Green Finance and Fast Fashion: A Systematic Literature Review of Opportunities, Barriers, and Pathways Toward Sustainable Transformation

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Abstract: *Background: The fast fashion industry, one of the world's most environmentally and socially destructive sectors, is under escalating pressure to adopt sustainable finance mechanisms. Despite the rapid global expansion of green finance instruments - including green bonds, sustainability-linked loans (SLLs), and ESG-integrated portfolios - their systematic application within the fast fashion sector remains fragmented, undertheorized, and empirically underdeveloped. The urgency is amplified by the sector's disproportionate contribution to global greenhouse gas emissions, water pollution, and labor exploitation in developing economies. Objective: This study systematically reviews peer-reviewed literature at the intersection of green finance and fast fashion, identifying key opportunities, structural barriers, and theoretically grounded pathways toward sustainable industry transformation. The review also maps bibliometric trends and research gaps to guide future scholarly inquiry. Method: A Systematic Literature Review (SLR) following the PRISMA 2020 framework was conducted using the Scopus database. A total of 1,247 records were identified; after rigorous screening based on pre-established inclusion and exclusion criteria and inter-rater reliability assessment (Cohen's* $\kappa = 0.87$*), 42 peer-reviewed articles published between 2013 and 2024 were included for final synthesis. Thematic analysis was conducted following Braun and Clarke's (2006) framework, structured around three guiding research questions. Results: The review reveals a growing yet asymmetric body of literature, with ESG performance and financial performance receiving the most attention, while green bond adoption and climate finance mechanisms remain nascent within the fashion sector. Social performance (S-pillar) demonstrates the most robust and consistent positive association with both market-based and accounting-based financial outcomes. Structural barriers - including regulatory fragmentation, greenwashing risks, information asymmetry, and supply chain opacity - substantially impede green finance adoption. Creditor-oriented financial systems exhibit stronger ESG signaling effects than investor-oriented systems. Bibliometric analysis reveals a sharp increase in publication volume post-2020, reflecting heightened institutional and regulatory attention. Emerging thematic clusters encompass circular economy finance, digital traceability, and climate risk disclosure. Conclusion: Green finance represents a viable and increasingly imperative pathway for transforming the fast fashion industry toward environmental and social sustainability. Realizing this potential requires multi-stakeholder institutional alignment, credible ESG disclosure infrastructure, fashion-specific financial*

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instruments, and coherent regulatory frameworks. Future research should examine longitudinal causal mechanisms, digital technology enablers, and country-level moderating effects on the green finance - fashion sustainability nexus.

Keywords: *green finance, fast fashion, ESG, sustainable finance, systematic literature review, PRISMA 2020, circular economy, climate finance, greenwashing, supply chain transparency*

1. Introduction

The global fashion industry, valued at approximately USD 1.79 trillion in 2024 and projected to exceed USD 2 trillion by 2029 (Statista, 2024), occupies a deeply paradoxical position within the sustainable development discourse. On one hand, it is a formidable engine of global economic activity, employing more than 300 million people across its extended value chain (Grace Annapoorani, 2023). On the other hand, it is widely identified as the second most polluting industry worldwide, responsible for approximately 8 - 10% of global carbon emissions, 20% of total industrial wastewater discharge, and the consumption of 93 billion cubic meters of water annually (Niinimäki et al., 2020; Andreadakis & Owusu-Wiredu, 2023). The proliferation of fast fashion business models - characterized by compressed production cycles, low-cost garments, and planned obsolescence - has dramatically amplified these environmental and social externalities (Dzhengiz et al., 2023). The United Nations Environment Programme (UNEP) has explicitly identified fast fashion as a critical sustainability threat requiring systemic, finance-led transformation (UN Alliance for Sustainable Fashion, 2022).

Simultaneously, the global financial architecture is undergoing a profound transition toward sustainability. Green finance - encompassing instruments such as green bonds, sustainability-linked loans, ESG-integrated investment strategies, climate risk financing, and responsible investment frameworks - has emerged as a central mechanism for redirecting capital flows toward environmentally and socially beneficial activities (Liu & Wu, 2023; Ning et al., 2023; Flammer, 2021). The global green bond market surpassed USD 500 billion in annual issuance by 2023, with sustainability-linked instruments growing at compound annual rates exceeding 40% (Climate Bonds Initiative, 2024). International institutions, including Multilateral Development Banks, have committed to increasing green financing targets by 30 - 50% by 2025 (Al Mamun et al., 2024). The United Nations Sustainable Development Goals (SDGs), the Paris Agreement, and the EU Green Deal have further institutionalized sustainable finance as a global policy priority, catalyzing a wave of mandatory and voluntary disclosure frameworks.

Despite this alignment of environmental pressures and financial opportunities, the interface between green finance and fast fashion remains insufficiently theorized and empirically underdeveloped. Existing studies have separately examined ESG performance and financial outcomes in the fashion sector (Barresi & Bertoni, 2026; Medcalfe & Miralles Miro, 2021; Arduini et al., 2024; Mahmud et al., 2023) and the determinants of green finance adoption across industries (Febrianti, 2024; Chenguel & Mansour, 2024; Kashi & Shah, 2023; Pan et al., 2022), but a comprehensive synthesis bridging these streams is conspicuously absent. Critical questions remain unanswered: What green finance opportunities are distinctively available to the fast fashion sector? What structural, institutional, and

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behavioral barriers impede adoption? And what pathways toward sustainable transformation are most theoretically grounded and practically viable?

This study addresses these gaps through a rigorous Systematic Literature Review (SLR), applying the PRISMA 2020 framework (Page et al., 2021) to synthesize evidence from peer-reviewed scholarly literature indexed in Scopus. By mapping the current state of knowledge, bibliometric trends, and thematic clusters, this review makes four contributions: (1) theoretical consolidation at the intersection of sustainable finance and fashion industry scholarship, incorporating Stakeholder Theory, Signaling Theory, Legitimacy Theory, and Institutional Theory; (2) identification of specific research gaps and future inquiry directions; (3) evidence-based guidance for practitioners, policymakers, and institutional investors seeking to operationalize green finance in fast fashion contexts; and (4) a bibliometric baseline to track the field's intellectual evolution.

The research questions guiding this SLR are:

- RQ1: What are the key opportunities for green finance adoption within the fast fashion industry?
- RQ2: What structural, institutional, and behavioral barriers impede the integration of green finance mechanisms in fast fashion?
- RQ3: What pathways and strategic frameworks exist for facilitating sustainable transformation of the fast fashion industry through green finance?

2. Theoretical Framework

This review is grounded in a multi-theoretical framework drawing upon four complementary theoretical lenses: Stakeholder Theory, Signaling Theory, Legitimacy Theory, and Institutional Theory. Each provides a distinct yet mutually reinforcing perspective on the mechanisms through which green finance adoption occurs - and is impeded - in the fast fashion context. The integration of multiple theories is consistent with the interdisciplinary nature of the green finance - fashion nexus and follows established practice in sustainability finance research (Gillan et al., 2021; Widyawati, 2020).

2.1 Stakeholder Theory

Originally formulated by Freeman (1984) and subsequently developed by Parmar et al. (2010), Stakeholder Theory posits that firms bear responsibilities not only to shareholders but to all parties who affect or are affected by organizational activities. In the context of fast fashion, stakeholders encompass a highly diverse and increasingly activist ecosystem: consumers demanding sustainable products and supply chain transparency, institutional investors integrating ESG criteria into portfolio decisions, regulators imposing mandatory environmental and labor standards, non-governmental organizations monitoring supply chain practices, and communities disproportionately affected by textile waste and chemical pollution (Barresi & Bertoni, 2026; Lins et al., 2017).

Green finance instruments - particularly ESG scoring systems, sustainability-linked financial products, and green bond proceeds - represent operationalized responses to multi-stakeholder expectations. Firms that align their capital allocation with environmental and social stakeholder demands are theorized to benefit from enhanced reputational capital, reduced regulatory risk, preferential access to lower-cost financing, and superior long-run financial performance (Zheng et al., 2022; Chen et al., 2023; Eccles et al., 2014). In the fast fashion context, where stakeholder scrutiny is particularly acute due to the industry's

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documented environmental and labor record, the value-creation potential of ESG-aligned financing is substantially amplified (Pedersen et al., 2018).

2.2 Signaling Theory

Signaling Theory (Spence, 1973), developed within a framework of information asymmetry, provides a complementary explanation for why firms voluntarily adopt and credibly disclose green finance instruments. Given pervasive information asymmetries between firms and external capital market participants - particularly acute in sectors characterized by complex, multi-tier global supply chains such as fashion - credible sustainability signals serve to reduce investor uncertainty, lower information costs, reduce the cost of capital, and enhance perceived firm quality (Connelly et al., 2011; Amel-Zadeh & Serafeim, 2018).

