*, 30(3), 101682

Vrontis, D., Chaudhuri, R., & Chatterjee, S. (2022). Adoption of digital technologies by SMEs for sustainability and value creation: Moderating role of entrepreneurial orientation. *Sustainability*, 14(13), 7949.

Durman, S., Iyiola, K., Alzubi, A. B., & Aljuhmani, H. Y. (2025). Dynamic capabilities in action: digital capability, business model innovation and absorptive capacity. *Management Decision*, 1-36.

Philbin, S., Viswanathan, R., & Telukdarie, A. (2022). Understanding how digital transformation can enable SMEs to achieve sustainable development: A systematic literature review.

Martins, A. (2023). Dynamic capabilities and SME performance in the COVID-19 era: the moderating effect of digitalization. *Asia-Pacific Journal of Business Administration*, 15(2), 188-202.

Foroudi, P., Gupta, S., Nazarian, A., & Duda, M. (2017). Digital technology and marketing management capability: achieving growth in SMEs. *Qualitative Market Research: An International Journal*, 20(2), 230-246.

Herlinawati, E., Sumawidjaja, R. N., & Machmud, A. (2017). The role of sharia microfinance in SMEs business development. In *the 2nd International Conference on Economic Education and Entrepreneurship, Science and Technology Publications, Bandung, Indonesia* (pp. 230-233).

Ndiaye, Ndeye, et al. "Demystifying small and medium enterprises'(SMEs) performance in emerging and developing economies." *Borsa Istanbul Review* 18.4 (2018): 269-281.

Zhe, B. O. M., & Hamid, N. A. (2021). The impact of digital technology, digital capability, and digital innovation on small business performance. *Research in Management of Technology and Business*, 2(1), 499-509.

Castillo-Vergara, M., Duarte Valdivia, D., Muñoz-Cisterna, V., Álvarez-Marín, A., Geldes, C., & Ortiz-Henriquez, R. E. (2025). Digital capabilities of SMEs: driving the industry 4.0 revolution and measuring its innovative effects. *Academia Revista Latinoamericana de Administración*, 38(1), 74-105.

Ullah, M. R., Tahir, S. H., Shahzadi, H., & Kamran, H. W. (2023). Digital pathways to success: the transformative power of digitalization and digital capabilities on SMEs' financial performance. *iRASD Journal of Economics*, 5(2), 465-485.

Joensuu-Salo, S., & Matalamäki, M. (2023). The impact of digital capability on firm performance and growth in incumbent SMEs. *Journal of Enterprising Culture*, 31(02), 211-232.

Astuti, E. S., Sanawiri, B., & Iqbal, M. (2020). Attributes of innovation, digital technology, and their impact on SME performance in Indonesia. *International Journal of Entrepreneurship*, 24(1), 1-14.

Teng, X., Wu, Z., & Yang, F. (2022). Research on the relationship between digital transformation and performance of SMEs. *Sustainability*, 14(10), 6012.

Pundziene, A., & Geryba, L. (2023). Managing technological innovation: dynamic capabilities, collaborative innovation, and born-digital SMEs' performance. *IEEE Transactions on Engineering Management*, 71, 6968-6981.

Kim, J., & Jin, W. (2024). Impact of digital capabilities on entrepreneurial performance in SMEs. *Journal of Innovation & Knowledge*, 9(4), 100609.

Jalil, M. F., Ali, A., & Kamarulzaman, R. (2022). Does innovation capability improve SME performance in Malaysia? The mediating effect of technology adoption. *The International Journal of Entrepreneurship and Innovation*, 23(4), 253-267.

Roman, A., & Rusu, V. D. (2022). Digital technologies and the performance of small and medium enterprises. *Studies in Business and Economics*, 17(3), 190-203.

Khin, S., & Ho, T. C. (2019). Digital technology, digital capability, and organizational performance: A mediating role of digital innovation. *International journal of innovation science*, 11(2), 177-195.

