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# Developing Digital Distribution Strategy Framework for SMEs: Integrating E-Commerce, Marketing, and Logistics

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## Abstract

**Purpose:** The study develops an integrated digital distribution strategy framework for small and medium enterprises (SMEs). It explores how e-commerce platform adoption enables SMEs to leverage ecosystem benefits, such as logistics integration, distribution reach, cross-border trade, and supply chain finance to enhance firm performance. **Research design, data, and methodology:** Using the PRISMA 2020 protocol, 52 peer-reviewed studies were analyzed through a two-step approach. Bibliometric keyword co-occurrence mapping identified four dominant themes, while the TCM-ADO (Theory- Context- Method and Antecedents- Decisions- Outcomes) framework structured the synthesis of theoretical, contextual, methodological and causal insights across SME digitalization research. **Results:** Findings show that e-commerce functions as a central node linking digital marketing, logistics integration, supply chain finance, and cross-border trade. SMEs use e-commerce ecosystems to overcome resource constraints and improve distribution efficiency. Unlike existing supply chain or omnichannel models, this research develops an integrated digital distribution strategy framework with six propositions explaining how e-commerce, digital marketing, logistics, and financial technologies (Fintech) jointly strengthen SME performance. **Conclusions:** The review contributes to distribution science by positioning e-commerce as both a distribution channel and strategic enabler within SMEs distribution strategy. It highlights managerial, theoretical and practical implications for building resilient and technology-driven distribution strategy.

**Keywords :** Digital Distribution, E-Commerce, Logistics Integration, Supply Chain Management, Digital Marketing, Small and Medium Enterprises

**JEL Classification Code :** M31; L26; L14; L86

## 1. Introduction

Small and medium enterprises (SMEs) play a critical role in economic development globally, representing more than 90% of businesses and over half of total employment (World Bank SME Finance, 2019). In emerging economies,

they contribute up to 40% of GDP, driving inclusive growth, job creation, exports, and regional trade (Prakash et al., 2021). Yet, despite their economic importance, SMEs face distribution inefficiencies, high logistics costs, and limited access to structured supply chains (Kindström et al., 2024). These challenges limit their participation in domestic and

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international markets, highlighting the need for digital distribution ecosystems.

SMEs with limited resources and capabilities find it difficult to establish in-house, unified distribution, logistics, and digital marketing systems. E-commerce adoption provides a platform for SMEs to reach domestic and international markets without the need for heavy investment in physical or IT infrastructure. Through integrated e-commerce systems, SMEs enhance supply chain efficiency, logistics coordination, and marketing and financial capabilities (Kabanda & Brown, 2017; Nguyen et al., 2022).

In contrast to large enterprises that rely on structured, capital-intensive own physical and digital distribution networks, SMEs leverage e-commerce platforms such as Amazon, Alibaba, and Facebook for customer engagement, logistics outsourcing, and market access (Berbatovci & Buja, 2024; Salam et al., 2021) or are restricted to serve a niche market. Digital marketing has evolved from being a communication tool to a sales touchpoint and complements e-commerce in managing distribution channels, optimizing delivery, and enabling cross-border trade (Shorbaji et al., 2025).

Recent studies reinforce the interdependence between digital distribution and digital marketing. Halik et al. (2023) states that SMEs with advanced IT awareness and digital marketing practices achieve better product distribution performance. Similarly, (Lang et al., 2023) and (Toni, Goh, Edward, & Calen, 2025) points out that digital transformation and logistics innovation jointly enhance SME competitiveness and supply chain sustainability. During crises such as COVID-19, firms that adopts e-commerce and online logistics solutions-maintained continuity in distribution and customer connectivity, reflecting the resilience of digital distribution systems. SMEs realized this need during pandemic which invoked e-commerce adoption (Ukaj et al., 2023; Vita et al., 2021).

However, despite growing academic interest, existing literature remains fragmented. Most studies examine isolated tools such as e-commerce, social media, SEO, supply chain, or CRM, without analyzing how these integrate within digital distribution ecosystems (Centobelli et al., 2016; Hånell et al., 2020). Accordingly, key distribution outcomes; such as supply chain efficiency, channel intensity, cross-border trade competitiveness, and last-mile logistics for delivery and return remain underexplored in SME research. This lack of integration limits both theoretical advancement and practical application in the field of distribution science.

To address these gaps, this study develops a Digital Distribution Strategy Framework for SMEs that integrates marketing, logistics, and e-commerce platforms. The review follows the PRISMA 2020 protocol (Page et al., 2021) and applies the TCM-ADO framework (Paul, Lim, O’Cass, Hao,

& Bresciani, 2021) to examine how theories, contexts, and methods align with antecedents, strategic decisions, and outcomes in SME digital distribution. Based on a dataset of 52 peer-reviewed studies, the review combines bibliometric mapping and thematic synthesis to identify dominant patterns, theoretical gaps, and causal relationships.

Consequently, the study addresses the following research questions:

**RQ1:** What dominant themes and theoretical perspectives shape research on distribution strategies and digital marketing in SMEs?

**RQ2:** How do antecedents, strategic decisions, and outcomes of digital distribution evolve across different contexts and methodological approaches?

**RQ3:** How can insights from the literature be synthesized into a conceptual framework and propositions for future research in SME distribution strategy?

Although existing frameworks such as omnichannel strategy and digital supply chain models focus on automating channel coordination, they fail to integrate marketing, logistics and fintech from SME perspective. This paper addresses this gap by proposing a unified “Digital Distribution Strategy Framework” by positioning e-commerce as a central node connecting logistics integration, digital marketing, cross border trade, and fintech; thereby strengthening distribution capabilities and enhancing performance of resource constrained SMEs.

## 2. Research Methods and Materials

This study adopts a systematic literature review (SLR) approach to examine how digital distribution and marketing contribute to the SMEs performance and competitiveness. The review follows the PRISMA 2020 protocol (Page et al., 2021), ensuring methodological transparency, rigour and reproducibility. A combined bibliometric and qualitative synthesis was undertaken using the TCM-ADO framework, which links theoretical, contextual, and causal insights to map how digital transformation reshapes SME distribution.

### 2.1. Data Source and Search Strategy

The PRISMA 2020 guidelines provide a structured approach for article identification, screening, eligibility assessment, and inclusion through a standardized flow diagram.