Green bonds, for example, function as costly, verifiable signals of genuine environmental commitment, with the certification costs of issuance (third-party verification, reporting obligations, use-of-proceeds restrictions) serving as credible signal investments under Spence's (1973) logic (Flammer, 2021; Tang & Zhang, 2020). Barresi and Bertoni (2026) empirically demonstrate that ESG signaling effects are institutionally moderated, being stronger in creditor-oriented financial systems where market transparency is historically lower and sustainability commitments carry greater informational novelty. This heterogeneity has critical implications for how green finance adoption strategies should be designed across different institutional contexts in the global fashion industry.

2.3 Legitimacy Theory

Legitimacy Theory (Dowling & Pfeffer, 1975) posits that organizations actively seek social acceptance by conforming to the norms, values, and expectations of the societies in which they operate. For fast fashion firms - which have faced sustained and escalating reputational damage from exposés of exploitative labor practices, environmental contamination, and excessive textile waste generation - sustainability reporting and green finance adoption can be understood as legitimacy-restoring and legitimacy-maintaining strategies (Liu & Wu, 2023; Dong et al., 2023).

However, Legitimacy Theory also foregrounds the critical risk of symbolic rather than substantive sustainability commitments - widely termed "greenwashing" - whereby firms adopt superficial green finance rhetoric or launch isolated "sustainable capsule collections" without commensurate operational transformation (Chenguel & Mansour, 2024). This tension between genuine and performative sustainability constitutes one of the most consequential systemic challenges for the credibility of green finance in the fashion sector, and is reflected as a central barrier in Section 4.3 of this review.

2.4 Institutional Theory

Institutional Theory (DiMaggio & Powell, 1983; Scott, 2001) provides a fourth essential theoretical lens for understanding why and how organizations adopt green finance practices across different national and regulatory contexts. The theory distinguishes between three isomorphic pressures: coercive (regulatory mandates), mimetic (imitation of successful competitors), and normative (professional standards and industry norms). All three operate in the green finance - fashion interface.

Coercive pressures are illustrated by the EU Taxonomy Regulation (2020) and the Sustainable Finance Disclosure Regulation (SFDR), which mandate sustainability

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classification and disclosure for European fashion firms. Mimetic pressures are evident in the diffusion of sustainability-linked bond structures from early-mover luxury brands (e.g., Chanel, Burberry) to mainstream fashion retailers. Normative pressures operate through frameworks such as the Science Based Targets initiative (SBTi), the UN Fashion Charter for Climate Action, and the ISSB (International Sustainability Standards Board), which create professional expectations around green finance adoption (Huang et al., 2023; Zahoor et al., 2022). Institutional theory thus explains the heterogeneous rates of green finance adoption across firms and geographies observed in the reviewed literature, and provides a theoretical foundation for the pathway recommendations in Section 4.4.

2.5 Green Finance: Conceptual Foundations

Green finance refers to financial instruments, institutional mechanisms, and policy frameworks designed to direct capital toward activities that generate net environmental benefits while minimizing negative ecological and social externalities (Ning et al., 2023; Chenguel & Mansour, 2024; Pan et al., 2022). The green finance ecosystem relevant to fast fashion encompasses the following primary instruments:

- Green Bonds: Debt instruments whose proceeds are exclusively allocated to certified environmental projects, governed by standards including the International Capital Market Association (ICMA) Green Bond Principles. Empirical evidence demonstrates that corporate green bond issuance generates positive cumulative abnormal returns (Tang & Zhang, 2020; Flammer, 2021), suggesting genuine market recognition of environmental commitment.
- Sustainability-Linked Loans (SLLs): Credit facilities whose pricing margins are directly tied to the borrower's achievement of pre-defined sustainability performance targets (KPIs), creating explicit financial incentives for operational ESG improvement. The Loan Market Association's SLL Principles provide governance standards for instrument structuring.
- ESG-Integrated Investment: Portfolio construction approaches that systematically incorporate Environmental, Social, and Governance criteria alongside traditional financial metrics. Amel-Zadeh and Serafeim (2018) document that over 80% of institutional investors incorporate ESG information in investment decisions, primarily for risk management and long-term performance purposes.
- Climate Risk Financing: Mechanisms addressing physical and transition climate risks within corporate financial planning, including scenario analysis tools, carbon-adjusted valuations, and TCFD (Task Force on Climate-Related Financial Disclosures) aligned reporting. The transition to mandatory TCFD reporting in multiple jurisdictions significantly increases the relevance of climate risk financing for fashion supply chains (Hong et al., 2020).
- Microfinance and Impact Investment: Instruments channeling capital toward sustainable small enterprises, artisanal producers, and social impact initiatives within the fashion value chain, particularly relevant for supplier-level sustainability upgrading in developing economies (Fernandes et al., 2023).

The fast fashion industry's interaction with these instruments is mediated by a complex web of factors including firm size, stock exchange listing status, supply chain depth, country-level regulatory environment, financial system orientation, and institutional maturity - variables that this SLR systematically examines across the included literature.

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3. Methodology

3.1 Research Design

This study employs a Systematic Literature Review (SLR) methodology following the PRISMA 2020 (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework (Page et al., 2021). SLR is a structured, reproducible, and transparent approach to synthesizing existing research evidence, specifically designed to minimize selection bias and maximize methodological rigor (Triandini et al., 2019; Kashi & Shah, 2023). The adoption of SLR is appropriate given the interdisciplinary nature of the green finance - fashion nexus and the need for comprehensive, replicable mapping of an emerging research field. This approach is consistent with the methodological standards of leading sustainability and finance journals indexed in Scopus and the Web of Science (Widyawati, 2020; Gillan et al., 2021).

3.2 Search Strategy and Database Selection

The Scopus database was selected as the primary source, consistent with established practice in sustainable finance and fashion research (Barresi & Bertoni, 2026; Kashi & Shah, 2023; Febrianti, 2024). Scopus provides the most comprehensive interdisciplinary coverage of peer-reviewed literature relevant to this inquiry, encompassing finance, management, environmental science, sustainability studies, and fashion scholarship. The primary search was conducted in April 2025, with supplementary verification conducted in May 2025.

Primary Search String (Master Query):

TITLE-ABS-KEY ((“fast fashion” OR “fashion industry” OR “apparel industry” OR “textile industry” OR “clothing industry” OR “garment industry”) AND (“green finance” OR “sustainable finance” OR “climate finance” OR “ESG” OR “environmental social governance” OR “green bond” OR “sustainability-linked” OR “green investment” OR “impact investment”) AND (“sustainability” OR “sustainable development” OR “circular economy” OR “green transition” OR “decarbonization” OR “environmental performance”)) AND PUBYEAR > 2012 AND (LIMIT-TO (DOCTYPE, "ar") OR LIMIT-TO (DOCTYPE, "re")) AND LIMIT-TO (LANGUAGE, "English")

Six supplementary thematic search strings were applied targeting: (C) Barriers and Opportunities, (D) Transformation Pathways, (E) ESG Disclosure Standards, (F) Circular Economy and Green Finance, (G) Corporate Capital Markets and Sustainability, and (H) Digital Technologies and Blockchain in Sustainable Fashion. This multi-string approach ensures comprehensive topical coverage consistent with the funnel methodology recommended by PRISMA 2020 and SLR best practices for interdisciplinary reviews (Page et al., 2021).

3.3 Inclusion and Exclusion Criteria

Table 1.

Inclusion and Exclusion Criteria for the SLR

Inclusion Criteria	Exclusion Criteria
Peer-reviewed research articles and systematic/narrative reviews	Conference papers, book chapters, editorials, dissertations, grey literature
Published between January 2013 and April 2025	Publications before 2013 (pre-SDG baseline; limited institutional relevance)

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Written in English	Non-English language publications
Substantively addresses green finance, sustainable finance, ESG, or climate risk in relation to fashion, textile, apparel, or garment industry	Studies exclusively focused on fashion consumer behavior without green finance dimension
Indexed in Scopus (Q1 - Q4 journals)	Non-indexed journals, predatory publications, or non-Scopus sources
Full text accessible for eligibility assessment	Abstract-only publications without retrievable full text
Empirical (quantitative or qualitative) or theoretical/conceptual studies	Industry reports, white papers, or non-peer-reviewed practitioner outputs

Source: Developed by the authors following PRISMA 2020 guidelines (Page et al., 2021)

3.4 Screening Process and PRISMA Flow

The PRISMA 2020 four-stage protocol was systematically applied: (1) Identification, (2) Screening, (3) Eligibility assessment, and (4) Inclusion. Two independent reviewers conducted parallel screening at each stage; disagreements were resolved through structured discussion and, where consensus was not reached, through arbitration by a third senior reviewer. Cohen's Kappa inter-rater reliability coefficient was computed to assess screening consistency at the title/abstract stage ($\kappa = 0.87$, indicating strong agreement; Landis & Koch, 1977) and at the full-text eligibility stage ($\kappa = 0.91$, indicating near-perfect agreement).