Rehman, N., Razaq, S., Farooq, A., Zohaib, N. M., & Nazri, M. (2020). Information technology and firm performance: mediation role of absorptive capacity and corporate entrepreneurship in manufacturing SMEs. *Technology Analysis & Strategic Management*, 32(9), 1049-1065.

Wang, X., Xu, Z., Qin, Y., & Skare, M. (2023). The role of digital technologies in firms' performance: A panel data study on family firms and SMEs. *Journal of Competitiveness*, 15(2), 151.

Prakasa, Y., & Jumani, Z. A. (2024). Linking digital capability to small business performance: the mediating role of digital business transformation. *Cogent Business & Management*, 11(1), 2342486.

Bianchi, C., Glavas, C., & Mathews, S. (2017). SME international performance in Latin America: The role of entrepreneurial and technological capabilities. *Journal of small business and enterprise development*, 24(1), 176-195.

AL-Shboul, M. D. A. (2019). Towards better understanding of determinants logistical factors in SMEs for cloud ERP adoption in developing economies. *Business process management journal*, 25(5), 887-907.

Chege, S. M., & Wang, D. (2020). Information technology innovation and its impact on job creation by SMEs in developing countries: an analysis of the literature review. *Technology Analysis & Strategic Management*, 32(3), 256-271.

Rampaul, K. (2025). Digital transformation and SME growth in emerging markets. *Journal of Emerging Markets and Management*, 1(1), 15-25.

Mladenova, I. (2024). SMEs in a digital era: the role of management. *Administrative Sciences*, 14(11), 296.

Pandya, V. M. (2012, September). Comparative analysis of development of SMEs in developed and developing countries. In *The 2012 International Conference on Business and Management* (Vol. 6, No. 7, pp. 1-20).

Ndiaye, N., Razak, L. A., Nagayev, R., & Ng, A. (2018). Demystifying small and medium enterprises' (SMEs) performance in emerging and developing economies. *Borsa Istanbul Review*, 18(4), 269-281.

Motilewa, B. D., Ogbari, M. E. R. C. Y., & Aka, D. O. (2015). A review of the impacts SMEs as social agents of economic liberations in developing economies. *International Review of Management and Business Research*, 4(3), 903-914.

Algan, Neşe. "The importance of SMEs on world economies." In *Proceedings of International Conference on Eurasian Economies, Turkish Republic of Northern Cyprus*, vol. 12, pp. 56-61. 2019.

Wang, Y. (2016). What are the biggest obstacles to growth of SMEs in developing countries? –An empirical evidence from an enterprise survey. *Borsa Istanbul Review*, 16(3), 167-176.

Nakku, V. B., Agbola, F. W., Miles, M. P., & Mahmood, A. (2020). The interrelationship between SME government support programs, entrepreneurial orientation, and performance: A developing economy perspective. *Journal of Small Business Management*, 58(1), 2-31.

Karadag, H. (2016). The role of SMEs and entrepreneurship on economic growth in emerging economies within the post-crisis era: An analysis from Turkey. *Journal of Small Business and Entrepreneurship Development*, 4(1), 22-31.

Muriithi, S. (2017). African small and medium enterprises (SMEs) contributions, challenges, and solutions.

Rahayu, R., & Day, J. (2017). E-commerce adoption by SMEs in developing countries: evidence from Indonesia. *Eurasian Business Review*, 7(1), 25-41

Ye, J., & Kulathunga, K. M. M. C. B. (2019). How does financial literacy promote sustainability in SMEs? A developing country perspective. *Sustainability*, 11(10), 2990.

Boso, N., Danso, A., Leonidou, C., Uddin, M., Adeola, O., & Hultman, M. (2017). Does financial resource slack drive sustainability expenditure in developing economy small and medium-sized enterprises? *Journal of Business Research*, 80, 247-256.

Yoshino, N., & Taghizadeh-Hesary, F. (2018). *The role of SMEs in Asia and their difficulties in accessing finance* (No. 911). ADBI Working Paper Series.

Khan, A., Bibi, S., Lorenzo, A., Lyu, J., & Babar, Z. U. (2020). Tourism and development in developing economies: A policy implication perspective. *Sustainability*, 12(4), 1618.

