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Digital Transformation and Competitive Advantage of Small Firms: A Systematic Review of Capability Conversion

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Abstract

Purpose: This study consolidates fragmented evidence on how small and medium-sized enterprises convert digital transformation into competitive advantage through strategic capabilities, and develops an integrative conceptual framework.

Research Methodology: The study applies a systematic literature review with thematic synthesis. Candidate records were identified through database and publisher-oriented searching, backward reference checking, and source tracing, then screened, appraised against a transparent rubric, and coded into descriptive and analytical themes. Every included record was independently verified for existence, authorship, year, outlet, and an active digital object identifier.

Results: The synthesis identifies six themes: digital transformation as a capability-building process; digital capability and digital marketing capability; innovation capability as a value-conversion mechanism; market orientation, learning orientation, and strategic agility; competitive advantage and sustainable performance; and ecosystem, policy, and readiness constraints. The evidence indicates that digital adoption yields advantage only when it is embedded in firm-specific capabilities.

Conclusions: Digital transformation becomes strategically valuable when it is converted into integrated capabilities that are aligned with market learning, translated by innovation, and deployed with agility.

Limitations: The framework is conceptual and has not been tested empirically. Screening and appraisal were performed by a single coder, and the evidence base is cross-contextual rather than exclusive to emerging economies.

Contributions: The study proposes the Digital Capability, Market Alignment, and Innovation framework with testable propositions, clarifying the pathway from digital adoption to competitive advantage and offering an agenda for research in Indonesia and other emerging economies.

Keywords: *Competitive Advantage, Digital Capability, Digital Transformation, Innovation Capability, Strategic Agility*

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1. Introduction

Small and Medium Sized Enterprises (SMSE) play a central role in employment, entrepreneurship, local economic resilience, and inclusive growth, particularly in emerging economies. In many developing countries they are not only productive units but also mechanisms of social and regional development that absorb labour, support household income, and connect local markets to wider value chains. An increasingly digital, uncertain, and competitive environment has intensified the pressure on these firms to transform their operations, customer communication, innovation, and performance.

Digital transformation has therefore become a strategic agenda for smaller firms. Platforms, electronic commerce, social media, digital payment systems, analytics, cloud tools, and artificial intelligence are reshaping customer engagement, operational routines, market access, and competitive behaviour. Yet the relationship between digital transformation and competitive advantage remains theoretically and empirically fragmented. Much of the literature examines transformation in terms of technology adoption, platform usage, and readiness. Such work clarifies the antecedents and barriers to adoption, including infrastructure, managerial support, digital literacy, and environmental pressure, but adoption-oriented explanations do not account for how transformation becomes advantage.

Digital technologies alone do not create superior value. From a strategic management perspective, their value depends on whether firms embed digital tools into firm-specific capabilities, routines, learning processes, customer engagement practices, and innovation activities. This view is consistent with the resource-based view, which treats advantage as a function of valuable and difficult-to-imitate resources by Barney (1991) and with dynamic capabilities theory, which explains how firms sense, seize, and reconfigure resources under changing conditions (Teece, Pisano, & Shuen, 1997; Teece, 2018). In digital transformation research, technology-enabled change becomes strategically meaningful when it alters value creation, routines, customer interaction, and competitive behaviour rather than merely increasing technology usage (Vial, 2019; Verhoef, Broekhuizen, Bart, Bhattacharya, Dong, Fabian, & Haenlein, 2021).

Recent evidence on smaller firms supports this conversion logic. Studies show that platform capability, network capability, and ambidexterity shape how entrepreneurial firms compete through digital platforms by Cenamor, Parida, and Wincent (2019), that digital capability translates into performance mainly through digital innovation by Khin and Ho (2019) and that the adoption of analytics improves market and financial performance where firms possess the organizational readiness to absorb it (Maroufkhani, Tseng, Iranmanesh, & Khalid, 2020). Evidence from emerging economies points the same way, since digital marketing adoption and artificial-intelligence-enabled customer management strengthen small-firm competitiveness only where they are matched by organizational capability (Okigbo, Mbamalu, & Iruogu, 2025; Ebuka, Emmanuel, & Idigo, 2023). Taken together, these studies suggest that transformation becomes strategic only when it is translated into capabilities.