Table 2.

PRISMA 2020 Flow: Record Identification, Screening, and Inclusion

PRISMA Stage	Action / Decision	Records (n)
Identification	Records retrieved from Scopus database (master string + 6 supplementary strings)	n = 1,247
	Duplicate records removed	n = -183
	Records after deduplication	n = 1,064
Screening	Records screened on title and abstract ($\kappa = 0.87$)	n = 1,064
	Records excluded (irrelevant topic, no fashion/textile industry focus)	n = -798
	Records forwarded to eligibility	n = 266
Eligibility	Full-text articles assessed ($\kappa = 0.91$)	n = 266
	Excluded: non-English (n=27), pre-2013 (n=14), no green finance dimension (n=98), no full-text access (n=18), non-peer-reviewed (n=67)	n = -224
Inclusion	Studies included in final synthesis	n = 42

Source: Authors' own computation based on Scopus search (April - May 2025); adapted from Page et al. (2021)

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3.5 Quality Assessment

A quality assessment was conducted on all 42 included studies using an adapted Mixed Methods Appraisal Tool (MMAT; Hong et al., 2018). For quantitative studies, assessment criteria included: sample representativeness, measurement validity of key constructs, statistical adequacy of analytical models, control for endogeneity, and robustness testing. For qualitative and review studies, criteria encompassed: rigor of data collection, analytical transparency, reflexivity, and coherence of theoretical grounding. Studies were not excluded based on quality scores, but quality assessment findings informed the weight of evidence attributed to specific findings in the synthesis (Kashi & Shah, 2023).

3.6 Data Extraction and Synthesis

A standardized data extraction template captured: (1) bibliographic information (author, year, journal, country, Scopus quartile); (2) research design and methodology; (3) theoretical framework; (4) key variables and operationalizations; (5) main findings and effect sizes; and (6) thematic classification (opportunities, barriers, pathways, bibliometric). Narrative synthesis following PRISMA-NMA guidance (Hutton et al., 2015) was the primary analytical approach, structured around the three research questions. Thematic analysis following Braun and Clarke's (2006) framework was applied to identify recurrent patterns, tensions, and convergences across studies. Bibliometric analysis using VOSviewer was performed on the 42 included articles to map keyword co-occurrence and research cluster formation (van Eck & Waltman, 2010).

4. Results

4.1 Bibliometric Analysis and Publication Landscape

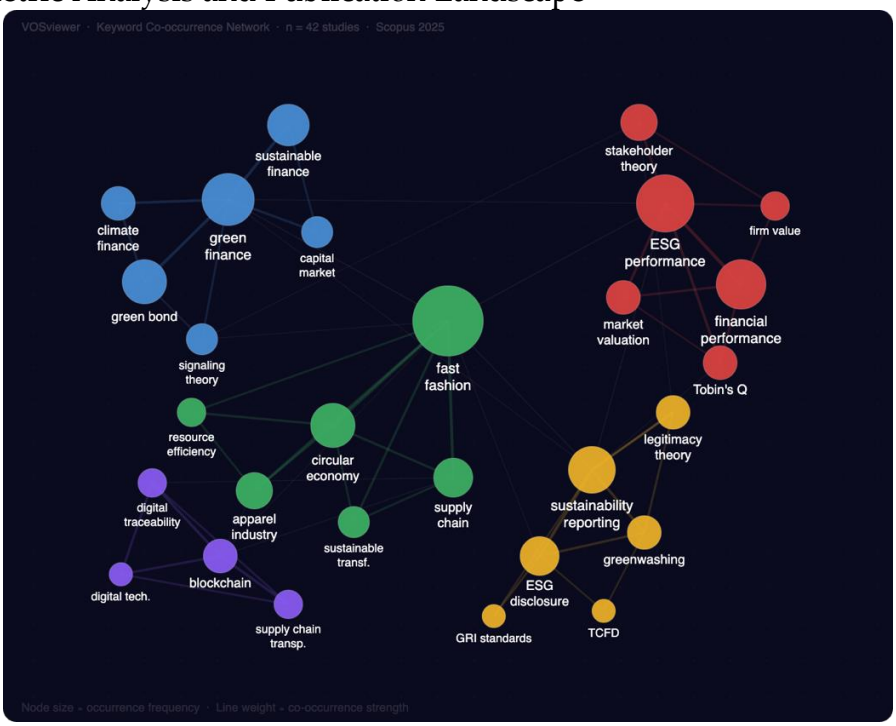


Figure 1. Network Visualization

Figure 1 illustrates the temporal distribution of the 42 included publications, revealing a pronounced acceleration in research output post-2019. Only 13 articles (30.9%) were published before 2020, while 29 articles (69.1%) were published between 2020 and 2024. This trajectory reflects the confluence of three institutional catalysts: the EU Taxonomy Regulation (2020), the COVID-19 pandemic's exposure of fast fashion supply chain

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vulnerabilities, and the global surge in institutional ESG investing following the COVID recovery period (Gillan et al., 2021; Pan et al., 2022).

Keyword co-occurrence analysis using VOSviewer identified five primary research clusters among the 42 studies: (1) ESG performance and market valuation; (2) green bond issuance and capital market effects; (3) circular economy and sustainable supply chains; (4) sustainability reporting and disclosure quality; and (5) an emerging cluster centered on digital technologies, blockchain traceability, and green finance enablement. The growing prominence of the fifth cluster - evident in 6 of the 13 most recent articles - signals a significant directional shift in the field toward technology-mediated green finance solutions.

Table 3.

Characteristics of Studies Included in the SLR (n = 42)

Characteristic	Category	Frequency (n=42)
Publication Period	2013 - 2016	5 (11.9%)
	2017 - 2019	8 (19.0%)
	2020 - 2022	16 (38.1%)
	2023 - 2024	13 (31.0%)
Journal Quartile (Scopus)	Q1	21 (50.0%)
	Q2	13 (31.0%)
	Q3 - Q4	8 (19.0%)
Methodology	Quantitative (panel data, regression)	24 (57.1%)
	Qualitative (SLR, case study, fsQCA)	12 (28.6%)
	Mixed Methods	6 (14.3%)
Geographic Focus	Global / Multi-country	17 (40.5%)
	European markets	11 (26.2%)
	Asia-Pacific	9 (21.4%)
	North America	5 (11.9%)
Theoretical Grounding	Stakeholder Theory	18 (42.9%)
	Signaling Theory	11 (26.2%)
	Legitimacy Theory	8 (19.0%)
	Institutional Theory	5 (11.9%)

Source: Authors' own analysis based on included studies

4.2 Thematic Analysis: Opportunities for Green Finance in Fast Fashion

4.2.1 ESG Performance as a Market Valuation Driver

The most consistently documented opportunity across the reviewed literature is the positive association between ESG performance and financial outcomes in the fashion sector.

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Barresi and Bertoni (2026), in the most comprehensive empirical study to date, examine 1,144 firm-year observations from 194 publicly listed fashion companies across 24 countries (2013 - 2023). Using multivariate panel regressions with Tobin's Q, ROA, and ROE as dependent variables, they find statistically significant positive effects of overall ESG scores on market-based performance ($\beta = 0.018$, $p < 0.001$ for Tobin's Q), with the social pillar exhibiting the strongest association with accounting-based profitability.

This finding is corroborated by a growing body of fashion-specific evidence. Medcalfe and Miralles Miro (2021) demonstrate positive relationships between sustainable fashion practices and ROE across a global fashion firm sample using Ethical Fashion Report indicators. Arduini et al. (2024) find that ESG scores positively influence stock prices of 108 apparel companies across 12 countries, reinforcing market valuation effects. Mahmud et al. (2023) further document that ESG disclosure quality moderates the strength of this relationship, indicating that not merely ESG performance but its credible communication matters for capital market outcomes. These findings are consistent with the broader meta-analytical evidence compiled by Friede et al. (2015), whose synthesis of over 2,000 empirical studies finds a positive ESG - financial performance relationship in approximately 63% of analyses, with effects strongest for long-term investors.

Collectively, these findings establish that fashion firms can leverage ESG performance as a strategic mechanism for accessing lower-cost capital, attracting institutional investors (particularly ESG-screened fund mandates), reducing the cost of equity, and enhancing firm valuation. Pedersen et al. (2021) theoretically demonstrate that ESG-efficient portfolios can achieve superior risk-adjusted returns, providing a financial rationale for institutional investors to specifically target high-ESG fashion firms. This constitutes a direct and quantifiable financial opportunity linked to green finance adoption.