#### Identification

The Scopus database was selected for its comprehensive coverage of peer-reviewed journals in business, management, and social sciences. Data exploration was conducted on 23 September 2025 using the following search

string:

*TITLE-ABS-KEY ((SME OR MSME OR "small and medium enterprises")) AND TITLE-ABS-KEY ("digital marketing" OR "social media marketing" OR e-commerce OR CRM OR "online platforms")) AND TITLE-ABS-KEY ((distribution OR "distribution channel\*" OR logistics OR "supply chain" OR "channel performance" OR "market reach"))*

The search yielded 178 articles. To include broader organizational contexts, the SME/MSME filter was removed, resulting in 3,506 records.

### Screening

The dataset was then refined by limiting results to:

- Subject areas: Business, Management and Accounting, Decision Sciences, Economics, and Social Sciences,
- Document type: Articles and Reviews
- Publication period: 2011–2024
- Language: English

After applying these filters, 66 articles remained.

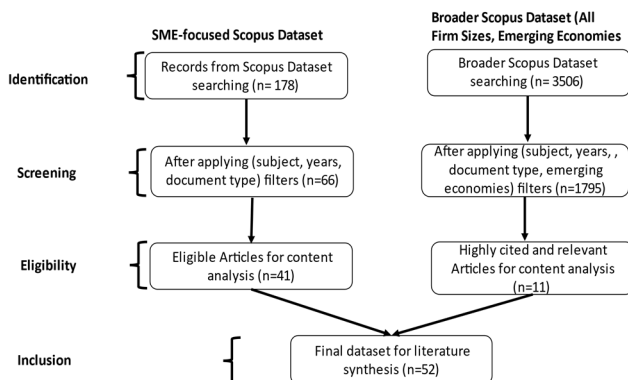
A complementary search focusing on enterprises of all sizes and emerging economies (India, China, Indonesia, Brazil, Turkey, Russia, South Africa, Nigeria, and Mexico) produced 1,795 additional papers.

### Eligibility Assessment and Inclusion

After manual relevance screening, 41 SME-specific studies were retained, supplemented by 11 highly cited papers from the broader dataset, resulting in a final sample of 52 articles.

Each study was evaluated for its focus on digital marketing, e-commerce, logistics, and distribution.

**Figure 1** illustrates the PRISMA-based identification, screening, eligibility, and inclusion process.



**Figure 1:** Article selection using PRISMA 2020 protocol, adapted from (Page et al., 2021).

## 2.2. Data Extraction Analytical Approach

A dual analytical strategy was applied. First, a bibliometric keyword co-occurrence analysis using VOSviewer identified dominant research themes and conceptual linkages among 66 SME-focused articles. The following parameters were used:

- Minimum keyword occurrence: 5
- Link strength threshold: 3
- Network visualization type: Full counting method

Second, a TCM-ADO content analysis was used for in-depth interpretation of the 52 selected studies. The TCM (Theory-Context-Method) framework was used to map theoretical foundations, research contexts, and methodological approaches in SME digital distribution. The ADO (Antecedents-Decisions-Outcomes) framework complemented this by tracing causal relationships between digital enablers, strategic decisions, and performance outcomes (Paul & Benito, 2018; Paul et al., 2024; Pushparaj & Kushwaha, 2024)

Integrating both frameworks ensured descriptive clarity and analytical depth. This approach uncovered how digital technologies, logistics integration, and marketing capabilities jointly enhance SME performance and competitiveness. Insights from the synthesis led to the development of a Digital Distribution Strategy Framework, later extended through testable propositions for empirical validation.

## 3. Literature Review

This section examines prior research on SME digital distribution through a thematic lens, highlighting the evolving role of e-commerce, digital marketing, logistics integration, and platform ecosystems in shaping SME performance and competitiveness. The review is structured into four major thematic clusters derived from the bibliometric analysis and theoretical synthesis, followed by the identification of research gaps leading to the proposed framework. The theoretical linkages are examined later under the TCM-ADO framework.

### 3.1. Thematic Insights

The bibliometric keyword co-occurrence analysis revealed four dominant thematic clusters that frame the evolution of digital distribution in SMEs. Together, these themes explain how SMEs leverage digital tools to extend distribution reach, integrate with logistics networks, and build competitiveness in resource-constrained environments. These clusters collectively illustrate how digital

technologies reshape SME distribution systems, yet also reveal persisting fragmentation and lack of integrated strategic models.

### Cluster 1: E-Commerce and Supply Chain Integration

This cluster analyzes e-commerce research where it functions as a digital platform connecting SMEs with logistics providers, payment gateways, and customers. Customers of SMEs tend to have greater trust in logistics service providers associated with e-commerce partners, which in turn improves satisfaction levels (Parvin, Asimiran, & Ayub, 2022a). E-commerce platforms act as both resellers and marketplaces, helping alleviate SMEs cash flow constraints by offering guaranteed financing and third-party logistics (3PL) solutions, often supported by AI-driven decision tools (Chang et al., 2023; Guo et al., 2024).

An integrated e-commerce ecosystem also assists SMEs in delivery and return management, thereby enhancing operational efficiency (Risberg et al., 2023). Overall, e-commerce platforms act as distribution aggregators for SMEs by supporting logistics, customer experience, marketing, and financial integration (Toni et al., 2025).

### Cluster 2: Digital Transformation and Internationalization

Digital transformation enables SMEs to access international markets through cross-border e-commerce (CBEC) channels. Robotic process automation (RPA) and artificial intelligence (AI) allow SMEs to manage supply chains and logistics operations with greater precision (Lam et al., 2024). Marketing, product, and knowledge capabilities positively influence internationalization outcomes, while prior experience helps SMEs navigate external challenges (Yang et al., 2023).

The Digital Canvas Model proposed by (Rojas-García et al., 2024a) assists SMEs in structuring their value creation processes for customers, thereby supporting the design and execution of digital distribution strategies. SMEs that adopted digital platforms during periods of crisis demonstrated higher resilience and profitability (Dethine et al., 2020; Fodouop Kouam, 2025; Hossain et al., 2022).

### Cluster 3: Digital Marketing as a Distribution Performance Enabler

Traditionally, digital marketing was perceived as a

communication channel, but now it has evolved as an important enabler of distribution performance. Contemporary studies emphasize that digital marketing supports real-time channel coordination, demand generation, and customer engagement (Shorbaji et al., 2025). This cluster highlights that regional context and institutional support play a critical role in shaping the success of SME digital distribution. Evidence from emerging economies such as Zimbabwe, Indonesia, and Southeast Asia shows that SMEs use social media and mobile applications to expand distribution coverage and coordinate with logistics partners (Chinakidzwa & Phiri, 2021; Halik et al., 2023; Rahayu et al., 2025). Collaboration with government agencies and infrastructure providers further enhances digital readiness and distribution capacity.