The literature nevertheless reveals four interrelated gaps. First, digital capability, digital marketing capability, innovation capability, market orientation, learning orientation, strategic agility, and competitive advantage have often been examined as separate streams, which limits understanding of how they operate as an integrated pathway. Second, adoption-focused work explains why firms adopt technologies but offers little systematic account of how adoption becomes capability, innovation, and agility. Third, many frameworks originate in large-firm or developed-economy settings, whereas smaller firms in resource-constrained contexts face literacy gaps, uneven infrastructure, limited finance, platform dependency, and institutional uncertainty. Fourth, few reviews have integrated the full pathway from capability bases through market and learning alignment and innovation toward advantage and sustainable performance.

To address these gaps, this study applies a systematic literature review with thematic synthesis and is guided by three questions. First, which strategic capabilities are associated with digital transformation in smaller firms? Second, how do digital capability, digital marketing capability, innovation capability, market orientation, learning orientation, and strategic agility contribute to competitive advantage?

Third, what agenda can strengthen sustainable growth in Indonesia and other emerging economies? The study contributes by consolidating the fragmented evidence, by specifying conversion as a sequence rather than a list, and by proposing a testable framework.

2. Literature Review

2.1 Resource-Based View and Dynamic Capabilities

The resource-based view holds that advantage arises from resources that are valuable, rare, and difficult to imitate, and that capability stocks embedded in firm-specific routines are the mechanism through which resources yield returns (Barney, 1991). Applied to digital transformation, this implies that technology purchased on an open market is unlikely to confer advantage by itself, because rivals can acquire the same tools. What differentiates firms is the capability built around the technology. Dynamic capabilities theory extends this account by explaining renewal: firms sense opportunities, seize them, and reconfigure their resource base as technologies and markets shift (Teece, Pisano and Shuen, 1997; Teece, 2018). Content-analytic evidence confirms that dynamic capabilities operate primarily through the reconfiguration of ordinary capabilities rather than acting directly on performance (Schilke, Hu and Helfat, 2018). Digital transformation, in this reading, is an enabling process whose strategic value is realized only through capability development (Warner and Wager, 2019).

2.2 Digital Capability and Digital Marketing Capability

The reviewed literature distinguishes two capability bases. Digital capability concerns internal routines, coordination, information processing, and operational improvement, and evidence indicates that it improves performance mainly by enabling digital innovation rather than by direct effect (Khin and Ho, 2019; Ritter and Pedersen, 2020). Digital marketing capability is market-facing and concerns channel management, platform analytics, customer engagement, and online communication; it converts digital market information into strategic action rather than signalling mere online presence (Wang and Kim, 2017; Trainor et al., 2014). Because the two capabilities have different antecedents and different effects on market responsiveness, treating them as a single construct obscures the mechanism, which motivates the first two propositions.

P_1: Digital capability is positively associated with innovation capability in small and medium-sized enterprises

P_2: Digital marketing capability strengthens the relationship between digital capability and market responsiveness

2.3 Market Orientation and Learning Orientation

Market orientation explains how firms generate and disseminate intelligence about customers and competitors, and learning orientation explains how they acquire, question, and apply knowledge. In digital settings these orientations determine whether the data that technologies generate is interpreted and acted upon, or merely accumulated. Evidence on analytics adoption indicates that data confers advantage only where organizational readiness and absorptive capacity allow firms to interpret and act on it by Maroufkhani, Tseng, Iranmanesh, and Khalid (2020), and studies of business model innovation in digitalizing firms report similar conditionality (Bouwman, Nikou, & de Reuver, 2019). Alignment is therefore modelled as a condition of conversion rather than as an outcome.

P_3: Market orientation and learning orientation jointly enhance the conversion of digital capability into innovation capability.

2.4 Innovation Capability and Strategic Agility

Innovation capability is the mechanism that converts digital and market knowledge into new products, improved processes, marketing innovations, and business-model renewal. Evidence indicates that digital adoption yields advantage principally where it is coupled with product and process innovation rather than where adoption intensity is high (Ferreira, Fernandes and Ferreira, 2019; Ghobakhloo and Iranmanesh, 2021). Strategic agility then governs deployment, since an innovation that is not brought rapidly to market confers little advantage in contested settings; agility has been shown to link business model innovation to performance (Clauss et al., 2021). Innovation is thus the converter and agility the

activator.