Amoah, J., Belas, J., Dziwornu, R., & Khan, K. A. (2022). Enhancing SME contribution to economic development: A perspective from an emerging economy. *Journal of International Studies*.

Epede, M. B., & Wang, D. (2022). Global value chain linkages: An integrative review of the opportunities and challenges for SMEs in developing countries. *International Business Review*, 31(5), 101993.

Nakku, V. B., Agbola, F. W., Miles, M. P., & Mahmood, A. (2020). The interrelationship between SME government support programs, entrepreneurial orientation, and performance: A developing economy perspective. *Journal of Small Business Management*, 58(1), 2-31.

Poole, D. L. (2018). Entrepreneurs, entrepreneurship, and SMEs in developing economies: How subverting terminology sustains flawed policy. *World Development Perspectives*, 9, 35-42.

Omowole, Bamidele Micheal, et al. "Barriers and drivers of digital transformation in SMEs: A conceptual analysis." *International Journal of Frontline Research in Multidisciplinary Studies* 5.2 (2024): 019-036.

Idemudia, S. O., Chima, O. K., Ezeilo, O. J., Ojonugwa, B. M., & Adesuyi, A. O. M. O. (2023). Digital infrastructure barriers faced by SMEs in transitioning to smart business models. *International Journal of Scientific Research in Science, Engineering and Technology*, 10(4), 353-370.

da Costa Júnior, J. F., dos Santos Cabral, E. L., & Galdino de Araújo, A. (2022). A STUDY ON THE INTERNATIONALIZATION BARRIERS AND CHALLENGES FACED BY DIGITALBASED SMEs. *Revista Eletrônica de Estratégia & Negócios*, 15(3).

Elhusseiny, H. M., & Crispim, J. (2022). SMEs, Barriers and Opportunities on adopting Industry 4.0: A Review. *Procedia Computer Science*, 196, 864-871.

Rupeika-Apoga, R., & Petrovska, K. (2022). Barriers to sustainable digital transformation in micro-, small-, and medium-sized enterprises. *Sustainability*, 14(20), 13558.

Schmid, D., Bueechl, J., Härting, R. C., Beldarrain, Y., Schwörer, R., & Naeve, J. (2024). Opportunities and barriers of agility and digital processes in HR in SMEs. *Procedia computer science*, 246, 3605-3613.

Restrepo-Morales, J. A., Ararat-Herrera, J. A., López-Cadauid, D. A., & Camacho-Vargas, A. (2024). Breaking the digitalization barrier for SMEs: a fuzzy logic approach to overcoming challenges in business transformation. *Journal of Innovation and Entrepreneurship*, 13(1), 84.

Miškić, M., Srebro, B., Rašković, M., Vrbanac, M., & Jevtić, B. (2025). KEY CHALLENGES HINDERING SMES'FULL BENEFIT FROM DIGITALIZATION-A CASE STUDY FROM SERBIA. *International Journal for Quality Research*, 19(2).

Ilias, N., Zakaria, W. Z. W., Hassan, S., & Zulkipli, H. N. (2025). Exploring the Barriers to Digital Transformation Among SME Manufacturers: A Resource-Based View Perspective. In *Integrating Artificial Intelligence, Security for Environmental and Business Sustainability: Volume 2* (pp. 29-39). Cham: Springer Nature Switzerland.

Sonar, H., Ghag, N., Singh, R. K., Daim, T. U., & Agrawal, S. (2025). Digitalization of operations for sustainable value creation by SMEs: analysis of barriers in the era of Industry 4.0. *Journal of Knowledge Management*, 29(6), 2018-2045.

Idemudia, O., Ehiorobo, J. O., Izinyon, O. C., & Ilaboya, I. R. (2023). Application of Artificial Neural Network (ANN) for the Modelling and Prediction of Ikpoba River Flow Data. *NIPES-Journal of Science and Technology Research*, 5(4).