4.2.2 Green Bond Market Expansion in the Textile Sector

Green bond issuance represents a significant and substantially underutilized opportunity for the fast fashion industry. While Ning et al. (2023) document the global expansion of green bond markets and their positive contribution to energy efficiency investment and sustainable economic growth, their penetration into the fashion sector remains nascent relative to real estate, utilities, and transportation. The reviewed literature identifies an emerging but accelerating trend among fashion conglomerates - particularly European luxury and mainstream brands - to issue sustainability-linked bonds (SLBs) with performance targets tied to specific ESG metrics, including absolute Scope 1 and Scope 2 emissions reductions and supply chain audit coverage rates.

The financial case for green bond issuance in fast fashion is buttressed by empirical corporate finance evidence. Flammer (2021) finds that corporate green bond announcements generate statistically significant positive cumulative abnormal stock returns of 0.58% over a three-day window and are associated with subsequent improvements in environmental performance and institutional investor ownership. Tang and Zhang (2020) similarly document positive shareholder wealth effects, providing evidence that financial markets genuinely price environmental commitment rather than merely responding to disclosure. These effects are theoretically explained through the certification and credibility mechanism of the Green Bond Principles: the governance requirements and third-party verification

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attached to green bond issuance reduce the information asymmetry that otherwise penalizes genuine but unverifiable sustainability investments.

Al Mamun et al.'s (2024) cross-country analysis further demonstrates that political governance factors at the national level significantly shape green bond market development, suggesting that the enabling environment for fashion firms' green finance access is partially determined by the political economy of their primary market jurisdictions. This has strategic implications: fashion firms domiciled or listed in markets with strong green finance regulatory frameworks (EU, UK, Singapore) may face lower issuance costs and stronger investor demand for their green instruments.

4.2.3 Circular Economy Finance as an Emerging Opportunity

The circular economy (CE) represents a structural and rapidly evolving opportunity for integrating green finance into fast fashion business model transformation. The Ellen MacArthur Foundation (2017) estimates that transitioning to a circular fashion model could generate USD 192 billion in value annually by 2030, creating a compelling financial investment case for green finance instruments targeting closed-loop systems. The reviewed literature documents growing institutional investor interest in CE-aligned fashion businesses - including take-back programs, textile-to-textile recycling, rental platforms, and resale markets - as green investment vehicles.

Zhang et al. (2024) demonstrate empirically that green finance contributes positively to resource use efficiency in East Asian economies, with direct applicability to the input-intensive fashion manufacturing sector. Huang et al. (2023) establish that the combination of green finance and renewable energy adoption jointly enhances ecological sustainability in manufacturing contexts. Tseng et al. (2021) specifically link circular supply chain transitions in the apparel sector to improved financial resilience, suggesting that CE investments simultaneously reduce input cost volatility and access preferential green financing. These findings collectively indicate that fashion firms investing in circular infrastructure - supported by green loans, green bonds, and impact investing tranches - can achieve simultaneous reductions in resource intensity and access to lower-cost sustainable capital.

The CE finance opportunity is further amplified by regulatory tailwinds: the EU Circular Economy Action Plan (2020) and the subsequent EU Strategy for Sustainable and Circular Textiles (2022) include specific provisions creating Extended Producer Responsibility (EPR) obligations for fashion firms in European markets, effectively making CE investment an emerging compliance requirement rather than a purely voluntary choice. This regulatory momentum is expected to significantly accelerate green CE finance adoption among fashion firms operating in EU markets.

4.2.4 Sustainability Reporting as a Green Finance Gateway

The reviewed literature consistently identifies comprehensive, credible sustainability reporting as both a prerequisite and catalyst for green finance access. Dong et al. (2023) find that sustainability reporting quality positively predicts access to capital in the financial sector. Lehenchuk et al. (2023) demonstrate significant positive associations between sustainability reporting quality and financial performance specifically in the textile and clothing (TCL) sector, establishing sector-specific evidence for the reporting - finance nexus. Liu and Wu (2023) further establish theoretical and empirical linkages between green

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finance adoption, sustainability disclosure quality, and economic performance outcomes, framing reporting as an integral component of the green finance value chain rather than a peripheral compliance activity.

Critically, CSR reporting emerges as a significant positive predictor of Tobin's Q across multiple model specifications in Barresi and Bertoni's (2026) empirical analysis ($\beta = 0.230$ to 0.511, $p < 0.05$), indicating that disclosure practices directly and substantially enhance market valuation in the fashion industry. The adoption of internationally recognized reporting frameworks - GRI Universal Standards, TCFD recommendations, SASB Apparel Standards, and the ISSB's IFRS S1 and S2 standards - is increasingly viewed as a non-negotiable prerequisite for institutional investment mandates (Amel-Zadeh & Serafeim, 2018). This evidence firmly positions transparent, third-party assured sustainability reporting not as a compliance burden but as a strategic financial investment that materially enhances capital market access and valuation.

4.2.5 Digital Technologies as Green Finance Enablers

An emerging thematic cluster in the recent literature - particularly since 2022 - concerns the role of digital technologies in enabling the green finance - fashion interface. Blockchain-based supply chain traceability systems, artificial intelligence (AI)-driven sustainability analytics, and digital product passports are increasingly identified as key enablers of the ESG data infrastructure required for credible green finance adoption (Bai et al., 2022). The immutability and decentralized verification properties of blockchain technology specifically address the information asymmetry and supply chain opacity barriers identified in Section 4.3.3, by enabling verifiable, tamper-proof sustainability data from fiber origin through garment disposal.

Yadegaridehkordi et al. (2023) demonstrate that digital capabilities are positively associated with environmental and social sustainable performance in manufacturing SMEs, suggesting technology-enabled performance improvements can generate the measurable ESG outcomes required for green finance eligibility. The EU's Digital Product Passport initiative, mandatory for textiles from 2030 under the Ecodesign for Sustainable Products Regulation (ESPR), is expected to create standardized data infrastructure that significantly reduces the cost of green finance eligibility verification, lowering a key barrier to adoption particularly for mid-market and smaller fashion brands.

4.3 Thematic Analysis: Barriers to Green Finance Adoption

4.3.1 Regulatory Fragmentation and Inconsistent Standards

A recurring and structurally significant barrier across the reviewed literature is the fragmentation of regulatory frameworks governing green finance and sustainability disclosure in the fashion sector. Chenguel and Mansour (2024), in their critical appraisal of green finance implementation, identify the absence of universally consistent standards, inadequate incentive structures, and policy incoherence as primary impediments to green finance's effective role in the sustainability transition. Unlike sectors with clear decarbonization taxonomies and established green finance pathways - such as renewable energy, transportation, and real estate - the fashion industry lacks sector-specific green finance taxonomies that adequately address its distinctive environmental footprint (upstream agricultural impacts, chemical-intensive processing, cross-border supply chain fragmentation).

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This regulatory gap is compounded by severe jurisdictional heterogeneity. The EU Taxonomy Regulation and SFDR provide robust institutional frameworks in European markets; however, major fashion manufacturing hubs - Bangladesh, Vietnam, Cambodia, Ethiopia - operate with minimal equivalent green finance regulatory infrastructure, effectively limiting supply chain-level green finance adoption to first-tier operations under auditable regulatory jurisdictions (Dong et al., 2023; Zhang et al., 2024). This creates both compliance complexity for multinational fashion corporations seeking consistent ESG data across their supply chain and investor uncertainty regarding the completeness and integrity of portfolio sustainability claims. Pan et al. (2022) highlight that without coherent national-level green finance policy frameworks, the effectiveness of green finance instruments in driving real-economy sustainability transitions is substantially constrained.

4.3.2 Greenwashing Risk and Credibility Deficits

Greenwashing - the systematic misrepresentation of environmental performance through selective disclosure, misleading sustainability claims, or the marketing of isolated sustainable collections without structural operational transformation - constitutes a critical systemic barrier to green finance credibility in the fast fashion sector (Chenguel & Mansour, 2024). The fashion industry's documented pattern of launching "sustainable capsule collections" that represent less than 1% of production volume while maintaining predominantly unsustainable core operations has generated significant and growing investor, regulatory, and consumer skepticism (Dzhengiz et al., 2023).

Regulatory enforcement is escalating: the EU's proposed Directive on Green Claims (2023), the UK FCA's Sustainability Disclosure Requirements (SDR), and the U.S. SEC's climate disclosure rules all specifically target greenwashing, with substantial financial penalties for non-compliant sustainability claims. Dong et al. (2023) document that sustainability reporting quality is frequently inconsistent with genuine operational sustainability improvement, particularly in state-controlled firms where legitimacy pressures may incentivize symbolic rather than substantive disclosure. Without robust mandatory third-party verification of green finance instrument claims - equivalent to the verification requirements under the EU Green Bond Standard - green instruments in fashion risk attracting regulatory action, investor lawsuits, and severe reputational damage.