P₄: Strategic agility mediates the relationship between innovation capability and competitive advantage

P₅: Competitive advantage derived from capability conversion is positively associated with sustainable firm performance

2.5 Boundary Conditions

Smaller firms do not transform in isolation. Their capacity to build capability depends on infrastructure quality, digital literacy, financing, platform access, institutional support, and sectoral conditions, and studies of digitalization antecedents consistently report that these conditions shape whether investment translates into capability (Eller et al., 2020; Li et al., 2018). Readiness and ecosystem support are therefore modelled as moderators rather than assumed away, which yields the final proposition.

P₆: Digital readiness and ecosystem support moderate the strength of the capability-conversion pathway

3. Research Methodology

3.1 Research Design

This study applies a systematic literature review with thematic synthesis. The review follows established guidance for transparent corpus development, screening, and appraisal and reports its flow in accordance with current reporting standards (Tranfield, Denyer, & Smart, 2003; Snyder, 2019; Paul, & Criado, 2020; Page, 2021). The synthesis follows thematic analysis procedures involving coding, descriptive theme development, and analytical interpretation (Braun, & Clarke, 2006; Thomas, & Harden, 2008; Nowell, Norris, White, & Moules, 2017). No new review design is claimed. The contribution lies in the synthesis and the resulting framework, not in the method. Prior reviews have already mapped the breadth of the field and its disciplinary spread by (Kraus, Durst, Ferreira, Veiga, Kailer, and Weinmann (2022) and Zhu, Ge, and Wang (2021), the present review is narrower by design, since it targets the conversion of digital resources into advantage rather than the field as a whole.

3.2 Search Strategy and Eligibility

Candidate records were identified through database and publisher-oriented searching, backward reference checking, and source tracing. Search strings combined terms for digital transformation and digitalization with terms for capability, marketing capability, innovation, agility, competitive advantage, and small and medium-sized enterprises. Eligibility was restricted to peer-reviewed records that addressed the conversion of digital resources into capability or advantage; records that examined adoption alone, that were not peer-reviewed, or that did not report a retrievable source were excluded. The criteria applied at each stage are summarized in Table 1.

Table 1. Inclusion and exclusion criteria

Dimension	Included	Excluded
Focus	Conversion of digital resources into capability, innovation, or advantage	Technology adoption or usage without a capability or outcome link
Unit	Small and medium-sized enterprises, or firms where results are separable by size	Large-firm-only samples with no separable results
Type	Peer-reviewed empirical, review, and conceptual records	Editorials, theses, working papers, and non-peer-reviewed outputs
Verification	Record retrievable at publisher or index with an active identifier	Records whose bibliographic details or identifier could not be confirmed

3.3 Corpus Development and Verification

The flow from identification to synthesis is presented in Figure 1. Candidate records were consolidated, de-duplicated, and screened for relevance; the records that survived screening were then audited in full and independently verified before entering the corpus.