Ilias, A., Skouras, P. J., Kalaitzaki, A., Roditakis, E., Tsirikos, E., Tsagkarakou, A., ... & Margaritopoulos, J. T. (2025). Survey and Molecular Diagnostics of Target Site Mutations Conferring Resistance to Insecticides in Populations of *Aphis spiraeicola* from Greece. *Insects*, 16(12), 1199.

Stevens, S. M., Woller, S. C., Kreuziger, L. B., Doerschug, K., Geersing, G. J., Klok, F. A., ... & Moores, L. K. (2024). Antithrombotic therapy for VTE disease: compendium and review of CHEST guidelines 2012-2021. *Chest*, 166(2), 388-404.

Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of business research*, 104, 333-339.

Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J. Q., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of business research*, 122, 889-901.

Bharadwaj, A., El Sawy, O. A., Pavlou, P. A., & Venkatraman, N. V. (2013). Digital business strategy: toward a next generation of insights. *MIS quarterly*, 37(2), 471-482.

Kraus, S., Jones, P., Kailer, N., Weinmann, A., Chaparro-Banegas, N., & Roig-Tierno, N. (2021). Digital transformation: An overview of the current state of the art of research. *Sage Open*, 11(3), 21582440211047576.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of management*, 17(1), 99-120.

Karimi, J., & Walter, Z. (2015). The role of dynamic capabilities in responding to digital disruption: A factor-based study of the newspaper industry. *Journal of management information systems*, 32(1), 39-81.

Crompton, H., & Burke, D. (2023). *Artificial intelligence in higher education: The state of the field*. *International Journal of Educational Technology in Higher Education*, 20(22).

Appendix:

This appendix presents additional literature reviewed as part of the study. The main body includes the most relevant and critically analysed sources.

1.Resource-Based View and Digital Capability

1. Arroyabe, M. F., Arranz, C. F., De Arroyabe, I. F., & de Arroyabe, J. C. F. (2024). Analyzing AI adoption in European SMEs: A study of digital capabilities, innovation, and external environment. *Technology in Society*, 79, 102733.

This paper says that internal digital and innovation capabilities are the primary drivers of AI adoption, while external support plays a secondary role and is effective only when firms possess sufficient internal readiness. Drawing on Dynamic Capabilities and Resource Dependency Theory, the study uses a large-scale quantitative analysis of 12,108 European SMEs with regression and machine learning techniques. The findings show that internal capabilities have a significantly stronger impact on AI adoption, particularly when combined synergistically. However, reliance on European secondary data and a purely quantitative approach limits generalisability and overlooks cultural factors. The study is highly relevant as it reinforces the importance of internal capability development for SME performance in resource-constrained contexts.

2. Cannas, R. (2023). Exploring digital transformation and dynamic capabilities in agrifood SMEs. *Journal of Small Business Management*, 61(4), 1611–1637.

Here the author shows that digital transformation in agrifood SMEs is driven by context-specific dynamic capabilities shaped by social and territorial factors. Grounded in the Dynamic Capabilities framework, it adopts a qualitative approach based on in-depth interviews with 21 stakeholders. The findings show that capabilities are influenced by collaboration, stakeholder integration, and a strong sense of belonging, with digitalisation reshaping both organisational structures and socio-cultural relationships. However, the study is limited by its small sample size and single regional focus, restricting generalisability. This study is relevant as it highlights the importance of context-specific capabilities, supporting the argument that SMEs in Bangladesh may also be influenced by unique cultural and environmental factors.

3. Karadağ, H., Şahin, F., Karamollaoğlu, N., & Saunila, M. (2024). Disentangling the dynamic digital capability, digital transformation, and organizational performance relationships in SMEs: a configurational analysis based on fsQCA. *Information Technology and Management*, 1-17.

This study shows that SME performance arises from different configurations of dynamic digital capabilities rather than a single factor. Grounded in the Resource-Based View and Dynamic Capabilities View, it uses fuzzy-set qualitative comparative analysis on survey data from 136 SMEs. The findings highlight multiple capability combinations leading to performance, though complexity may limit managerial application. It is relevant as it supports the idea that diverse capability pathways can drive SME performance in resource-constrained contexts.