Regional studies consistently demonstrate that digital marketing capabilities significantly influence distribution efficiency and competitiveness, particularly in emerging economies with limited infrastructure.

### Cluster 4: E-Commerce Adoption and Implementation

E-commerce adoption represents a core decision in SME digitalization imperatives. Factors such as perceived usefulness, organizational readiness, and perceived benefits influence adoption (Walker et al., 2016), while implementation success depends on platform usability, logistics collaboration, and strategic partnerships (Bodini & Zanolini, 2011; Yoon et al., 2021).

In emerging economies, e-commerce platforms often act as financial intermediaries, providing credit scoring services and connecting SMEs with banks, thereby promoting financial inclusion (Wirdiyanti et al., 2023). However, logistics challenges and resource constraints continue to hinder effective implementation (Macca et al., 2024). The diffusion of e-commerce has stimulated hybrid online-offline (omnichannel) business models and SME- delivery collaborations that enhance competitiveness and reduce distribution costs (Reardon et al., 2021).

This cluster positions e-commerce adoption as the gateway to digital distribution, linking with digital marketing and operational capability. Summary of thematic clusters along with insights is shown in Table 1.

**Table 1:** Thematic Clusters in SME Digital Distribution Literature

Cluster Name/	Representative Keywords	Key Insights	Representative Studies
<b>1. E-Commerce and Supply Chain Integration</b>	e-commerce, logistics, supply chain finance, SMEs, 3PL	E-commerce platforms act as intermediary connecting SMEs with logistics, finance, and markets. Supply chain financing (SCF) and digital payments improve cash flow., while AI and last-mile optimization enhance efficiency and customer satisfaction.	(Chang et al., 2023; Guo et al., 2024; Kilay, Simamora, & Putra, 2022; Parvin et al., 2022a; Risberg et al., 2023; Toni et al., 2025)

Cluster Name/	Representative Keywords	Key Insights	Representative Studies
<b>2. Digital Transformation and Internationalization</b>	digital transformation, cross-border e-commerce, logistics innovation, RPA, resilience	Digital transformation strengthens SMEs global competitiveness by integrating cross-border e-commerce, automating logistics, and enhancing resilience during crises like COVID-19. Capability-building and experience moderate internationalization outcomes.	(Dethine et al., 2020; Fodouop Kouam, 2025; Hossain et al., 2022; Lam et al., 2024; Rojas-García et al., 2024a)
<b>3. Digital Marketing and Regional Context</b>	digital marketing, MSMEs, regional competitiveness, infrastructure, collaboration	Digital marketing capabilities improve SME market performance through visibility, engagement, and communication. Regional context and local collaboration with government and logistics partners shape outcomes.	(Chinakidzwa M & Phiri M, 2020; Halik et al., 2023; Rahayu et al., 2025)
<b>4. E-Commerce Adoption and Implementation</b>	e-commerce adoption, readiness, financial inclusion, digital capability, B2B platforms	E-commerce adoption is driven by usability, organizational readiness, and external pressure. Implementation creates financial inclusion and efficiency gains but is constrained by resource and logistics challenges.	(Bodini & Zanolli, 2011; Macca et al., 2024; Reardon et al., 2021; Walker et al., 2016; Wirdiyanti et al., 2023; Yoon et al., 2021)

Source: Compiled by the author from Scopus dataset (52 articles)

### 3.2. Research Gap

Although digital distribution research has expanded substantially, existing literature remains fragmented. Most studies focus on individual components such as e-commerce, CRM, logistics, or social media marketing without examining their integrated impact within a unified distribution ecosystem (Centobelli et al., 2016; Hånell et al., 2020). Despite the progress, key conceptual and methodological gaps persist as illustrated in table 2. These gaps delay the advancement of theory and the development of integrated digital distribution frameworks.

Overall, the literature reveals that SME performance in the digital era depends on the synergy between technology adoption, logistics integration, financial enablement, and contextual adaptability. However, empirical and theoretical fragmentation limits the development of unified frameworks.

To address these gaps, this study evaluates insights across marketing, logistics, e-commerce, and financial dimensions using the TCM-ADO framework. By integrating antecedents, strategic decisions, and

performance outcomes, the paper conceptualizes digital distribution as a coordinated, ecosystem-driven capability rather than a collection of isolated digital tools (Paul & Benito, 2018; Paul et al., 2024). This provides the basis for developing a comprehensive Digital Distribution Strategy Framework.

Beyond the SME context, broader distribution and supply chain research shows that digital marketing and logistics are converging across industries. Emerging technologies such as blockchain, AI, and automation enhance transparency, traceability, and resilience in multi-tier supply chains (Gurtu & Johnny, 2019; Modgil et al., 2022; Shen & Sun, 2023). Omnichannel strategies further integrate online engagement with physical fulfillment, demonstrating that digital transformation functions as both a marketing and distribution driver (Nguyen et al., 2022; Yang et al., 2023).

Overall, the literature points to upward synergy between e-commerce, data analytics, and logistics innovation-advancing from firm-level adoption to ecosystem-level integration that enhances efficiency and resilience in digital distribution networks.

**Table 2:** Summary of Thematic Research Gaps and Future Research Direction

Cluster / Theme	Key Research Gaps Identified	Representative Evidence	Future Research Directions
<b>1. E-Commerce and Supply Chain Integration</b>	Research remains fragmented between e-commerce, logistics, and financing systems; limited models explain how SMEs integrate digital platforms, SCF, and logistics to improve performance.	(Chang et al., 2023; Guo et al., 2024; Kilay et al., 2022; Parvin et al., 2022a; Risberg et al., 2023)	Develop integrated digital distribution frameworks linking e-commerce, supply chain finance, and logistics collaboration to measure distribution efficiency and agility.
<b>2. Digital Transformation and Internationalization</b>	Limited understanding of how digital capabilities, learning, and resilience enable SMEs to internationalize; lack of longitudinal or cross-country evidence on digital transformation during crises.	(Fodouop Kouam, 2025; Hossain et al., 2022; Lam et al., 2024; Rojas-García, Elias-Giordano, Quiroz-Flores, & Nallusamy, 2024b; Yang et al., 2023)	Explore dynamic interactions between digital capabilities, institutional environments, and global e-commerce ecosystems through comparative or longitudinal studies.