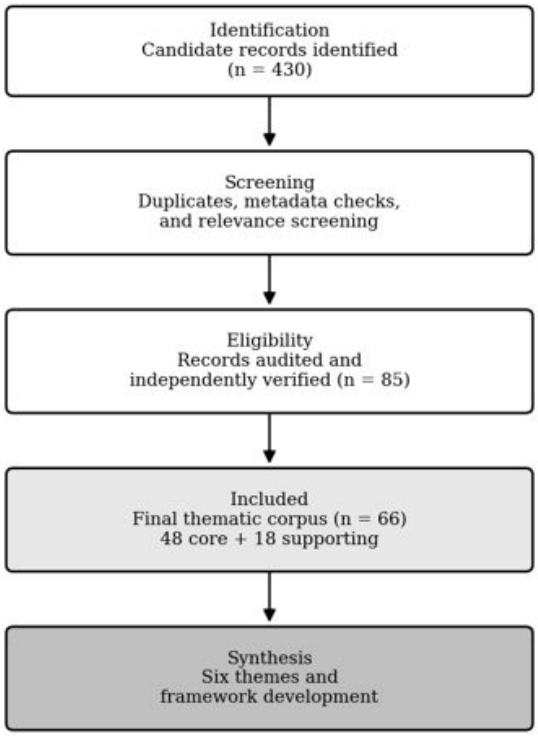

Figure 1. Corpus development and screening flow

Because part of the candidate discovery was assisted by an artificial-intelligence tool, every record considered for inclusion was subjected to independent verification before it entered the corpus. Verification required that the record could be located directly at the publisher or in an indexing database, and that its title, authorship, publication year, outlet, and digital object identifier could each be confirmed against the original source. Records whose identifiers could not be resolved, or whose bibliographic details could not be independently confirmed, were removed at this stage and were not carried forward. No unverified record was retained in the final corpus, and the verification log is provided in the Appendix. The relationship between the review funnel and the reference list is stated explicitly. Every record retained in the final corpus is cited in text and appears in the reference list. The reference list additionally contains theory anchors and methodological sources that support the theoretical background and the review design but were deliberately excluded from the thematic corpus, because they are not empirical evidence about the phenomenon under review. Records screened out at the eligibility stage are not cited and do not appear in the reference list. The counts reported in the flow diagram, the in-text citations, and the reference entries are reconciled on this basis.

3.4 Quality Appraisal and Coding

Each retained record was appraised for relevance to the conversion pathway, methodological transparency, and clarity of construct definition, and was classified as core or supporting according to the directness of its fit. Coding proceeded from extracted findings to descriptive codes and then to analytical themes. The appraisal rubric and the coding trail are reported in the Appendix rather than in the body, so that the article presents analytical rather than procedural content.

All screening, appraisal, and thematic classification were performed by one author. Consequently, the inclusion decisions, the assignment of records to core and supporting categories, and the quality scores all rest on a single judgment without inter-rater validation, and no agreement statistic such as Cohen's kappa or Krippendorff's alpha can be reported. To reduce the risk of idiosyncratic judgment, the criteria were specified in advance, the rubric was applied uniformly, and a subsample of records was re-screened after an interval to check the stability of the original decisions, with discrepancies resolved by returning to the source. This procedure mitigates but does not eliminate single-coder bias,

and independent double screening remains necessary in future work. Future studies should involve multiple independent reviewers during the screening and classification stages to enhance methodological rigor and improve the reproducibility of the review process. In addition, reporting inter-rater reliability statistics would provide stronger evidence regarding the consistency and objectivity of the selection and coding procedures.

4. Results and Discussions

4.1 Descriptive Mapping of the Corpus

The evidence base is dominated by recent work, is cross-contextual rather than country-specific, and is concentrated in a small number of constructs. The construct hotspots and the boundary conditions reported alongside them are mapped in Table 2.

Table 2. Construct hotspots and boundary conditions in the corpus

Construct cluster	Position in the pathway	Boundary conditions reported alongside it
Digital capability	Capability base	Digital literacy, infrastructure quality, managerial support
Digital marketing capability	Capability base, market-facing	Platform access, analytics skills, channel dependency
Market and learning orientation	Alignment mechanism	Market dynamism, absorptive capacity
Innovation capability	Value-conversion mechanism	Financial access, knowledge integration
Strategic agility	Activation mechanism	Organizational slack, decision speed
Competitive advantage and performance	Outcome	Sector, firm size, institutional context

Table 2 points to two patterns worth noting. Digital capability and innovation capability dominate the construct space, whereas readiness and ecosystem factors appear mainly as conditions attached to other constructs rather than as central explanatory variables in their own right. This asymmetry is itself a finding, because it indicates that the literature theorizes capability more carefully than it theorizes the context in which capability is built.

A boundary condition of the evidence base should also be stated plainly. Although resource-constrained and emerging-economy settings motivate this review, the retained records are cross-contextual rather than drawn exclusively from those settings, and a substantial share originates from developed-economy or mixed samples. Emerging-economy conditions therefore function in this study as an interpretive lens and as a research agenda, not as the empirical basis of the synthesis. Claims about firms in these settings are consequently framed as propositions to be tested there rather than as findings established within them, and a dedicated subset analysis remains an important next step.