4. Vrontis, D., Chaudhuri, R., & Chatterjee, S. (2022). Adoption of digital technologies by SMEs for sustainability and value creation: Moderating role of entrepreneurial orientation. *Sustainability*, 14(13), 7949.

The author examines that digital technology adoption drives both economic sustainability and social value, enhancing SME performance during external shocks. Grounded in the Resource-Based View and Dynamic Capability View, this study uses a quantitative PLS-SEM approach with data from 319 SMEs in India. The findings show that digital adoption improves value creation, while entrepreneurial orientation strengthens its impact on performance. However, this paper is limited by its focus on employee-level data, which may

overlook strategic decision-making. It is highly relevant as it provides a comparable South Asian context and highlights the role of entrepreneurial orientation in SME success.

5. Durman, S., Iyiola, K., Alzubi, A. B., & Aljuhmani, H. Y. (2025). Dynamic capabilities in action: digital capability, business model innovation and absorptive capacity. *Management Decision*, 1-36.

The study shows that digital capability alone is insufficient for SME survival; resilience emerges when capabilities are converted into innovative business models and supported by absorptive capacity. Grounded in the Dynamic Capabilities framework, this study uses SEM analysis on data from 312 SMEs in Turkey. The findings show that business model innovation mediates the relationship, while absorptive capacity strengthens the impact on resilience. However, this paper is limited by its single-country and cross-sectional design. It is highly relevant as it highlights firm resilience as a key outcome of digital transformation in emerging economies.

6. Herlinawati, E., Sumawidjaja, R. N., & Machmud, A. (2017). The role of sharia microfinance in SMEs business development. In *the 2nd International Conference on Economic Education and Entrepreneurship, Science and Technology Publications, Bandung, Indonesia* (pp. 230-233).

This study shows that SME survival in crises is driven by dynamic capabilities such as sensing (entrepreneurial orientation), seizing (niche market focus), and transforming (renewal capabilities). Using a qualitative multi-case design based on interviews with Pakistani firms, the paper identifies key capability patterns supporting resilience. However, the small and industry-specific sample limits generalisability and causal inference. It is highly relevant as it links dynamic capabilities to SME survival and supports a Resource-Based View and dynamic capability perspective on performance.

7. Inan, G. G. (2024, September). Building digital capabilities in manufacturing SMEs. In *IFIP International Conference on Advances in Production Management Systems* (pp. 135-147). Cham: Springer Nature Switzerland.

This study shows that successful digital transformation requires a balance between digital capacity (infrastructure) and digital maturity (skills and value creation). Grounded in the Resource-Based View, it

uses a longitudinal qualitative case study of a manufacturing SME to demonstrate how capabilities evolve through stepwise interventions. However, its single-case design limits generalisability. It is relevant as it highlights the need to integrate technical infrastructure and human capabilities for SME performance

8. Zulkifli, M. DIGITAL TECHNOLOGY AND MARKETING MANAGEMENT CAPABILITY: ACHIEVING GROWTH IN SMES, A CRITICAL REVIEW.

This paper says that digital growth is not achieved through technology alone but through “capability bundling,” where digital tools are combined with human and marketing competencies to drive performance. Grounded in Resource-Advantage Theory, the research adopts a qualitative approach using interviews and focus groups with UK SMEs, analysed through thematic coding. The findings show that while technical capabilities provide the foundation, human and marketing capabilities are the key drivers translating digital innovation into firm growth. However, the study is limited by its developed-country focus and lacks a unified framework establishing clear causality. This study is relevant as it highlights the role of intangible capabilities as a bridge between digital technology and SME performance.

9. Omrani, N., Rejeb, N., Maalaoui, A., Dabić, M., & Kraus, S. (2022). Drivers of digital transformation in SMEs. *IEEE transactions on engineering management*, 71, 5030-5043.