Cluster / Theme	Key Research Gaps Identified	Representative Evidence	Future Research Directions
<b>3. Digital Marketing and Regional Context</b>	Digital marketing is viewed primarily as communication, not a distribution enabler; lack of research linking digital marketing capabilities with regional infrastructure, collaboration, and distribution outcomes.	(Chinakidzwa M & Phiri M, 2020; Halik et al., 2023; Rahayu et al., 2025)	Examine how regional ecosystems, infrastructure, and government partnerships mediate the relationship between digital marketing and SME distribution performance.
<b>4. E-Commerce Adoption and Implementation</b>	Weak causal modeling of how readiness, capability, and support systems influence e-commerce implementation; limited focus on mediating factors like training, collaboration, and financial inclusion.	(Bodini & Zanoli, 2011; Macca et al., 2024; Reardon et al., 2021; von Mettenheim & Wiedmann, 2024; Wirdiyanti et al., 2023; Yoon et al., 2021)	Develop multi-stage adoption models that link digital readiness, capability building, and implementation outcomes, emphasizing SME resource constraints.
<b>Cross-Cutting (Theory &amp; Methodology)</b>	Theories (RBV, DCT, Network Theory) applied in isolation; limited multi-theoretical and mixed-method studies; weak causal pathways connecting antecedents, mediators, and outcomes.	(Paul et al., 2024; Pushparaj & Kushwaha, 2024; Ukaj et al., 2023; Vita et al., 2021)	Integrate RBV, DCT, and Network perspectives in unified models using ADO or TCM-ADO frameworks; adopt systematic and replicable methodologies for cross-validation.

Source: Compiled by the author from Scopus dataset (52 articles)

### 4. Results and Discussion

This section presents the findings of a two-stage analytical process. The bibliometric analysis identifies dominant thematic patterns and conceptual linkages within SME digital distribution research. The TCM-ADO synthesis deepens theoretical and causal understanding of how e-commerce adoption, logistics integration, and digital marketing, collectively shape SME distribution performance. Together, these results provide the foundation for the proposed Digital Distribution Strategy Framework for SMEs and the development of testable research propositions.

#### 4.1. Bibliometric Keyword Co-occurrence Analysis

While the preceding review identified fragmented narratives across marketing, logistics, and e-commerce studies, these remain dispersed. To address this fragmentation, a bibliometric keyword co-occurrence analysis was conducted on the curated Scopus dataset using VOSviewer (van Eck & Waltman, 2010).

The keyword co-occurrence map reveals four dominant thematic clusters (Figure 2), with e-commerce emerging as the most central node (33 occurrences; link strength 75), highlighting its pivotal role in SME digital distribution. The clusters illustrate a progressive shift from isolated digital adoption toward ecosystem-level integration where logistics, marketing, and finance converge through platform-based networks.

The analysis confirms that e-commerce acts as the distribution hub, enabling integration with logistics partners, payment gateways, and supply chain finance mechanisms, thereby enhancing both operational efficiency and strategic agility (Guo et al., 2024; Parvin et al., 2022b; Risberg et al., 2023). Simultaneously, digital transformation technologies

such as robotic process automation (RPA), artificial intelligence (AI), and cross-border e-commerce enhance SMEs’ logistics performance and expand their international market reach. (Lam et al., 2024; Rojas-García et al., 2024). Digital marketing practices are shaped by local infrastructure, government policies, and ecosystem collaboration (Chinakidzwa & Phiri, 2020; Halik et al., 2023; Rahayu et al., 2025). Studies indicate that in regions with limited logistics capacity, social media platforms and e-commerce systems offer cost-effective alternatives for distribution.

Successful e-commerce implementation relies on organizational readiness, capability development, and support from digital and logistics partners. To achieve this, SMEs need to integrate their websites and social media channels with e-commerce platforms (Macca et al., 2024; Walker et al., 2016; Yoon et al., 2021). E-commerce platforms function as distribution intermediaries that connect SMEs with customers, logistics providers, and financial institutions (Wirdiyanti et al., 2023).

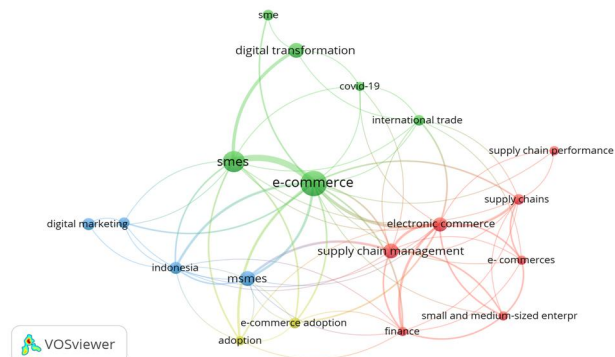


Figure 2: Keyword Co-occurrence Map of SME Digital Distribution Literature (created with VOSviewer, data from Scopus, 23 Sept 2025)

## 4.2. TCM Analysis

The Theory-Context-Method (TCM) synthesis reveals substantial theoretical convergence, contextual diversity and methodological trends in SME digital distribution research.

### Theoretical Convergence

In this study, Resource-Based View (RBV) and Dynamic Capabilities Theory serve as the primary strategic lenses explaining competitive advantage through digital resource orchestration, while Network Theory supports ecosystem collaboration (Chang et al., 2023; Ukaj et al., 2023) and TAM/TOE act as complementary adoption models explaining digital readiness and implementation behavior.

Brief explanations about these theories:

- **RBV** explains how SMEs convert digital assets; such as websites, social media marketing, e-commerce platforms, and CRM tools into competitive resources that boosts distribution reach (Barney, 1991; Halik et al., 2023).
- **DCT** focuses on how firms’ sense, seize, and reconfigure digital capabilities to respond to environmental volatility (Nguyen et al., 2022; Teece, Pisano, & Shuen, 1997).
- **Network Theory** highlights the role of interfirm collaboration, alliances, and relational capital in extending distribution networks and logistics partnerships (Gulati, 1998; Ukaj et al., 2023).
- **Technology Acceptance Models (TAM/TOPB)** explain adoption behavior, linking perceived usefulness, ease of use and organization readiness to e-commerce implementation (Davis, 1989; Dwivedi et al., 2021; Walker et al., 2016; Yang et al., 2023).
- **Technology-Organization-Environment (TOE)** framework (Tornatzky & Fleischer, 1990) explains technology adoption at the organizational level through three contextual dimensions- technological (advantages, compatibility, complexity), organizational (size, readiness, resources), and environmental (competition, regulation, partner pressure) collectively shaping how firms implement digital innovations (Fodouop Kouam, 2025; Hossain et al., 2022; Safari & Saleh, 2020).
- **Diffusion of Innovation (DOI)** interprets how digital practices spread across SMEs and industries through imitation, learning, and institutional support (Reardon et al., 2021; Rogers M, 2003).