4.2 Thematic Findings

4.2.1 Digital transformation as a capability-building process

The first theme establishes that transformation should be read as capability building rather than as technology adoption. Transformation becomes valuable where firms develop complementary capabilities such as digital culture, leadership, employee capability, adaptive capability, and open innovation. Evidence on platform competition shows that entrepreneurial firms compete through platform and network capability rather than through platform presence by Cenamor, Parida, and Wincent (2019), and process evidence indicates that transformation proceeds as ongoing strategic renewal rather than as a discrete event (Warner & Wager, 2019). Case evidence on established smaller manufacturers points the same way, since value creation follows from the dynamic capabilities assembled around digital channels rather than from the channels themselves (Matarazzo, Penco, Profumo, & Quaglia, 2021), and studies of smart technologies in supply chains report that benefits accrue only where the technology is absorbed into operating routines (Nasiri, Ukko, Saunila, &

Rantala, 2020). Analytically, this supports the argument that digital tools acquire value only once embedded in firm-specific routines (Barney, 1991; Vial, 2019).

4.2.2 Digital capability and digital marketing capability

The second theme identifies the two capability bases. Digital capability supports coordination, information processing, and operational improvement, and its performance effect runs through digital innovation rather than acting directly on outcomes (Khin and Ho, 2019; Ritter and Pedersen, 2020). Digital marketing capability, by contrast, is market-facing: it supports reach, engagement, channel management, and analytics. Work on social media and customer relationship capability indicates that its value lies in converting market information into action rather than in the volume of digital activity (Wang and Kim, 2017; Trainor et al., 2014). Studies of internationalizing ventures point the same way, linking performance to marketing capability rather than to market presence (Martin, Javalgi and Ciravegna, 2020). Among small firms in emerging economies the pattern is reinforced, since social media and digital marketing adoption improve marketing performance only where digital competence and customer-engagement capability are already in place (Okwudiri et al., 2025; Naab and Bans-Akutey, 2021). Taken together, these findings support separating the two constructs, because conflating them obscures which capability is doing the work.

4.2.3 Innovation capability as a value-conversion mechanism

The third theme positions innovation capability as the central converter. Digital technologies supply data, channels, efficiencies, and access, but innovation capability determines whether these become new products, improved processes, or renewed business models. Evidence indicates that firms realize advantage where digital adoption is coupled with product and process innovation, rather than where adoption is merely extensive (Ferreira, Fernandes and Ferreira, 2019; Ghobakhloo and Iranmanesh, 2021). Business model innovation research reports the same conditionality, since digitalizing firms improve performance only where they redesign how value is created and captured (Bouwman, Nikou and de Reuver, 2019).

4.2.4 Market orientation, learning orientation, and strategic agility

The fourth theme is the strongest cluster and shows that the middle of the pathway is not purely technological. Market orientation supports understanding of customers and competitors, learning orientation supports the acquisition and application of knowledge, and strategic agility enables rapid response. Evidence on analytics adoption indicates that data yields advantage only where organizational readiness and interpretive capacity exist (Maroufkhani et al., 2020), and evidence on agility indicates that it links business model innovation to performance (Clauss et al., 2021). Related work on smaller firms further shows that the effect of advanced digital capability on entrepreneurial outcomes is contingent on strategic planning, which reinforces the view that alignment conditions conversion (Chatterjee et al., 2022). The evidence is not uniformly conclusive, however, and the conditional character of these relationships prevents an overly linear reading and supports treating the pathway as contingent rather than deterministic.

4.2.5 Competitive advantage and sustainable performance

The fifth theme confirms that advantage and sustainable performance are outcomes of capability integration rather than direct results of adoption. Advantage may appear as differentiation, efficiency, loyalty, reach, faster response, innovation output, or resilience. The corpus also indicates the negative case: digital investment without market alignment, innovation capability, and agility tends to produce operational digitalization without durable advantage, which is consistent with the reconfiguration logic of dynamic capabilities (Schilke, Hu and Helfat, 2018).