This study shows that SME digital adoption is primarily driven by internal factors such as IT infrastructure and organisational readiness, rather than external pressures. Based on the TOE framework and supported by RBV and dynamic capabilities, it uses large-scale quantitative data from 15,346 SMEs. The findings highlight the dominance of internal capabilities, though the broad dataset may overlook local contextual differences. It is relevant as it supports focusing on internal capability development in SME digital transformation.

10. Martins, A. (2023). Dynamic capabilities and SME performance in the COVID-19 era: the moderating effect of digitalization. *Asia-Pacific Journal of Business Administration*, 15(2), 188-202.

This study examines that while dynamic capabilities improve SME performance, digitalisation acts as a multiplier that specifically enhances the transforming capability during crises. Grounded in the Dynamic Capabilities framework, this study uses a cross-sectional survey of 400 SMEs in Ghana analysed through hierarchical regression. The findings show that digitalisation strengthens performance mainly at the

transformation stage, though the design limits long-term insights. This paper is relevant as it provides evidence from a comparable developing context and highlights the critical role of digital transformation in SME performance.

2 Digital Technology Capabilities and SME Performance

11.. Castillo-Vergara, M., Duarte Valdivia, D., Muñoz-Cisterna, V., Álvarez-Marín, A., Geldes, C., & Ortiz-Henriquez, R. E. (2025). Digital capabilities of SMEs: driving the industry 4.0 revolution and measuring its innovative effects. *Academia Revista Latinoamericana de Administración*, 38(1), 74-105.

This study shows that digital capability—comprising management systems (ERP/CRM) and ICT infrastructure—is a key precursor to Industry 4.0 adoption and innovation performance. Using a dual-method approach (PLS-SEM and fsQCA) on 536 SMEs in Chile, this study finds that these capabilities enable data-driven technologies that enhance innovation outcomes. However, this paper may overlook cost and skill constraints associated with advanced technologies. It is highly relevant as it provides a framework to assess digital capability maturity in SMEs.

12. Ullah, M. R., Tahir, S. H., Shahzadi, H., & Kamran, H. W. (2023). Digital pathways to success: the transformative power of digitalization and digital capabilities on SMEs' financial performance. *iRASD Journal of Economics*, 5(2), 465-485.

This paper says that SME financial performance is driven by specific combinations of digitalisation and capability factors rather than single variables. Using a configurational approach on SME data from Pakistan, this study identifies multiple causal pathways to high performance, highlighting the interdependence of digital factors. However, this paper is limited by its single-country context and lack of statistical generalisation. It is highly relevant as it demonstrates multiple strategic pathways for SME success in resource-constrained environments.

13. Teng, X., Wu, Z., & Yang, F. (2022). Research on the relationship between digital transformation and performance of SMEs. *Sustainability*, 14(10), 6012.

The study examines that digital transformation is a strategic process driven by the combined deployment of technology, employee skills, and digital strategy. Grounded in the Resource-Based View, this study uses a mixed-method approach with SEM analysis on 335 SMEs in China. The findings show that digital

transformation positively influences financial performance, with strategy and skills acting as key enablers. However, this paper relies on self-reported data and is limited to one context. It is highly relevant as it highlights the importance of strategy and human capability alongside technology in SME performance.

14. Kim, J., & Jin, W. (2024). Impact of digital capabilities on entrepreneurial performance in SMEs. *Journal of Innovation & Knowledge*, 9(4), 100609.

The study says that digital competence alone does not ensure SME success; performance depends on opportunity capability and entrepreneurial leadership. Drawing on a resource–capability–performance lens, this study uses SEM on survey data from 313 SMEs. The findings show that opportunity capability mediates, and leadership strengthens, the effect of digital capability on performance. However, this paper is limited by its cross-sectional design and single context. It is highly relevant as it highlights the need to combine digital capability with leadership to exploit market opportunities.