### Contextual Patterns

Empirical studies span diverse sectors: agro-processing, tourism, retail, and cross-border e-commerce, primarily within emerging economies. These contexts demonstrate how SMEs use digital tools to overcome structural constraints such as limited logistics infrastructure, market access barriers, and financing gaps (Fodouop Kouam, 2025; Rahayu et al., 2025).

### Methodological Trends:

Most studies employ quantitative surveys or case designs, with growing application of structural modeling and multi-country comparisons. However, longitudinal and mixed-method approaches remain limited, leaving causal pathways underexplored.

This synthesis underscores the importance of integrating digital adoption (technology), ecosystem collaboration (networks), and performance outcomes (distribution efficiency and competitiveness) within a unified theoretical framework.

Summary of TCM analysis of Digital Distribution Research (2010–2025) is illustrated in **Table 3**.

**Table 3:** TCM Summary of Digital Distribution Research (2010–2025)

Dimension	Key Insights	Representative Studies
<b>Theory</b>	RBV and DCT dominate capability-based views; TAM, TPB, DOI, and UTAUT explain adoption behavior; TOE, Network, and Institutional theories integrate environmental and relational contexts.	(Hossain et al., 2022; Modgil et al., 2022; Rojas-García et al., 2024a; Shen & Sun, 2023; Walker et al., 2016; Wirdiyanti et al., 2023; Yang et al., 2023)
<b>Context</b>	Studies mainly focus on SMEs in emerging markets; emphasis on cross-border e-commerce, logistics partnerships, and resilience post-COVID-19.	(Chinakidzwa M & Phiri M, 2020; Dethine et al., 2020; Fodouop Kouam, 2025; Halik et al., 2023; Shen & Sun, 2023; Yang et al., 2023)
<b>Method</b>	Progression from qualitative explorations to mixed-methods and structural modeling; increasing use of SEM, PLS-SEM, and case analytics.	(Bodini & Zanoli, 2011; Modgil et al., 2022; Rojas-García et al., 2024a; Walker et al., 2016; Yang et al., 2023)

Source: Compiled by the author from Scopus dataset (52 articles)

## 4.3. ADO-Based Causal Synthesis

The Antecedents–Decisions–Outcomes (ADO) framework structures the causal relationships observed across the reviewed literature.

Antecedents encompass internal and external enablers that influence digital adoption and distribution development:

- Internal Enablers: IT awareness, managerial capability, digital literacy, and resource readiness (Chinakidzwa M & Phiri M, 2020; Halik et al., 2023).
- External Enablers: Platform support, logistics partnerships, institutional incentives, and supply chain finance (Chang et al., 2023; Guo et al., 2024).
- Environmental Enablers: Market turbulence, crises (COVID-19), and globalization pressures that accelerate digital transformation (Fodouop Kouam, 2025; Hossain et al., 2022).

**Decisions** reflect strategic actions SMEs take to translate digital readiness into distribution capability:

- Adoption Decisions: Guided by TAM and IDT, SMEs evaluate compatibility, perceived usefulness, and external support before adopting e-commerce or CRM systems (Walker et al., 2016; Yoon et al., 2021).
- Integration Decisions: Involve connecting e-commerce with logistics (3PL), finance (digital payments, SCF), and customer management systems (Nguyen et al., 2022; Toni et al., 2025).
- Collaboration Decisions: SMEs form alliances with logistics providers, online platforms, and government agencies to enhance reach and efficiency (Brothers, Nakos, & Dimitratos, 2015; Rahayu et al., 2025).

**Outcomes** extend beyond efficiency to include resilience, financial inclusion, and international market expansion (Kouam, 2025; Toni et al., 2025). It includes performance outcomes in three primary domains:

- Operational Efficiency – Enhanced supply chain coordination, faster delivery, and improved inventory management (Lam et al., 2024; Risberg et al., 2023).
- Market Competitiveness – Greater distribution reach, customer satisfaction, and channel flexibility (Hossain et al., 2022; Ukaj et al., 2023).
- Financial Inclusion & Resilience – Expanded access to financing, improved cash flow, and resilience to shocks (Guo et al., 2024; Wirdiyanti et al., 2023).

The ADO analysis suggests a structured causal progression in SME digital distribution strategy. Internal and external antecedents shape strategic decisions related to e-commerce adoption and ecosystem integration. This generates performance outcomes across operational efficiency, market competitiveness, and financial resilience.

This causal chain reflects a maturity shift from digital adoption to digital orchestration; where SMEs manage distribution as a coordinated, technology-driven capability rather than a set of isolated functions. ADO synthesis of Digital Distribution Literature is depicted in **Table 4**.

**Table 4:** ADO synthesis of Digital Distribution Literature

Dimension	Key Constructs	Representative Theories	Key Outcomes / Insights	Representative Studies
<b>Antecedents</b>	Technological readiness, perceived usefulness, organizational capability, network support, environmental pressure	TAM, DOI, RBV, DCT, TOE, Institutional Theory	Digital adoption intent, digital transformation ready	(Fodouop Kouam, 2025; Hossain et al., 2022; Walker et al., 2016; Yang et al., 2023)
<b>Decisions</b>	E-commerce adoption, digital marketing strategy, logistics integration, SCF participation	TAM, DCT, TPB, Network Theory	Strategic alignment of marketing, logistics, and finance	(Bodini & Zanoli, 2011; Chinakidzwa M & Phiri M, 2020; Halik et al., 2023; Rahayu et al., 2025; Risberg et al., 2023; Toni et al., 2025; Yang et al., 2023; Zhang, Wang, & Zhang, 2025)
<b>Outcomes</b>	Distribution efficiency, market performance, financial inclusion, resilience, international competitiveness	RBV, DCT, Network Theory	Enhanced competitiveness, market reach, and sustainability	(Chinakidzwa M & Phiri M, 2020; Risberg et al., 2023; Toni et al., 2025; Yang et al., 2023)

Source: Compiled by the author from Scopus dataset (52 article reviews)

#### 4.4. From TCM–ADO Integration to Conceptual Framework Development

The integration of the TCM (Theory- Context-Method) and ADO (Antecedents-Decisions-Outcomes) frameworks reveals a comprehensive pattern in SME digital distribution research. The field has transitioned from fragmented studies on technology adoption toward a unified understanding of digital distribution ecosystem; where marketing, logistics,

and financial systems interact to enhance SMEs performance and competitiveness at both regional and international label.

