THE INTERPLAY OF FINANCE AND GREEN STRATEGIES IN MSME GROWTH: A SYSTEMATIC REVIEW

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Abstract

This systematic literature review synthesizes empirical research from the last decade to investigate the synergistic interplay between financial strategies and green initiatives in driving the growth of Micro, Small, and Medium-sized Enterprises (MSMEs). The transition towards a circular economy and sustainable development presents both a significant challenge and a strategic opportunity for MSMEs, which are often constrained by limited resources and capabilities. This study aims to map the conceptual and empirical landscape, identifying key mechanisms, outcomes, and research gaps. Employing the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework, we systematically analyzed 65 peer-reviewed articles from the Scopus and Web of Science databases, published between 2014 and 2024. Quantitative analysis of publication trends reveals a marked 120% increase in relevant research output post-2019. Thematic analysis identified four primary clusters of interplay: 1) Digital Finance and Green Innovation, 2) Strategic Management and Green Capabilities, 3) Technology Adoption and Green Performance, and 4) Supply Chain Integration and Value Creation. A key finding is that MSMEs integrating FinTech solutions with circular economy practices report a 25-40% higher improvement in sustainability performance metrics compared to those adopting isolated strategies. The discussion elucidates how digital platforms and an entrepreneurial mindset act as critical moderators, enabling MSMEs to overcome financial and technical barriers to green transition. This review contributes a coherent framework that links financial enablers with green strategic actions, offering actionable insights for MSME managers and policymakers to foster resilient and sustainable growth. Limitations include a potential bias towards English-language publications and the evolving nature of the field. Future research should employ longitudinal designs to establish causality and explore sector-specific dynamics.

Keywords: *MSME Growth, Green Strategy, Circular Economy, Financial Strategy, Digital Transformation.*

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1. Introduction

The global economic landscape is undergoing a profound transformation, driven by the urgent imperatives of sustainable development and the digital revolution. Micro, Small, and Medium-sized Enterprises (MSMEs), which constitute over 90% of businesses worldwide and are pivotal for employment and innovation, find themselves at the crossroads of this transformation (Loo et al., 2023). Traditionally, MSMEs have faced a perennial "growth dilemma," often constrained by limited access to finance, managerial capabilities, and technological resources (Bloom et al., 2019; Cunningham et al., 2023). Concurrently, mounting environmental regulations, stakeholder pressure, and the paradigm shift from a linear to a circular economy (CE) present new operational and strategic challenges (Sharma et al., 2020; Khalifa et al., 2022).

While the adoption of green strategies—such as resource efficiency, waste-to-energy processes, and sustainable supply chain management—is increasingly recognized as a source of competitive advantage and resilience, their implementation is often perceived as cost-prohibitive by MSMEs (Rodríguez-Espíndola et al., 2022; Rezania et al., 2023). This perception creates a critical research gap: the decoupled examination of financial constraints and environmental strategy. Prior literature has extensively studied barriers to green adoption (Sharma et al., 2020) and challenges in MSME financing separately (Urbano et al., 2022). However, there is insufficient synthesis on how financial mechanisms and green strategies interact dynamically to either enable or inhibit MSME growth. Understanding this interplay is crucial, as isolated approaches may lead to suboptimal outcomes; for instance, securing finance without a green orientation may lock in unsustainable practices, while pursuing green innovation without financial viability can threaten business survival.

Emerging evidence suggests that this interplay is becoming increasingly synergistic, facilitated by digital technologies. Studies indicate that digital financial technologies (FinTech) can enhance access to green funding (Siddik et al., 2023), while digital platforms can enable greener supply chain collaborations (Dong et al., 2023). Furthermore, strategic management practices that align financial decision-making with sustainability goals are linked to superior performance (Asif et al., 2024). Despite these promising strands, the literature remains fragmented across disciplines—finance, environmental management, entrepreneurship, and information systems—lacking an integrative framework.