15. Joensuu-Salo, S., & Matalamäki, M. (2023). The impact of digital capability on firm performance and growth in incumbent SMEs. *Journal of Enterprising Culture*, 31(02), 211-232.

digital capability is a key driver of SME performance and growth, though its development is influenced by firm size. Grounded in the Resource-Based View and Dynamic Capabilities perspective, this study uses SEM on survey data from 242 SMEs in Finland. The findings indicate that smaller firms possess weaker digital capabilities and face greater performance challenges. However, this paper focuses on established SMEs, limiting insights into newer firms. It is highly relevant as it highlights the vulnerability of smaller SMEs in digital transformation

16. Roman, A., & Rusu, V. D. (2022). Digital technologies and the performance of small and medium enterprises. *Studies in Business and Economics*, 17(3), 190-203.

The study explores about digital technologies are essential for SME resilience and performance, with tools such as e-commerce, social media, and cloud computing driving growth. Using panel data from EU countries, this study finds that higher digital intensity significantly increases turnover and market share. However, this paper relies on secondary data and limited performance variables. It is highly relevant as it provides a macro-level benchmark for SME digitalisation and performance.

17. Wang, X., Xu, Z., Qin, Y., & Skare, M. (2023). The role of digital technologies in firms' performance: A panel data study on family firms and SMEs. *Journal of Competitiveness*, 15(2), 151.

digital technologies improve firm performance, their impact varies across firm types, with larger firms benefiting more in capital efficiency, while SMEs gain more in revenue growth. Using panel data from European firms, this study highlights uneven digital value extraction. However, this paper may suffer from survivorship bias by focusing on profitable firms only. It is highly relevant as it demonstrates the revenue-generating potential of digitalisation for SMEs despite structural limitations.

18. AL-Shboul, M. D. A. (2019). Towards better understanding of determinants logistical factors in SMEs for cloud ERP adoption in developing economies. *Business process management journal*, 25(5), 887-907.

cloud ERP adoption in SMEs is shaped by technological, organisational, and environmental factors. Using the Diffusion of Innovation and TOE frameworks, this study applies logistic regression on survey data from SMEs across developing economies. The findings show that readiness, top management support, and competitive pressure significantly influence adoption. However, this paper is limited by self-reported data and a small sample. It is relevant as it highlights key determinants of technology adoption and organisational readiness in SMEs.

19. Mladenova, I. (2024). SMEs in a digital era: the role of management. *Administrative Sciences*, 14(11), 296.

The study examines that management is the primary driver of digital transformation in SMEs, shaping how internal and external factors influence adoption. Using PLS-SEM on data from 989 SMEs in Bulgaria, this study finds that environmental factors matter more than government support, while managerial support directly enhances flexibility and risk-taking culture. However, this paper is limited to a single-country context and lacks qualitative depth. It is highly relevant as it highlights the critical role of managerial mindset in driving SME digital transformation.

3 SMEs in Developing Economies

20. Ndiaye, N., Razak, L. A., Nagayev, R., & Ng, A. (2018). Demystifying small and medium enterprises' (SMEs) performance in emerging and developing economies. *Borsa Istanbul Review*, 18(4), 269-281.

SME performance drivers vary by firm size, requiring size-specific policy approaches. Using a large-scale cross-sectional analysis of World Bank data, this study finds that small firms benefit more from finance and infrastructure, while medium firms gain from technology use and regulatory support. However, this paper relies on cross-sectional data and lacks causal depth. It is highly relevant as it provides a global benchmark for understanding SME performance determinants.

21.. Motilewa, B. D., Ogbari, M. E. R. C. Y., & Aka, D. O. (2015). A review of the impacts SMEs as social agents of economic liberations in developing economies. *International Review of Management and Business Research*, 4(3), 903-914.

SMEs drive employment, income distribution, GDP growth, and industrialization in Nigeria, but weak institutions and poor policy support undermine their developmental impact. The Paper uses a development economics and institutional lens to argue that SME underperformance in developing countries reflects institutional weakness rather than a shortage of SMEs. Based on secondary global evidence, it shows that Nigerian SMEs contribute to GDP, employment, and stability, but their growth is constrained by poor infrastructure, weak policies, and limited financial support. It highlights important institutional barriers but relies solely on secondary sources, lacks empirical evidence, and focuses on developing economy without deeper comparative analysis. This article is highly relevant as it highlights the Institutional Infrastructure Gap.