The TCM analysis highlights the theoretical foundations (RBV, DCT, Network Theory, TAM, and TOE), diverse empirical contexts (emerging economies, manufacturing, services, and trade), and varied methodological approaches that reinforce the literature. Complementing this, the ADO framework organizes these insights into a causal pathway that links antecedent enablers to strategic decisions and

performance outcomes. Together, they form the analytical foundation for the Digital Distribution Strategy Framework for SMEs.

## Emerging Meta-Patterns

### 1. Convergence of Theoretical Lenses

Recent literature integrates multiple theoretical perspectives to explain SME digitalization. The Resource-Based View (RBV) and Dynamic Capabilities Theory (DCT) explain how internal competences are reconfigured for digital competitiveness. Technology Acceptance (TAM) and Technology–Organization–Environment (TOE) frameworks capture the behavioral and structural enablers of adoption, while Network Theory explains inter-firm collaboration and platform participation. Together these perspectives move the field from “why SMEs adopt” toward “how digital adoption impacts distribution, market and financial outcomes.”

### 2. Multi-Layered Integration Across Decision Domains

SMEs have an inherent resources and capabilities constraints. For them creating a local and global distribution and logistics network is very high cost and time-consuming element. Partnering with reliable e-commerce platforms provide a ready to use channel to reach to targeted regional and global customers. They also are benefitted through the **integrated ecosystem of E-Commerce platforms** with block-chain, AI/RPA, logistics, supply chain finance (SCF), payment gateways, etc. This helps SMEs in last mile backend fulfilment, delivery and return. SMEs decisions on digital transformation has three integrated layers: e-commerce and logistics, digital marketing and market development, and financial-technological integration. This convergence creates an Integrated E-Commerce Platform (PF) Ecosystem, enabling SMEs to manage end-to-end distribution & logistics, improve trust & visibility and optimize supply chain financing.

### 3. Expansion of Outcomes from Regional Efficiency to Global Competitiveness

Earlier studies emphasized digital adoption for cost efficiency and operational improvement. Recent evidence extends outcomes to regional and international market performance, highlighting how digital ecosystems empower SMEs to internationalize via Cross-Border E-Commerce (CBEC). CBEC platforms enable SMEs to integrate logistics, payments, and marketing into global trade networks, improving visibility, responsiveness, and financial inclusion.

## Integrative Logic of the Framework

Building on these insights, the proposed conceptual framework reflects a sequential pathway:

**Antecedents:** Technological and organizational readiness, perceived ease of use and usefulness (PEOU/PEU), compatibility, and external pressures from competition and suppliers drive SMEs toward E-Commerce adoption and digital transformation.

**Decisions:** SMEs adopt e-commerce for distribution and leverage their integrated digital ecosystems combining marketing, logistics, and financial technologies.

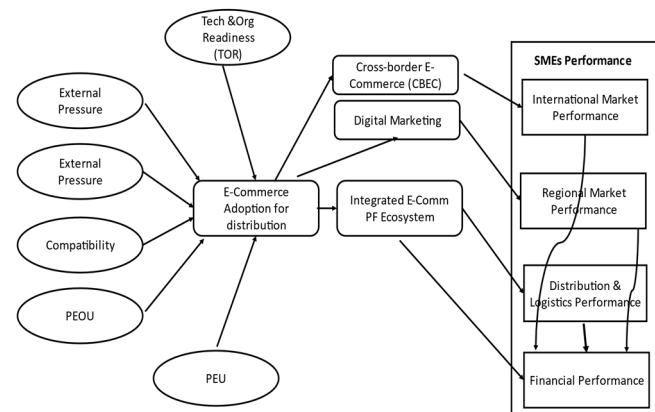
**Mediating constructs:** Digital marketing and CBEC act as relational and strategic mediators that expand SME distribution to regional and global markets.

**Outcomes:** Integration across e-commerce and digital ecosystems enhances distribution efficiency, regional market reach, international competitiveness, and financial performance of SMEs.

This logic positions e-commerce adoption as the central decision node linking readiness antecedents to multidimensional outcomes. The framework reflects the cumulative shift in SME literature toward ecosystem-based distribution strategy; where technological, marketing, and financial decisions jointly create value across regional and global markets.

Digital Distribution Strategy Framework for SMEs is illustrated in **Figure 3**.

## Framework Visualization and Figure Description



**Figure 3:** Digital Distribution Strategy Framework for SMEs

The conceptual model forms the basis for developing a set of theoretically grounded propositions. These propositions reflect how SMEs e-commerce adoption decisions are shaped by readiness of antecedents and how those decisions influence distribution, market and financial outcomes. In line with the journal’s emphasis on distribution strategy, channel efficiency, and competitiveness, the following propositions advance to testable relationships that future empirical research can explore.

#### 4.5. Research Propositions Development

The conceptual framework derived from the TCM-ADO synthesis (**Figure 3**) illustrates how SMEs e-commerce adoption, e-commerce integrated ecosystem and digital marketing capabilities transform from digital readiness to enhanced SME performance and competitiveness. Each proposition is theoretically grounded and empirically supported by prior studies.

##### **Proposition 1: Technological and Organizational Readiness Drive E-Commerce Adoption**

Grounded on TAM and TOE, SMEs adoption of e-commerce platforms depends on technological infrastructure, organizational readiness, and perceived usefulness/ease of use. Firms with higher IT readiness, managerial support, and innovation culture are better positioned to adopt digital tools for distribution and supply chain management.

*P1: Technological and organizational readiness, along with perceived usefulness, ease of use and compatibility, positively influence SMEs' e-commerce adoption for distribution.*

(Dwivedi et al., 2021; Safari & Saleh, 2020; Walker et al., 2016; Yang et al., 2023)

##### **Proposition 2: External Pressures and Network Collaboration Accelerate E-commerce adoption.**

External pressures from competition and market forces push SMEs to adopt E-commerce. Drawing on Network Theory and DCT, inter-firm collaboration with logistics, fintech, and e-commerce partners helps SMEs overcome resource limitations and leverage E-commerce platforms to scale their business without investing into physical and digital infrastructure.