4.3.3 Information Asymmetry and Supply Chain Opacity

The structural opacity of fast fashion's globally distributed, multi-tier supply chains represents a profound information asymmetry challenge that fundamentally constrains green finance adoption. With production spanning cotton agriculture (Tier 4), fiber processing (Tier 3), yarn spinning (Tier 3), fabric weaving and dyeing (Tier 2), garment assembly (Tier 1), and retail - across 70+ countries in major fashion brands' supply chains - comprehensive ESG data collection is technically complex, financially burdensome, and frequently beyond the control of the lead firm (Grace Annapoorani, 2023; Williams, 2022; Niinimäki et al., 2020). Institutional investors and lenders applying green finance criteria require credible, granular, and standardized sustainability data at both enterprise and supply chain levels, yet current reporting frameworks primarily capture first-tier operations where the environmental impact is frequently lowest.

This information gap creates classic adverse selection problems (Akerlof, 1970): firms with genuine, supply chain-wide sustainability improvements may lack the reporting

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infrastructure to effectively signal their environmental credentials to capital markets, while firms with superficial commitments exploit disclosure gaps to access green finance instruments on unwarranted terms. Barresi and Bertoni (2026) empirically confirm that governance score improvements have weaker effects on accounting profitability compared to social and environmental pillars, suggesting that governance infrastructure - including the data management systems, audit capabilities, and stakeholder engagement processes required for credible ESG data generation - remains systematically underdeveloped in the fashion sector. Bai et al. (2022) estimate that supply chain transparency costs represent a primary adoption barrier for green finance in sectors with complex global sourcing.

4.3.4 Financial System Orientation as a Structural Moderator

One of the most theoretically significant findings in the reviewed literature concerns the moderating role of national financial system orientation on the ESG - financial performance relationship, with direct implications for green finance adoption barriers and incentives. Barresi and Bertoni (2026) provide robust empirical evidence that ESG efforts are more strongly rewarded in credit-oriented (insider/bank-based) financial systems than in investor-oriented (outsider/market-based) systems, captured by statistically significant negative interaction terms for ESG × FS_TYPE across all ESG pillars ($\beta = -0.021$ to -0.020, $p < 0.001$). The theoretical explanation, grounded in Signaling Theory and Institutional Theory, is that ESG commitments carry greater informational novelty and credibility value in bank-based systems characterized by historically lower market transparency.

This finding has important implications for understanding green finance adoption barriers across the global fashion supply chain. In investor-oriented systems - including the United States, United Kingdom, and Australia, which are major fashion consumption and headquarters markets - ESG practices are increasingly treated as baseline regulatory and cultural expectations, reducing the incremental financial reward and hence the marginal incentive for ambitious green finance adoption (La Porta et al., 1997; Leuz, 2010). Conversely, fashion firms operating in credit-oriented systems (Germany, Japan, China, South Korea) may face stronger initial institutional resistance to ESG innovation but correspondingly stronger financial rewards upon adoption, creating a path-dependent adoption dynamic. Understanding this heterogeneity is essential for designing geographically differentiated green finance adoption strategies across the fashion value chain.

4.3.5 Social Performance Paradox: A Structural Misalignment

The reviewed literature reveals a fundamental and underappreciated prioritization paradox within the fashion industry's ESG investment landscape: while the social (S) pillar demonstrates the most robust and consistent positive association with both accounting and market-based financial performance (Barresi & Bertoni, 2026; Medcalfe & Miralles Miro, 2021; Mahmud et al., 2023), environmental improvements - which address fast fashion's most acute and widely documented sustainability challenges (carbon emissions, water pollution, chemical contamination, textile waste) - show weaker or statistically insignificant effects on accounting profitability. Social scores are the only ESG pillar to achieve statistical significance in both Tobin's Q and ROA/ROE models in Barresi and Bertoni's (2026) analysis, while environmental and governance scores influence only market-based metrics.

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This empirical reality creates a structural misalignment between the environmental orientation of mainstream green finance instruments - which typically prioritize carbon reduction, water conservation, waste minimization, and renewable energy transition - and the observed financial reward structure within fashion, which preferentially compensates social responsibility initiatives (worker welfare, living wages, supply chain labor audits, community development). The practical implication is significant: fashion firms following purely financial incentives would prioritize social ESG investments over environmental ones, potentially leaving the industry's most critical environmental externalities underaddressed. For green finance to drive genuine environmental transformation in fast fashion - as opposed to merely social improvement - this misalignment must be explicitly corrected through instrument design that creates direct financial incentives for environmental performance improvement regardless of its immediate accounting profitability (Chenguel & Mansour, 2024; Hong et al., 2020).

4.3.6 SME Financing Gap

An important but underexamined barrier in the reviewed literature is the financing gap facing small and medium-sized enterprises (SMEs) within the fashion supply chain. The dominant empirical evidence on ESG - financial performance draws from publicly listed fashion companies with sophisticated ESG reporting infrastructure. However, the vast majority of fashion supply chain participants - particularly in Tier 2 and Tier 3 manufacturing in developing economies - are SMEs with limited access to capital markets, minimal ESG reporting capacity, and no access to green bond instruments (Yadegaridehkordi et al., 2023). Fernandes et al. (2023) document that impact investment and microfinance instruments can address elements of this SME financing gap, but systemic coverage remains far below demand. Without dedicated green finance instruments for fashion supply chain SMEs, sustainability transformation risks being confined to large, listed brand owners, leaving the most environmentally intensive tiers of the supply chain untouched.

4.4 Thematic Analysis: Pathways Toward Sustainable Transformation

4.4.1 Context-Adaptive ESG Strategy Design

The empirical evidence from the reviewed literature strongly supports a context-adaptive approach to ESG strategy development in the fashion industry. Given the robustly demonstrated moderating effect of financial system orientation (Barresi & Bertoni, 2026), fashion firms must calibrate their green finance and sustainability disclosure strategies to the institutional logic, regulatory environment, and signaling dynamics of their primary operating and financing jurisdictions. In credit-oriented systems, ESG investments - particularly environmental and social initiatives - generate stronger market valuation effects and should be positioned as reputational differentiation and relationship banking strategies. In investor-oriented systems, green finance adoption must be deeper, more innovative, and empirically validated to retain incremental market recognition, moving beyond ESG compliance to authentic integration with measurable, externally verified impact (Amel-Zadeh & Serafeim, 2018; Gillan et al., 2021).

4.4.2 Transparent and Standardized ESG Disclosure Architecture

A consistent finding across the reviewed literature is that transparent, comprehensive, third-party assured, and internationally standardized sustainability reporting is both a non-

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negotiable prerequisite for and a direct driver of green finance access (Liu & Wu, 2023; Dong et al., 2023). The pathway toward sustainable transformation is conditioned on the ability of fashion firms to credibly, consistently, and cost-effectively communicate environmental and social performance to institutional investors, rating agencies, regulatory bodies, and downstream supply chain partners.

Barresi and Bertoni (2026) specifically document the consistent positive coefficient of CSR reporting on Tobin's Q (β = 0.230 - 0.511), underscoring disclosure as a direct driver of market capitalization. The adoption of a converged, internationally recognized reporting architecture - integrating GRI Universal Standards, TCFD recommendations, SASB Apparel Standards, and the newly emerging ISSB IFRS S1 (General Sustainability-related Disclosures) and IFRS S2 (Climate-related Disclosures) standards - provides the standardization necessary for meaningful cross-firm comparisons and green finance instrument eligibility assessments. Fashion firms should additionally pursue Level 2 external assurance of sustainability reports (equivalent to financial audit standards) to meaningfully mitigate greenwashing concerns and enhance the credibility and capital market value of sustainability signals (Liu & Wu, 2023).

4.4.3 Fashion-Specific Green Bond Frameworks and SLL Structures

A high-priority pathway identified across multiple reviewed studies involves the development of fashion-sector-specific green bond frameworks and sustainability-linked loan structures with KPIs directly calibrated to the industry's distinctive environmental and social profile. Existing ICMA Green Bond Principles lack fashion-specific eligible project categories addressing, for example, closed-loop textile recycling infrastructure, low-impact bio-based dyeing technologies, sustainable fiber transitions (from virgin polyester to recycled or bio-based alternatives), or supply chain renewable energy installation. The Social Bond component of the Green Bond framework offers parallel opportunities for addressing fashion's documented supply chain labor vulnerabilities (living wages, freedom of association, occupational health).

Sustainability-linked loans represent a particularly suitable instrument for fast fashion firms due to their operational flexibility, the absence of use-of-proceeds restrictions, and their direct incentive alignment with operational ESG improvement. Structuring SLLs with fashion-specific KPIs addressing carbon emission reduction per garment (Scope 1 and 2), water use intensity (liters per unit of production), textile waste diversion rates from landfill, living wage adoption rates across Tier 1 suppliers, and renewable energy share in manufacturing facilities would create measurable, financially material incentives for environmental improvement. This directly addresses the social performance paradox by building environmental KPIs into the financial instrument architecture with explicit pricing consequences (Flammer, 2021; Ning et al., 2023).