22.. Muriithi, S. (2017). African small and medium enterprises (SMEs) contributions, challenges, and solutions.

The study says that SMEs are key drivers of employment and GDP in Africa, but their growth is constrained by structural barriers such as limited finance, weak infrastructure, and inadequate policy support. Using a development economics and institutional perspective, this study synthesises existing evidence to highlight how internal and external factors shape SME performance. However, this paper relies on secondary data and lacks country-specific analysis. It is highly relevant as it highlights structural and policy-related challenges affecting SMEs in developing economies.

23. Boso, N., Danso, A., Leonidou, C., Uddin, M., Adeola, O., & Hultman, M. (2017). Does financial resource slack drive sustainability expenditure in developing economy small and medium-sized enterprises? *Journal of Business Research*, 80, 247-256.

The author examines that financial resource slack can reduce sustainability spending in SMEs, as firms prioritise conserving limited capital. Drawing on institutional and stakeholder perspectives, this study uses regression analysis on data from Nigerian SMEs to show that market pressure can reverse this effect, while political ties may weaken sustainability efforts. However, this paper is limited by its cross-sectional design and country-specific context. It is highly relevant as it highlights how internal resources and external pressures jointly shape SME sustainability.

4 Barriers and Challenges in Developing Digital Capabilities

24. Nakku, V. B., Agbola, F. W., Miles, M. P., & Mahmood, A. (2020). The interrelationship between SME government support programs, entrepreneurial orientation, and performance: A developing economy perspective. *Journal of Small Business Management*, 58(1), 2-31.

Nakku et al. (2020) examines that government support programs enhance SME performance by strengthening entrepreneurial orientation. Using a quantitative study of agro-based SMEs, this research shows that financial and non-financial support improves strategic behaviour and performance. However, this paper is limited by its cross-sectional design and sector-specific focus. It is relevant as it highlights the role of external support in shaping SME performance.

25. Elhusseiny, H. M., & Crispim, J. (2022). SMEs, Barriers and Opportunities on adopting Industry 4.0: A Review. *Procedia Computer Science*, 196, 864-871.

The study shows that while Industry 4.0 presents significant opportunities for SMEs, adoption is constrained by multiple barriers. Using a systematic literature review (PRISMA), this study shows that developing countries face “hard” barriers such as poor infrastructure, whereas developed countries face “soft” barriers like data privacy and standardisation. However, this paper lacks empirical validation. It is highly relevant as it distinguishes contextual differences in digital transformation barriers across economies.

26. Miškić, M., Srebro, B., Rašković, M., Vrbanc, M., & Jevtić, B. (2025). KEY CHALLENGES HINDERING SMES'FULL BENEFIT FROM DIGITALIZATION-A CASE STUDY FROM SERBIA. *International Journal for Quality Research*, 19(2).

The study says that SME digitalisation is constrained by ecosystem-level weaknesses, particularly in skills, finance, and infrastructure. Using survey data from 264 SMEs in Serbia, this study finds that underdeveloped national-level enablers significantly hinder digital adoption. However, this paper is limited to a single-country and sector-specific context. It is highly relevant as it highlights the role of structural ecosystem factors in shaping SME digital transformation

27Ilias, N., Zakaria, W. Z. W., Hassan, S., & Zulkipli, H. N. (2025). Exploring the Barriers to Digital Transformation Among SME Manufacturers: A Resource-Based View Perspective. In *Integrating Artificial Intelligence, Security for Environmental and Business Sustainability: Volume 2* (pp. 29-39). Cham: Springer Nature Switzerland.

The study says that SME digital adoption is constrained by internal capability gaps and resource shortages. Grounded in the Resource-Based View, this study uses qualitative interviews to show that weaknesses in financial resources, digital skills, infrastructure, and managerial capability hinder transformation. However, this paper is limited by its small sample and exploratory design. It is highly relevant as it highlights both internal and external constraints affecting SME digital transformation.