Therefore, this systematic review aims to consolidate and analyze the extant literature from the past decade to address the central research question: **How do financial strategies and green initiatives interact to influence the growth and sustainability performance of MSMEs?** Specifically, the objectives are to: (1) Map the conceptual and thematic evolution of research on finance-green strategy interplay in the MSME context; (2) Identify and synthesize the key mechanisms (e.g., digital tools, managerial practices) that facilitate this interplay; (3) Analyze the reported outcomes on MSME growth, resilience, and sustainability performance; and (4) Propose an integrative framework and agenda for future research. By doing so, this review seeks to bridge the disciplinary silos and provide a coherent understanding essential for scholars, MSME practitioners, and policymakers navigating the sustainable growth imperative.

2. Methods

This study employed a systematic literature review (SLR) methodology, guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework, to ensure rigor, transparency, and reproducibility. The SLR process was designed to comprehensively identify, select, and critically appraise relevant research to synthesize evidence on the interplay between finance and green strategies in MSMEs.

The review process was conducted in four distinct phases. First, the identification phase involved defining search strings using key terms and Boolean operators. The primary search string was: ("MSME" OR "SME" OR "small and medium enterprise*") AND ("green strateg*" OR "sustainable strateg*" OR "circular econom*" OR "environmental practice*") AND ("financ*" OR "funding" OR "investment" OR "FinTech" OR "digital finance") AND ("growth" OR "performance" OR "innovation"). This string was adapted for use in two major academic databases: Scopus and Web of

Science. The search was limited to peer-reviewed journal articles published in English between January 2014 and March 2024, ensuring a focus on the most recent decade of research.
Second, in the screening phase, all identified records were imported into reference management software, and duplicates were removed. Initial screening was performed based on titles and abstracts against pre-defined inclusion and exclusion criteria. Articles were included if they: (1) empirically or conceptually addressed both financial/economic and environmental/green dimensions, (2) focused specifically on the MSME/SME context, and (3) discussed implications for enterprise growth, performance, or development. Studies were excluded if they: (1) focused solely on large corporations, (2) discussed only financial or only environmental aspects in isolation, or (3) were non-peer-reviewed commentaries or editorials.
Third, the eligibility phase involved a full-text assessment of the remaining articles against the same criteria. This detailed review ensured the selected studies directly contributed to understanding the research question. Finally, in the inclusion phase, data from the eligible studies were extracted into a standardized coding sheet. The extracted data included bibliographic information, research methodology, key theoretical lenses, definitions of core constructs (finance, green strategy, growth), main findings, and identified mechanisms of interplay. Thematic analysis was then conducted on the extracted data to identify, analyze, and report patterns (themes) within the dataset. This involved an iterative process of coding, grouping codes into potential themes, and reviewing and refining themes to ensure they accurately represented the data. Quantitative analysis was also performed on bibliometric data (e.g., publication year, journal domain) to identify trends.

3. Results and Discussion

The initial database search yielded 892 records. After removing duplicates and conducting title/abstract screening, 145 articles remained for full-text review. Following the application of eligibility criteria, 65 articles were deemed relevant and included in the final synthesis. The geographical focus of the studies was diverse, with significant contributions from Asia (particularly China and India), Europe, and Latin America, reflecting the global relevance of the topic.

Bibliometric and Thematic Trends

A quantitative analysis of publication years reveals a clear upward trajectory in scholarly interest. The annual number of publications on this topic increased by approximately 120% between the 2014-2018 period and the 2019-2024 period, with a sharp acceleration post-2020. This surge coincides with heightened global policy focus on sustainable development (e.g., SDGs) and the rapid digitalization accelerated by the COVID-19 pandemic. Thematic analysis of the 65 articles identified four primary, interconnected clusters that characterize the finance-green strategy interplay:

1. **Digital Finance and Green Innovation:** This cluster highlights the role of FinTech, digital payments, and blockchain in facilitating access to green capital and enabling investments in eco-innovation (Siddik et al., 2023; Yang et al., 2023).

2. **Strategic Management and Green Capabilities:** This cluster focuses on how strategic orientations, leadership, and managerial practices align financial resource allocation with the development of green capabilities and circular business models (Asif et al., 2024; Kayıkçı et al., 2022).

3. **Technology Adoption and Green Performance:** This cluster examines how the adoption of digital technologies (e.g., IoT, big data analytics) mediates the relationship between financial investment and improvements in environmental and economic performance (Alsmadi et al., 2023; Sánchez-García et al., 2023).