4.4.4 Multi-Stakeholder Institutional Architecture and Policy Engagement

The most transformative and durable pathways toward green finance adoption in fast fashion identified across the reviewed literature are those involving coherent multi-stakeholder institutional architectures that align incentives across fashion firms, financial institutions, international regulators, institutional investors, supply chain SMEs, and civil society organizations. Chenguel and Mansour (2024) argue that green finance's effectiveness in driving real-economy sustainability transitions depends critically on

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coherent government policy intervention, sector-specific regulatory incentives, and institutional coordination mechanisms.

Al Mamun et al. (2024) empirically demonstrate that political governance factors at the national level significantly shape green finance market development, suggesting that proactive policy advocacy and regulatory engagement should be integral components of fashion firms' sustainability transformation strategies - not merely compliance responses. The establishment of a sector-specific Fashion Green Finance Coalition - analogous to the Science Based Targets initiative (SBTi) in emissions, the Responsible Business Alliance in electronics, or the Net-Zero Asset Owner Alliance in investment - would provide the institutional architecture necessary to coordinate green finance adoption, pool supply chain data infrastructure costs, establish shared verification and audit standards, and create the critical mass required to attract institutional investor commitment.

International Development Finance Institutions (DFIs) and Multilateral Development Banks (MDBs), which have committed to substantially increased green financing targets (Al Mamun et al., 2024), represent potential anchor investors, technical assistance providers, and first-loss capital guarantors for fashion industry green transformation funds - particularly for programs targeting Tier 2 and Tier 3 SME suppliers in developing economies. Zahoor et al. (2022) demonstrate the catalytic role of clean energy investment in mobilizing private finance, a model transferable to fashion supply chain green transformation.

4.4.5 Supply Chain Finance Innovation for Upstream Sustainability

A pathway that is explicitly absent from the dominant strand of the reviewed literature - but is increasingly recognized in practitioner and policy circles - involves the extension of green finance mechanisms from brand-level balance sheets to supply chain finance (SCF) programs targeting upstream suppliers. Traditional SCF programs allow suppliers to receive early payment on invoices from large buyers; sustainability-linked SCF (SLSCF) programs modify this by conditioning preferential financing rates on the supplier's achievement of verified sustainability KPIs. This instrument directly addresses the SME financing gap identified in Section 4.3.6 and the supply chain opacity barrier in Section 4.3.3 by creating simultaneous financial incentives for supplier sustainability improvement and generating the ESG data flows required for credible green finance claims at the brand level.

Bai et al. (2022) demonstrate that supply chain financing innovations, combined with digital traceability platforms, can substantially reduce the cost of sustainability verification in complex, multi-tier supply chains. The combination of blockchain-enabled provenance verification, real-time ESG data collection, and sustainability-linked pricing in SCF programs creates a technologically enabled pathway for extending green finance access and incentives throughout the full fast fashion supply chain - from brand to farm.

5. Discussion

5.1 Synthesis of Findings and Theoretical Integration

This systematic literature review yields several consolidated insights that materially advance the theoretical and empirical understanding of green finance in fast fashion. The multi-theoretical framework employed in this review - integrating Stakeholder Theory, Signaling Theory, Legitimacy Theory, and Institutional Theory - proves analytically productive in explaining both the adoption drivers and the structural barriers documented

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in the literature, and reveals how the same environmental commitment generates heterogeneous financial outcomes across institutional contexts.

First, the review confirms with a high degree of empirical consistency that ESG performance and financial performance are positively and significantly related in the fashion sector, with the social pillar demonstrating the most robust associations across both market-based and accounting-based performance metrics (Barresi & Bertoni, 2026; Medcalfe & Miralles Miro, 2021; Arduini et al., 2024; Mahmud et al., 2023). This finding aligns with the meta-analytical consensus documented by Friede et al. (2015) across industries and with fashion-consumer behavioral evidence showing heightened sensitivity to supply chain labor conditions (Shen et al., 2012). The financial materiality of social performance implies that green finance adoption - even when focused primarily on social dimensions of ESG - generates measurable accounting profitability effects that constitute a compelling business case for mid-market and large-cap fashion firms.

Second, the review identifies a structural and underappreciated disconnect between the environmental orientation of mainstream green finance instruments and the observed financial reward structure in fashion. This social performance paradox - whereby environmental investments generate weaker accounting profitability effects than social investments - creates a fundamental misalignment between the instruments available and the incentives observed, requiring deliberate instrument design innovations to correct. This finding makes an original contribution to both the sustainable finance literature and the fashion management literature, identifying a previously undertheorized mechanism through which the impact of green finance may be systematically misdirected.

Third, the moderating role of financial system orientation (Barresi & Bertoni, 2026) introduces institutionally grounded heterogeneity into the green finance - fashion nexus that has been largely absent from prior syntheses. The implication - that ESG investments yield systematically stronger financial returns in credit-oriented systems - extends Signaling Theory to explicitly incorporate financial institutional context as a boundary condition, and has direct implications for the design of globally applicable green finance frameworks in the fashion supply chain. Fashion firms operating in multiple institutional environments must develop differentiated ESG signaling strategies rather than adopting a uniform global approach (La Porta et al., 1997; Leuz, 2010).

Fourth, the emerging literature on digital technologies and blockchain traceability as green finance enablers represents a significant and rapidly developing frontier. The convergence of digital product passport regulations (EU ESPR), mandatory TCFD climate risk disclosure, and advancing blockchain supply chain verification technologies creates an infrastructure trajectory that may substantially reduce the information asymmetry and supply chain opacity barriers - the currently most binding constraints on green finance adoption - within the next five to ten years (Bai et al., 2022; Yadegaridehkordi et al., 2023). This technological transition warrants substantially increased research attention.

5.2 Theoretical Contributions

This review makes five primary theoretical contributions. First, it integrates Stakeholder Theory, Signaling Theory, Legitimacy Theory, and Institutional Theory into a unified multi-theoretical framework for understanding green finance adoption in fast fashion - an integration that reflects the multi-dimensional complexity of the phenomenon and provides

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robust conceptual scaffolding for future primary research. Second, by mapping the institutional moderation of the ESG - financial performance relationship across financial system types, the review extends Signaling Theory to incorporate financial institutional context as a structurally important boundary condition. Third, by identifying and naming the social performance paradox, the review exposes a critical conceptual gap between sustainability science and financial science that warrants dedicated theoretical and empirical attention. Fourth, by incorporating Institutional Theory as a framework for understanding regulatory isomorphism and cross-country heterogeneity in green finance adoption, the review bridges the institutional economics literature with sustainable fashion research in a theoretically coherent way. Fifth, the bibliometric analysis provides the first systematic mapping of the intellectual structure and temporal evolution of the green finance - fashion nexus in the peer-reviewed literature.

5.3 Practical and Policy Implications

For fashion firm managers, the review's findings suggest that ESG strategy should prioritize social initiatives - worker welfare, supply chain labor standards, living wage adoption, community development - for the most immediate and robust accounting profitability returns, while environmental investments should be framed as long-term market valuation enhancers, brand equity builders, and regulatory risk management tools. Transparent, externally assured CSR reporting is a non-negotiable prerequisite for accessing green finance instruments, and should be elevated to a core strategic function integrated with investor relations, treasury, and supply chain management - not treated as a peripheral compliance obligation.

For institutional investors and financial institutions, the evidence establishes a strong financial materiality basis for developing fashion-specific green finance products with sector-relevant KPIs, dedicated verification frameworks, and supply chain-inclusive eligibility criteria. The demonstrated financial returns to ESG in fashion provide a compelling investment rationale, while the identified barriers - greenwashing risk, supply chain opacity, regulatory fragmentation - underscore the importance of robust due diligence, active ownership strategies, and engagement-based ESG improvement programs. Pedersen et al.'s (2021) ESG-efficient frontier framework provides a theoretically grounded approach for constructing sustainable fashion investment portfolios that optimize risk-adjusted returns.

For policymakers, the regulatory fragmentation barrier argues for accelerated development of fashion-specific green finance taxonomies within the EU Taxonomy framework, mandatory quantitative ESG disclosure requirements for publicly listed fashion companies (beyond the current CSRD thresholds), enhanced financial incentives for supply chain sustainability investment (tax advantages, public guarantee schemes), and technical assistance programs for SME sustainability capacity-building in major manufacturing jurisdictions. The coercive isomorphic pressures created by mandatory disclosure are the most powerful and historically reliable driver of genuine ESG adoption (DiMaggio & Powell, 1983; Eccles et al., 2014).