4.2.6 Ecosystem, policy, and readiness constraints

The sixth theme functions as a boundary condition rather than as a stage. Firms do not transform in isolation, and their capacity to build capability depends on infrastructure, literacy, financing, platform access, institutional support, and sectoral conditions (Eller et al., 2020; Li et al., 2018). Because the corpus is cross-contextual, emerging-economy relevance is treated here as a contextual emphasis and an agenda rather than as a universal empirical claim. Evidence from resource-constrained settings illustrates the point directly, since digital literacy gaps, infrastructure quality, and financing constraints

repeatedly emerge as the binding limits on whether small firms can convert digital tools into capability (Ebuka et al., 2020).

4.3 Cross-Thematic Interpretation

Across the six themes, the relationship between digital transformation and competitive advantage is indirect, capability-based, and conditional. Transformation provides the enabling process; digital and digital marketing capability form the capability base; market and learning orientation align digital resources with customer and competitor knowledge; innovation capability converts these resources into value; and strategic agility activates competitive response. The pathway is neither automatic nor universally linear, and its effectiveness depends on readiness, sector, ecosystem support, and institutional context. This interpretation provides the basis for the framework developed below.

4.4 The Framework and Its Propositions

The framework integrates the four theoretical logics reviewed earlier and formalizes the conversion sequence. It is presented in Figure 2.

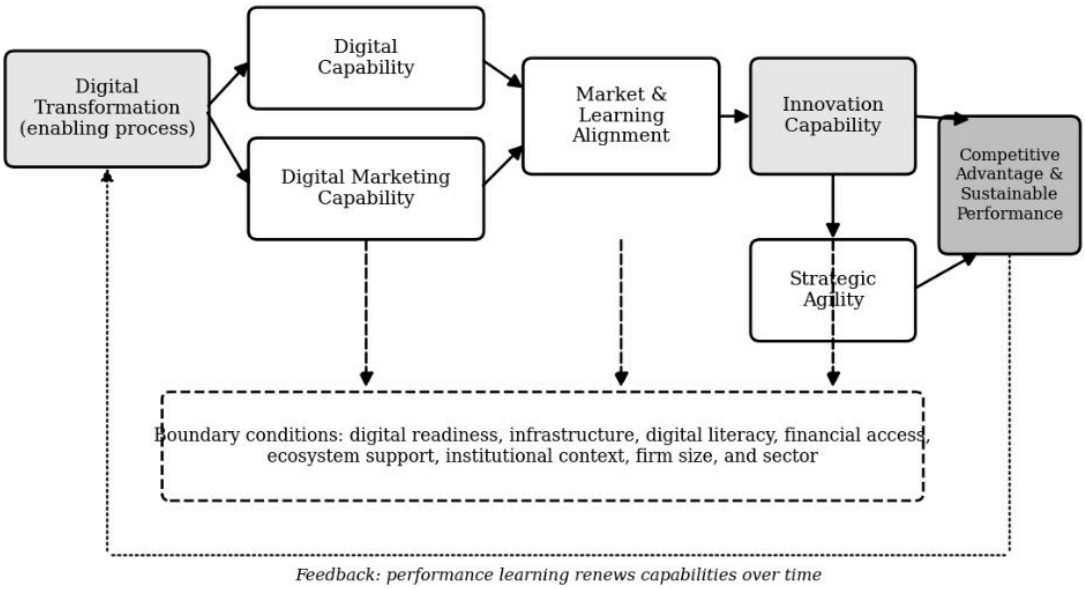

Figure 2. The Digital capability, market alignment, and innovation framework

Figure 2 can be read from left to right: digital transformation enters as an enabling process; digital capability and digital marketing capability form the internal and market-facing capability base; market and learning alignment condition their translation; innovation capability performs the conversion; and strategic agility governs deployment, yielding competitive advantage and sustainable performance. The dashed boundary indicates the conditions under which the pathway operates, and the feedback path indicates that performance learning renews the capabilities over time. The propositions derived in Section 2 are consolidated in Table 3.

Table 3. Propositions for future research

Proposition	Statement
P_1	Digital capability is positively associated with innovation capability in small and medium-sized enterprises.
P_2	Digital marketing capability strengthens the relationship between digital capability and market responsiveness.
P_3	Market orientation and learning orientation jointly enhance the conversion of digital capability into innovation capability.
P_4	Strategic agility mediates the relationship between innovation capability and competitive advantage.