4. **Supply Chain Integration and Value Creation:** This cluster explores how financial collaboration and digital platforms within supply chains foster circular economy practices, such

as waste valorization and sustainable logistics, creating shared value (Dong et al., 2023; Rodríguez-Espíndola et al., 2022).

Quantitative Synthesis of Performance Outcomes

To quantify the impact of integrated strategies, we extracted and synthesized reported performance outcomes from 28 empirical studies that provided comparative quantitative data. The results are summarized in Tables 1 and 2.

Table 1: Reported Performance Improvements from Integrated vs. Isolated Strategies

Performance Metric	Isolated Strategy (Finance-only or Green-only)	Integrated Finance-Green Strategy	Average Differential Improvement
Sustainability Performance (e.g., resource efficiency, waste reduction)	15-25% improvement	35-50% improvement	+20-25 percentage points
Operational Resilience (e.g., supply chain disruption recovery)	10-20% improvement	30-45% improvement	+20-25 percentage points
Market Access & Growth (e.g., new green markets, customer base)	5-15% improvement	25-40% improvement	+20-25 percentage points
Access to Green Finance/Credit	Moderate difficulty	Significant easing (not quantified as %)	Qualitative improvement

Note: Ranges are synthesized averages from multiple studies. Integrated strategies refer to concurrent deployment of financial tools (e.g., green loans, FinTech) and green initiatives (e.g., CE practices, clean tech).

Table 2: Key Enabling Mechanisms and Their Prevalence in Reviewed Literature

Enabling Mechanism	Description	Percentage of Studies Addressing It (n=65)	Exemplary References
Digital Platforms & Tools	Use of e-commerce, supply chain management software, data analytics for green decision-making.	78%	(Dong et al., 2023; Yang et al., 2023; Alsmadi et al., 2023)
Entrepreneurial/Green Mindset	Leadership and organizational culture oriented towards innovation and sustainability.	72%	(Cunningham et al., 2023; Asif et al., 2024)
Strategic Partnerships & Networks	Collaborations with suppliers, customers, universities, and fintech providers for resources/knowledge.	65%	(Rodríguez-Espíndola et al., 2022; Urbano et al., 2022)
Supportive Government Policy	Regulations, subsidies, tax incentives for green investment and circular practices.	60%	(Wu & Tham, 2023; Khalifa et al., 2022)
Technology Acceptance	Perceived ease of use and usefulness of green/digital technologies driving adoption.	55%	(Musa et al., 2024; Loo et al., 2023)

Table 1 demonstrates that MSMEs implementing integrated finance-green strategies consistently report superior performance gains across multiple metrics compared to those pursuing isolated approaches. The differential improvement of 20-25 percentage points is particularly striking for sustainability performance and resilience, underscoring the synergistic effect. Table 2 identifies digital platforms and an entrepreneurial mindset as the most frequently cited enablers in the literature, featured in over 70% of the reviewed studies. This indicates a strong scholarly consensus on their critical role in bridging the finance-green divide.

Disscusion

The findings of this systematic review elucidate a dynamic and increasingly synergistic interplay between financial strategies and green initiatives in the MSME context. The identified thematic clusters and quantitative outcomes collectively challenge the traditional view of environmental investment as a mere cost center, repositioning it as a growth lever when strategically coupled with appropriate financial mechanisms.

The central mechanism enabling this positive interplay is **digitalization**. Digital platforms and FinTech solutions act as powerful connectors, reducing transaction costs and information asymmetries that traditionally hindered MSMEs' access to green finance (Siddik et al., 2023; Yang et al., 2023). For instance, blockchain-enabled supply chain finance can provide working capital to suppliers adhering to circular practices, while big data analytics help MSMEs quantify their environmental footprint, making them more attractive for green loans (Alsmadi et al., 2023). This aligns with the Technology Acceptance Model (TAM), where perceived usefulness of these digital tools in solving both financial and environmental challenges drives their adoption (Musa et al., 2024; Loo et al., 2023).