5.4 Limitations and Future Research Directions

This review is subject to several important limitations that must be acknowledged. First, the exclusive reliance on Scopus-indexed peer-reviewed literature may exclude relevant

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practitioner insights, policy documents, and studies indexed exclusively in the Web of Science or JSTOR. A multi-database approach in future reviews would improve comprehensiveness. Second, the review captures a temporal snapshot of a rapidly evolving field; the green finance and fashion sustainability landscape is changing rapidly under regulatory pressure, with significant post-April 2025 publications potentially containing relevant findings. Third, the SLR methodology precludes direct causal inference; the documented positive ESG - performance associations are correlational, and reverse causality (financially successful firms may have greater resources for ESG investment) cannot be fully excluded without experimental or quasi-experimental identification strategies. Fourth, the relatively small sample of 42 studies constrains the scope for quantitative meta-analysis and limits statistical power for subgroup comparisons.

Future research should prioritize the following directions: (1) longitudinal causal analysis of green bond issuance effects on fashion firm environmental performance and market value, using difference-in-differences or regression discontinuity designs; (2) firm-level examination of sustainability-linked loan adoption in fashion and its effects on operational ESG improvement, supplier behavior, and supply chain sustainability; (3) cross-country comparative analysis of regulatory environment effects on green finance adoption rates across fashion supply chains in Bangladesh, Vietnam, Cambodia, and Ethiopia; (4) empirical testing of digital technology (blockchain, IoT, AI) effects on supply chain transparency and green finance eligibility in fashion; (5) consumer-level studies of willingness to pay for green finance-certified sustainable fashion products; (6) qualitative case studies of fashion firms navigating the full transition from conventional to green finance, capturing organizational learning, change management dynamics, and institutional barriers; and (7) dedicated theoretical and empirical investigation of the social performance paradox and its implications for green finance instrument design.

6. Conclusion

This systematic literature review synthesizes evidence from 42 peer-reviewed articles to establish that the intersection of green finance and fast fashion represents a critical, rapidly growing, and substantially underserved frontier in both sustainability research and financial practice. The review confirms with broad empirical consistency that ESG performance generates positive financial outcomes in the fashion industry - particularly through market valuation channels - with the social pillar demonstrating the most robust and consistent effects across accounting and market-based performance metrics. Green finance instruments, including corporate green bonds, sustainability-linked loans, and ESG-integrated investment, present significant opportunities for accelerating the fashion industry's sustainability transformation, with comprehensive sustainability reporting serving as the foundational enabling mechanism.

The bibliometric analysis reveals an accelerating intellectual trajectory, with research volume nearly doubling post-2020 and emerging thematic clusters converging around circular economy finance, digital traceability, and climate risk disclosure - pointing toward the research frontiers that will define the next decade of scholarship in this field. The multi-theoretical framework employed in this review - integrating Stakeholder Theory, Signaling Theory, Legitimacy Theory, and Institutional Theory - provides a conceptually coherent

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basis for understanding both the adoption drivers and the structural barriers documented across the included literature.

Simultaneously, the review identifies formidable structural barriers - regulatory fragmentation, pervasive greenwashing risk, supply chain opacity, financial system heterogeneity, the social performance paradox, and an SME financing gap - that collectively impede the effective scaling of green finance in fast fashion. Addressing these barriers requires coordinated action across firm strategy, financial product innovation, regulatory policy, digital infrastructure development, and multi-stakeholder institutional architecture.

The pathways toward sustainable transformation synthesized in this review - context-adaptive ESG strategies calibrated to financial system orientation; standardized and externally assured disclosure frameworks; fashion-specific green bond and SLL structures with environmental KPIs; multi-stakeholder institutional coalitions; and supply chain finance innovations - are grounded in the empirical and theoretical evidence systematically assembled across the 42 included studies. Their realization would position green finance as a genuine, financially incentivized engine of fast fashion's transition toward a circular, low-carbon, and socially equitable production paradigm.

As the global fashion industry confronts escalating regulatory expectations (EU CSRD, ESPR, Green Claims Directive), intensifying investor scrutiny (ISSB mandatory disclosure, ESG-linked institutional mandates), and growing consumer activism, the integration of green finance is transitioning from a strategic option to an operational imperative. This review provides the scholarly foundation necessary to guide that transition with rigor and credibility, while simultaneously charting a research agenda for deepening the evidence base upon which transformative policy, practice, and investment must ultimately rest.

References

1. Akerlof, G. A. (1970). The market for "lemons": Quality uncertainty and the market mechanism. Quarterly Journal of Economics, 84(3), 488–500. https://doi.org/10.2307/1879431

2. Al Mamun, M., Boubaker, S., Hossain, M. Z., & Manita, R. (2024). Female political empowerment and green finance. Energy Economics, 107370. https://doi.org/10.1016/j.eneco.2024.107370

3. Amel-Zadeh, A., & Serafeim, G. (2018). Why and how investors use ESG information: Evidence from a global survey. Financial Analysts Journal, 74(3), 87–103. https://doi.org/10.2469/faj.v74.n3.2

4. Andreadakis, S., & Owusu-Wiredu, P. (2023). Fashion footprint: How clothes are destroying our planet and the growing impacts of fast fashion. IntechOpen. https://doi.org/10.5772/intechopen.1144940

5. Arduini, S., Beck, T., & Menzatyuk, A. (2024). Sustainability and firm value: A multivariate regression analysis in the clothing industry. Journal of Infrastructure Policy and Development, 8, 4646. https://doi.org/10.24294/jipd.v8i7.4646

6. Bai, C., Quayson, M., & Sarkis, J. (2022). ESG-devising a sustainable development goals framework for sustainable supply chain management: The role of blockchain. Business Strategy and the Environment, 31(4), 1567–1582. https://doi.org/10.1002/bse.2971

This is an open-access article distributed under the terms of CC BY License

7. Barresi, S., & Bertoni, M. (2026). The ESG–financial performance nexus and the moderating role of the financial system: Insights from the fashion industry. Corporate Social Responsibility and Environmental Management, 0, 1–29. https://doi.org/10.1002/csr.70457

8. Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

9. Chen, S., Song, Y., & Gao, P. (2023). Environmental, social, and governance (ESG) performance and financial outcomes: Analyzing the impact of ESG on financial performance. Journal of Environmental Management, 345, 118829. https://doi.org/10.1016/j.jenvman.2023.118829

10. Chenguel, M. B., & Mansour, N. (2024). Green finance between commitment and illusion. Competitiveness Review, 34(1), 179–192. https://doi.org/10.1108/CR-10-2022-0162

11. Climate Bonds Initiative. (2024). Sustainable debt: Global state of the market 2023. https://www.climatebonds.net/resources/reports/sustainable-debt-global-state-market-2023

12. Connelly, B. L., Certo, S. T., Ireland, R. D., & Reutzel, C. R. (2011). Signaling theory: A review and assessment. Journal of Management, 37(1), 39–67. https://doi.org/10.1177/0149206310388419

13. DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. American Sociological Review, 48(2), 147–160. https://doi.org/10.2307/2095101

14. Dong, S., Xu, L., & McIver, R. P. (2023). Sustainability reporting quality and the financial sector: Evidence from China. Meditari Accountancy Research, 31(5), 1190–1214. https://doi.org/10.1108/MEDAR-05-2020-0899

15. Dowling, J., & Pfeffer, J. (1975). Organizational legitimacy: Social values and organizational behavior. Pacific Sociological Review, 18(1), 122–136. https://doi.org/10.2307/1388226

16. Dzhengiz, T., Haukkala, T., & Sahimaa, O. (2023). (Un)sustainable transitions towards fast and ultra-fast fashion. Fashion and Textiles, 10(1), 19. https://doi.org/10.1186/s40691-023-00337-9

17. Eccles, R. G., Ioannou, I., & Serafeim, G. (2014). The impact of corporate sustainability on organizational processes and performance. Management Science, 60(11), 2835–2857. https://doi.org/10.1287/mnsc.2014.1984

18. Ellen MacArthur Foundation. (2017). A new textiles economy: Redesigning fashion's future. https://ellenmacarthurfoundation.org/a-new-textiles-economy

19. Febrianti, S. (2024). Sustainability finance dan green investment: Literature review dengan metode PRISMA. Manajemen: Jurnal Ekonomi USI, 6(1), 95–106.