*P2: External pressure from competition and market forces positively impact e-commerce adoption for distribution.*

(Guo et al., 2024; Rojas-García et al., 2024a; Ukaj et al., 2023)

##### **Proposition 3: E-Commerce Adoption Leads to Ecosystem Integration**

Once adopted, e-commerce evolves into an Integrated E-Commerce Platform Ecosystem that connects logistics, payment systems, blockchain-enabled transparency, and SCF. This integration enhances supply chain coordination, operational efficiency, and information flow.

*P3: E-commerce adoption positively influences the development of integrated digital ecosystems linking blockchain, logistics, payment, AI, and SCF components.*

(Risberg et al., 2023; Shen & Sun, 2023; Toni et al., 2025)

##### **Proposition 4: Digital Marketing Capabilities Mediate Market Expansion**

Drawing on RBV and DCT, digital marketing capabilities transform e-commerce adoption into market value. SMEs using targeted digital marketing tools (SEO, website, analytics, user generated content, and social media) experience improved customer engagement, visibility, and regional competitiveness.

*P4: Digital marketing capability mediates the relationship between e-commerce adoption and regional market performance.*

(Chinakidzwa M & Phiri M, 2020; Halik et al., 2023; Rahayu et al., 2025)

##### **Proposition 5: Cross-Border E-Commerce Enhances International Competitiveness**

Anchored in Internationalization and Network Theory, CBEC facilitates global distribution by linking SMEs with international markets and digital trade networks. Participation in CBEC ecosystems enhances export competitiveness and cross-border logistics performance.

*P5: Cross-border e-commerce positively influences SMEs' international market performance through improved digital trade and logistics integration.*

(Chen et al., 2023; Dethine et al., 2020; Fodouop Kouam, 2025; Hossain et al., 2022)

##### **Proposition 6: Integrated Digital Ecosystems Strengthen Distribution and Financial Performance**

From an RBV-DCT-Resilience perspective, integrated digital ecosystems (linking e-commerce, digital marketing, CBEC, logistics, and finance) improve distribution coordination, reduce transaction costs, and strengthen financial resilience.

*P6: Integration of e-commerce, digital marketing, logistics and finance systems positively influence SMEs distribution & logistics efficiency, financial performance, and resilience.*

(Guo et al., 2024; Lam et al., 2024; Toni et al., 2025)

##### **Sequential Pathway**

Collectively, these propositions depict a structured digital transformation pathway:

Readiness (P1) → Collaboration (P2) → Ecosystem Integration (P3) → Regional Competitiveness via Digital Marketing (P4) → Global Expansion through CBEC (P5) → Distribution and Financial Performance (P6).

This conceptual pathway demonstrates how SMEs progress from local digitization to global competitiveness through the strategic orchestration of marketing, logistics, and technology-enabled e-commerce distribution systems; representing the core focus of distribution science.

**Table 5** displays Propositions and theoretical linkages, along with explanations and implications.

**Table 5:** Propositions, theoretical linkages, explanations and implications

Proposition	Proposition Statement	Theoretical Linkage (TCM-ADO)	Explanation / Mechanism	Practical / Theoretical Implications
<b>P1:</b> Technological and Organizational Readiness → E-Commerce Adoption	Technological and organizational readiness, along with perceived usefulness and compatibility, positively influence SMEs e-commerce adoption for distribution management.	<b>TAM / TOE</b> (Antecedent → Decision)	SMEs IT infrastructure, management support, and innovation culture determine digital adoption. Readiness enhances perceived ease of use (PEOU) and usefulness (PU), driving e-commerce adoption.	Readiness assessments should guide SME digitalization programs. Policymakers can support infrastructure and managerial training to enhance adoption rates.
<b>P2:</b> External Pressure and Network Collaboration → Digital Integration	External and institutional pressures, supported by collaboration with logistics, fintech, and platform partners, accelerate SMEs e-commerce adoption and integration.	<b>Network Theory / DCT</b> (Antecedent → Decision)	Competitive and institutional pressures provoke SMEs to join digital ecosystems. Network partnerships extend resource access and facilitate capability co-creation for adoption.	Encourages SMEs to develop partnerships with logistics, fintech, and e-commerce platforms to overcome size and resource constraints
<b>P3:</b> E-Commerce Adoption → Integrated Platform Ecosystem	E-commerce adoption drives the creation of an integrated ecosystem combining logistics, payment gateways, AI, blockchain, and supply chain finance (SCF).	<b>RBV / DCT</b> (Decision → Outcome)	E-commerce adoption restructures internal processes, connects multiple digital systems, and enhances supply chain coordination and information transparency.	Managers should align platform adoption with process reengineering and integration objectives to improve operational visibility.
<b>P4:</b> Digital Marketing Capability → Regional Market Performance	Digital marketing capability mediates the relationship between e-commerce adoption and regional market performance.	<b>RBV / DCT</b> (Decision → Intermediate Outcome)	SMEs translate digital adoption into competitive outcomes through marketing analytics, SEO, and social engagement that enhance brand visibility and customer responsiveness.	Training in digital marketing analytics and social engagement is essential to strengthen regional competitiveness.
<b>P5:</b> Cross-Border E-Commerce (CBEC) → International Market Performance	Cross-border e-commerce participation enhances SMEs' international competitiveness and global logistics performance.	<b>Network Theory / Internationalization</b> (Decision → Outcome)	CBEC enables SMEs to connect to global buyers, digital payment systems, and logistics partners, reducing entry barriers to international trade.	Encourages SME policymakers to develop digital trade facilitation and e-logistics networks to enable global participation.
<b>P6:</b> Integrated Digital Ecosystem → Distribution, Financial & Resilience Outcomes	Integration of digital marketing, e-commerce, and logistics-finance systems enhances SMEs' distribution efficiency, financial performance, and resilience.	<b>RBV / DCT / Resilience Theory</b> (Outcome → Extended Outcome)	Synergistic integration of digital and financial systems enhances channel performance, cash flow management, and crisis resilience.	Provides a holistic model for SME competitiveness. Encourages integration of fintech and logistics in digital strategies for sustainable growth.

**Source:** Authors conceptualization and contribution to theory

## 5. Conclusion, Implications, and Future Research Directions

This study advances understanding of how digitalization transforms distribution management in small and medium enterprises (SMEs) by integrating insights from 52 peer-reviewed studies. Using the PRISMA 2020 protocol and the TCM-ADO framework, it develops a comprehensive Digital Distribution Strategy Framework that positions digitalization not as a technological adoption outcome but as a strategic distribution capability. The review reveals a clear progression in SME research; from fragmented studies on digital marketing or e-commerce adoption to an integrated view linking marketing, logistics, and financial systems through digital platforms. From an integrated perspective, e-commerce ecosystems function as both marketing and logistics enablers, helping SMEs expand

distribution reach, improve supply chain efficiency, and strengthen market competitiveness.