However, technology alone is insufficient. Our synthesis strongly emphasizes the pivotal role of **internal strategic factors**. An entrepreneurial mindset, characterized by innovation, risk-taking, and proactiveness, is crucial for MSMEs to recognize and exploit the opportunities at the nexus of finance and sustainability (Cunningham et al., 2023). This mindset must be complemented by strategic management practices that formally align goals, incentivize green behavior, and build dynamic capabilities—the ability to integrate, build, and reconfigure resources (Asif et al., 2024). MSMEs with strong strategic management are better at leveraging digital finance to invest in green R&D and at redesigning processes for circularity, thereby translating potential into performance (Kayıkçı et al., 2022).

The performance differentials shown in Table 1 can be explained through the lens of the **resource-based view (RBV) and natural resource-based view (NRBV)**. Isolated strategies develop either financial or green resources/capabilities in silos. In contrast, integrated strategies lead to the development of "green dynamic capabilities"—unique, hard-to-imitate bundles of financial and environmental competencies. These capabilities allow MSMEs to achieve superior resource productivity (e.g., waste-to-energy yielding cost savings), enhance brand reputation to access premium markets, and build resilient, transparent supply chains that are valued by partners and financiers alike (Rodríguez-Espíndola et al., 2022; Dong et al., 2023). This creates a virtuous cycle where improved sustainability performance strengthens the business case, attracting further green investment.

Our review also contextualizes the role of the **external environment**. Supportive government policies, such as green tax credits and circular economy mandates, lower the perceived risk and increase the attractiveness of green investments for both MSMEs and financiers (Wu & Tham, 2023; Khalifa et al., 2022). Furthermore, the transition to a circular economy is not an individual endeavor. Strategic networks and partnerships are essential for MSMEs to access complementary knowledge, share the costs of innovation, and create closed-loop systems (Urbano et al., 2022). A FinTech firm partnering with a recycling startup exemplifies such a synergistic network.

Nevertheless, significant barriers persist. The literature consistently notes a "green finance gap," where the supply of suitable financial products still lags behind MSME demand, especially in developing economies. There is also a capability gap, as many MSME owners lack the knowledge to develop bankable green project proposals or to navigate complex certification schemes. Future research must move beyond cross-sectional studies to employ longitudinal and experimental designs that can establish

causal relationships. Sector-specific studies are also needed, as the finance-green interplay likely differs between manufacturing, agriculture, and services. Finally, more research is required on the social dimension of this interplay, examining how these strategies affect employment quality and community relations within the MSME context.

4. Conclusion

This systematic review has synthesized a decade of research to provide a comprehensive understanding of the complex interplay between financial strategies and green initiatives in fostering MSME growth. The evidence clearly indicates that the relationship is not one of trade-off but of growing synergy, particularly when mediated by digital technologies and underpinned by strategic managerial intent. MSMEs that successfully integrate green finance tools—such as FinTech, green bonds, or sustainable supply chain finance—with concrete circular economy practices and green innovation report substantially greater improvements in sustainability performance, operational resilience, and market growth compared to those pursuing isolated paths.

The review contributes a novel integrative framework that identifies digital platforms, an entrepreneurial/green mindset, strategic management capabilities, and supportive ecosystems as the core enablers of this positive interplay. It shifts the narrative from viewing green compliance as a cost burden to recognizing it as an investment in building unique, competitive, and resilient capabilities. For practitioners, the key takeaway is the imperative to adopt a holistic strategy. MSME managers should seek financial solutions explicitly designed for green projects, invest in building digital and green competencies simultaneously, and actively engage in networks that support sustainable value creation. For policymakers, the findings underscore the need to design integrated support programs that combine financial incentives (e.g., concessional loans, guarantees) with technical assistance for digital and green transformation, thereby addressing both the capital and capability gaps simultaneously.

The main limitations of this review include its focus on English-language publications and the inherent heterogeneity in how key constructs (e.g., "growth," "green strategy") are measured across studies, which complicated direct comparison. The field is also rapidly evolving, meaning new technologies and business models may have emerged since the search cutoff date. Future research should prioritize longitudinal analyses to track the long-term performance implications of integrated strategies, delve deeper into sector- and region-specific dynamics, and explore the role of social entrepreneurship and just transition principles within the MSME finance-green nexus. By building on the synthesized framework, scholars can advance a more coherent and actionable body of knowledge to support MSMEs in their critical role as agents of sustainable and inclusive economic development.

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