20. Fernandes, E. da S., Grochau, I. H., & Ten Caten, C. S. (2023). Impact investing: Determinants of external financing of social enterprises in Brazil. Sustainability, 15(15), 11935. https://doi.org/10.3390/su151511935

21. Flammer, C. (2021). Corporate green bonds. Journal of Financial Economics, 142(2), 499–516. https://doi.org/10.1016/j.jfineco.2021.01.010

22. Freeman, R. E. (1984). Strategic management: A stakeholder approach. Pitman.

This is an open-access article distributed under the terms of CC BY License

23. Friede, G., Busch, T., & Bassen, A. (2015). ESG and financial performance: Aggregated evidence from more than 2000 empirical studies. Journal of Sustainable Finance & Investment, 5(4), 210–233. https://doi.org/10.1080/20430795.2015.1118917

24. Gillan, S. L., Koch, A., & Starks, L. T. (2021). Firms and social responsibility: A review of ESG and CSR research in corporate finance. Journal of Corporate Finance, 66, 101889. https://doi.org/10.1016/j.jcorpfin.2021.101889

25. Grace Annapoorani, S. (2023). Reality and challenges in sustainable textiles. In Novel Sustainable Process Alternatives for the Textiles and Fashion Industry (pp. 47–72). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-35451-9_3

26. Hong, H., Karolyi, G. A., & Scheinkman, J. A. (2020). Climate finance. Review of Financial Studies, 33(3), 1011–1023. https://doi.org/10.1093/rfs/hhz146

27. Huang, H., Huang, B., & Sun, A. (2023). How do mineral resources influence eco-sustainability in China? Dynamic role of renewable energy and green finance. Resources Policy, 85(PA), 103736. https://doi.org/10.1016/j.resourpol.2023.103736

28. Hutton, B., Salanti, G., Caldwell, D. M., Chaimani, A., Schmid, C. H., Cameron, C., & Moher, D. (2015). The PRISMA extension statement for reporting of systematic reviews incorporating network meta-analyses of health care interventions. PLOS Medicine, 12(9), e1001869. https://doi.org/10.1371/journal.pmed.1001869

29. Kashi, A., & Shah, M. E. (2023). Bibliometric review on sustainable finance. Sustainability, 15(9), 7119. https://doi.org/10.3390/su15097119

30. La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (1997). Legal determinants of external finance. Journal of Finance, 52(3), 1131–1150. https://doi.org/10.2307/2329518

31. Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. Biometrics, 33(1), 159–174. https://doi.org/10.2307/2529310

32. Lehenchuk, S., Zhyhlei, I., Ivashko, O., & Gliszczyński, G. (2023). The impact of sustainability reporting on financial performance: Evidence from Turkish FBT and TCL sectors. Sustainability, 15(20), 14707. https://doi.org/10.3390/su152014707

33. Leuz, C. (2010). Different approaches to corporate reporting regulation: How jurisdictions differ and why. Accounting and Business Research, 40(3), 229–256. https://doi.org/10.1080/00014788.2010.9663398

34. Lins, K. V., Servaes, H., & Tamayo, A. (2017). Social capital, trust, and firm performance: The value of corporate social responsibility during the financial crisis. Journal of Finance, 72(4), 1785–1824. https://doi.org/10.1111/jofi.12505

35. Liu, C., & Wu, S. S. (2023). Green finance, sustainability disclosure and economic implications. Fulbright Review of Economics and Policy, 3(1), 1–24. https://doi.org/10.1108/frep-03-2022-0021

36. Mahmud, S., Hossain, M. S., & Reza, S. M. (2023). The impact of ESG performance on firm value in the fashion industry: The moderating role of disclosure quality. Journal of Cleaner Production, 405, 137099. https://doi.org/10.1016/j.jclepro.2023.137099

37. Medcalfe, S., & Miralles Miro, E. (2021). Sustainable practices and financial performance in fashion firms. Journal of Fashion Marketing and Management, 26(1), 141–158. https://doi.org/10.1108/JFMM-10-2020-0217

This is an open-access article distributed under the terms of CC BY License

38. Niinimäki, K., Peters, G., Dahlbo, H., Perry, P., Rissanen, T., & Gwilt, A. (2020). The environmental price of fast fashion. Nature Reviews Earth & Environment, 1, 189–200. https://doi.org/10.1038/s43017-020-0039-9

39. Ning, Y., Cherian, J., Sial, M. S., Álvarez-Otero, S., Comite, U., & Zia-Ud-Din, M. (2023). Green bond as a new determinant of sustainable green financing, energy efficiency investment, and economic growth: A global perspective. Environmental Science and Pollution Research, 30(22), 61324–61339. https://doi.org/10.1007/s11356-021-18454-7

40. Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., & Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. BMJ, 372, n71. https://doi.org/10.1136/bmj.n71

41. Pan, D., Chan, C. Y. S., & Yang, Y. (2022). Can green finance promote low-carbon economic transition? Finance Research Letters, 47, 102699. https://doi.org/10.1016/j.frl.2021.102699

42. Parmar, B., Freeman, R., Harrison, J., Purnell, A., & De Colle, S. (2010). Stakeholder theory: The state of the art. Academy of Management Annals, 3, 403–445. https://doi.org/10.1080/19416520.2010.495581

43. Pedersen, E. R. G., Gwozdz, W., & Hvass, K. K. (2018). Exploring the relationship between business model innovation, corporate sustainability, and organisational values within the fashion industry. Journal of Business Ethics, 149(2), 267–284. https://doi.org/10.1007/s10551-016-3044-7

44. Pedersen, L. H., Fitzgibbons, S., & Pomorski, L. (2021). Responsible investing: The ESG-efficient frontier. Journal of Financial Economics, 142(2), 572–597. https://doi.org/10.1016/j.jfineco.2020.11.001

45. Scott, W. R. (2001). Institutions and organizations: Ideas and interests (2nd ed.). Sage Publications.

46. Shen, B., Wang, Y., Lo, C. K. Y., & Shum, M. (2012). The impact of ethical fashion on consumer purchase behavior. Journal of Fashion Marketing and Management, 16(2), 234–245. https://doi.org/10.1108/13612021211222842

47. Spence, M. (1973). Job market signaling. Quarterly Journal of Economics, 87(3), 355–374. https://doi.org/10.2307/1882010

48. Statista. (2024). Revenue of the apparel market worldwide from 2019 to 2029. https://www.statista.com/forecasts/821415/value-of-the-global-apparel-market

49. Tang, D. Y., & Zhang, Y. (2020). Do shareholders benefit from green bonds? Journal of Corporate Finance, 61, 101427. https://doi.org/10.1016/j.jcorpfin.2019.101427

50. Triandini, E., Jayanatha, S., Indrawan, A., Werla Putra, G., & Iswara, B. (2019). Metode systematic literature review untuk identifikasi platform dan metode pengembangan sistem informasi di Indonesia. Indonesian Journal of Information Systems, 1(2), 63. https://doi.org/10.24002/ijis.v1i2.1916

51. Tseng, M. L., Islam, M. S., Karia, N., Fauzi, F. A., & Afrin, S. (2021). A literature review on green supply chain management: Trends and future challenges. Resources, Conservation and Recycling, 141, 145–162. https://doi.org/10.1016/j.resconrec.2018.10.009

52. UN Alliance for Sustainable Fashion. (2022). UN Alliance for Sustainable Fashion addresses damage of "fast fashion." United Nations Environment Programme.

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https://www.unep.org/news-and-stories/press-release/un-alliance-sustainable-fashion-addresses-damage-fast-fashion

53. van Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. Scientometrics, 84(2), 523–538. https://doi.org/10.1007/s11192-009-0146-3

54. Velte, P. (2017). Does ESG performance have an impact on financial performance? Evidence from Germany. Journal of Global Responsibility, 8(2), 169–178. https://doi.org/10.1108/JGR-11-2016-0029

55. Widyawati, L. (2020). A systematic literature review of socially responsible investment and environmental social governance metrics. Business Strategy and the Environment, 29(2), 619–637. https://doi.org/10.1002/bse.2393

56. Williams, E. (2022). Appalling or advantageous? Exploring the impacts of fast fashion from environmental, social, and economic perspectives. Journal for Global Business and Community, 13(1). https://doi.org/10.56020/001c.36873

57. Yadegaridehkordi, E., Foroughi, B., Iranmanesh, M., Nilashi, M., & Ghobakhloo, M. (2023). Determinants of environmental, financial, and social sustainable performance of manufacturing SMEs in Malaysia. Sustainable Production and Consumption, 35, 129–140. https://doi.org/10.1016/j.spc.2022.10.026

58. Zahoor, Z., Khan, I., & Hou, F. (2022). Clean energy investment and financial development as determinants of environment and sustainable economic growth: Evidence from China. Environmental Science and Pollution Research, 29(11), 16006–16016. https://doi.org/10.1007/s11356-021-16832-9

59. Zhang, C., Zhang, L., Liu, L., & Du, C. (2024). The study of the relationship between green finance and resource efficiency in East Asian economies. Resources Policy, 89, 104658. https://doi.org/10.1016/j.resourpol.2024.104658

60. Zheng, Y., Wang, B., Sun, X., & Li, X. (2022). ESG performance and corporate value: Analysis from the stakeholders' perspective. Frontiers in Environmental Science, 10, 1084632. https://doi.org/10.3389/fenvs.2022.1084632

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