Proposition	Statement
P_5	Competitive advantage derived from capability conversion is positively associated with sustainable firm performance.
P_6	Digital readiness and ecosystem support moderate the strength of the capability-conversion pathway.

Table 3 lays out the six propositions in the order they were introduced across Section 2, moving from the two capability bases (P_1, P_2) through the alignment condition (P_3) to the conversion and activation mechanisms (P_4, P_5) and finally the boundary condition governing the whole pathway (P_6). Read together rather than in isolation, they describe a single conversion sequence rather than six unrelated claims, which is the form the framework is meant to take once it moves from synthesis to empirical testing.

4.5 Discussion and Implications

The added value of the framework must be stated precisely, because integrative capability accounts already exist. Vial (2019) maps digital transformation as a process in which technology triggers strategic responses and value creation, but treats capability as one broad element within that process rather than specifying which capabilities convert digital investment into advantage, or in what order. The present framework departs from that account in three respects. First, it separates digital capability from digital marketing capability, which the reviewed evidence treats as distinct constructs with different antecedents and different effects on market responsiveness. Second, it specifies conversion as a sequence rather than a list, since digital capabilities are argued to yield advantage only when they pass through market and learning alignment, are translated by innovation capability, and are deployed with agility. Third, it states boundary conditions explicitly, so that readiness and ecosystem support are modelled as moderators rather than assumed away. These distinctions are what make the framework testable, because they generate directional propositions that can be falsified, whereas broader syntheses generate description rather than prediction.

The framework is nevertheless conceptual. It is derived from synthesis rather than from primary data, and none of its propositions has yet been tested. It is therefore offered as a structure for future empirical work rather than as a validated model, and its value should be judged by whether the propositions prove testable and informative.

For managers, the practical implication is that sequence matters more than expenditure. Investment in tools without corresponding investment in market learning, innovation, and decision speed is likely to yield operational digitalization rather than advantage, and the appropriate question is therefore not how much technology a firm has adopted but where in the conversion sequence it is currently blocked. For policy, the implication is that support directed only at adoption is unlikely to generate competitiveness. Because readiness and ecosystem support function as moderators, programmes that combine infrastructure and financing with capability development, managerial training, and knowledge exchange should outperform programmes that subsidize technology alone.

5. Conclusions

5.1 Conclusion

This study consolidated fragmented evidence on how smaller firms convert digital transformation into competitive advantage. The synthesis of the reviewed corpus identified six themes and showed that the relationship between transformation and advantage is indirect, capability-based, and conditional. Digital transformation supplies the enabling process, digital and digital marketing capability form the capability base, market and learning alignment condition the translation, innovation capability performs the conversion, and strategic agility governs deployment, with readiness and ecosystem support operating as boundary conditions. On this basis the study proposed an integrative framework with six testable propositions that specifies the conversion sequence rather than merely listing its components.

5.2 Research Limitations

Four limitations qualify these conclusions. First, the framework is conceptual and none of its propositions has been tested empirically, so the sequence it specifies remains an argument rather than a finding. Second, screening, appraisal, and classification were performed by a single coder without inter-rater validation, and no agreement statistic can be reported. Third, the evidence base is cross-contextual rather than exclusive to emerging economies, so claims about resource-constrained settings are framed as propositions to be tested rather than as established results. Fourth, the corpus is concentrated in recent publications, which strengthens topical relevance but raises the risk that metadata for advance-online records may change.

5.3 Suggestions and Directions for Future Research

Future work should test the propositions directly, ideally with longitudinal or multi-wave designs capable of distinguishing the sequence from simultaneous determination. Independent double screening with reported agreement statistics would strengthen the reliability of comparable reviews. A dedicated subset analysis of emerging-economy records, or primary data collection in Indonesia and the wider region, would allow the boundary conditions to be examined rather than assumed. Finally, research that measures digital capability and digital marketing capability separately would allow the distinction proposed here to be validated or rejected, which is the most direct route to establishing whether the framework earns its added value.

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Author Contributions

AFFR contributed to the conceptualization, methodology, corpus development, formal analysis, and the writing of the original draft. AA contributed to the conceptualization, supervision, critical revision, and review and editing. Both authors have read and approved the final version of the manuscript.

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