**Theoretically**, this study contributes to distribution science by integrating the Resource-Based View (RBV), Dynamic Capabilities Theory (DCT), and Network Theory to explain how SMEs build competitiveness in digitally connected markets. The findings extend RBV by showing that digital tools such as e-commerce, customer relationship management (CRM), and supply chain finance (SCF) create strategic value only when embedded within collaborative distribution systems. Consistent with DCT, SMEs develop resilience by sensing and seizing digital opportunities and by reconfiguring logistics and marketing partnerships in response to market turbulence. Network Theory further complements these perspectives by emphasizing that competitiveness increasingly depends on interfirm collaboration with digital platforms, third-party logistics

providers (3PLs), and fintech institutions.

The integration of TCM and ADO frameworks clarifies how antecedents such as digital readiness, technological capability, and external collaboration influence adoption and integration decisions, leading to outcomes such as distribution efficiency, market expansion, and financial resilience. Collectively, these insights provide a unified theoretical foundation for advancing research on digital distribution strategy.

### **Implications for SME Managers**

From an **SME managerial** perspective, this paper emphasizes internal digital readiness and integration capabilities.

Managers should focus on aligning marketing, logistics, and finance through integrated digital systems that connect CRM, e-commerce, and logistics analytics to create real-time visibility and agility. Collaboration with logistics and digital partners enables SMEs to overcome resource constraints and access new customer segments without heavy capital investments. Building internal digital capabilities through employee training, data-driven decision-making, and leadership support ensures that technology adoption translates into measurable distribution performance. The experience of the COVID-19 pandemic further highlights that firms with unified e-commerce channels, digital payment systems, and technology-enabled logistics networks demonstrated superior resilience and customer retention.

### **Implications for Policymakers**

For policymakers, this study recommends improving infrastructure, create logistics networks, and strengthening training programs. The findings provide actionable insights for governments and ecosystem facilitators. Public policy must focus on strengthening digital infrastructure, including broadband connectivity, e-payment systems, and last-mile logistics networks that lower transaction costs for SMEs. Programs promoting digital literacy, training, and technical assistance can accelerate SME readiness for digital distribution. Collaborative initiatives between public institutions, financial agencies, and digital platforms are crucial to expanding access to supply chain finance and fintech-based credit systems that enhance SME liquidity and participation in online markets. Furthermore, harmonizing digital trade policies, logistics standards, and cross-border data-sharing protocols can support SME integration into regional and international value chains. By fostering enabling ecosystems, policymakers can convert fragmented SME activity into coordinated, digitally driven distribution systems that support inclusive economic growth.

### **Implications for Digital Platform Operators**

Digital platform firms should strengthen partnership-

based ecosystems that enable easier SME onboarding, logistics coordination, and fintech integration. Transparent data sharing and performance benchmarking can further strengthen platform-SME relationships. Governance mechanisms should be developed between SMEs and platform service providers.

### **Future Research Directions**

The review also opens multiple pathways for **future research**. Empirical validation of the proposed Digital Distribution Strategy Framework is a critical next step, particularly through quantitative and longitudinal studies that examine how digital readiness, collaboration, and integration influence ecommerce adoption which eventually leads to enhanced distribution performance. This may be examined using structural equation modeling (SEM) or PLS-SEM approaches to test causal relationships among constructs.

Future work should also explore how dynamic capabilities evolve under conditions of market disruption, providing deeper insights into SME resilience. Comparative studies across institutional and regional contexts can reveal how variations in infrastructure, regulation, and culture shape digital adoption outcomes. Multi-theoretical approaches that combine RBV, DCT, and Network perspectives with behavioral frameworks such as the Technology Acceptance Model (TAM), Diffusion of Innovation (DOI), and Technology-Organization-Environment (TOE) framework can enhance understanding of managerial decision-making in digital distribution strategy. Additionally, sustainability-oriented research can assess how digital distribution contributes to environmental performance and social inclusion by enabling affordable access for microenterprises and rural producers.

Future studies may also explore the relationship between digital distribution and sustainability performance, particularly in relation to environmental efficiency and social inclusion.

While this review provides a robust synthesis, it has certain **limitations** that future studies can address. The analysis relies primarily on Scopus-indexed and English-language publications, which may overlook relevant regional research or WOS/ABDC/non-indexed sources. Moreover, although the study applies a systematic review and content synthesis, it does not conduct a meta-analytic quantification of effects among variables. Future studies may extend this work by including broader database inclusion, integrating regional case analyses, and applying structural modeling techniques (e.g., SEM, SMART-PLS) to empirically test and validate the causal pathways outlined in the proposed framework. Nonetheless, these limitations do not diminish the study's contribution in consolidating fragmented perspectives into an integrated model for

understanding SME digital distribution.

In **conclusion**, this research contributes to the growing discourse in distribution science by demonstrating that SME competitiveness in the digital era depends not on technology adoption alone but on the integration of marketing, logistics, and financial functions into digitally coordinated systems. The proposed Digital Distribution Strategy Framework and its theoretical propositions provide a strong foundation for empirical validation, policy formulation, and managerial action. By reframing digitalization as the connective fabric of modern distribution systems, the study emphasizes that SMEs can surpass resource limitations and achieve sustainable growth through collaboration, innovation, and ecosystem integration. This integrated understanding positions digital distribution as both a strategic capability and a catalyst for resilience and competitiveness in the evolving global marketplace.

## Declarations

### Ethics Approval and Consent to Participate

Not applicable. This study did not involve human participants or animal subjects.

### Competing Interests / Conflicts of Interest

The authors declare no competing or conflicting interests with respect to the research, authorship, or publication of this article.

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### Author Contributions

A.K.: Conceptualization, Methodology, Formal analysis, Investigation, Data curation, Writing – original draft, Visualization.

A.R.S.: Writing –review & editing, Supervision,

P.K.: Writing –review & editing, Validation

### Data Availability Statement

Not applicable. No new data were created or analyzed in this study.

### Declaration of Generative AI and AI-assisted Technologies in the Writing Process

No generative AI or AI-assisted technologies were used in the research design, data analysis, or content generation of this manuscript.

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