



Review

Assessing stakeholder engagement to the EU strategy for sustainable and circular textiles: A Systematic review integrating stakeholder and institutional theories

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ABSTRACT

The European Union Strategy for Sustainable and Circular Textiles introduces a policy framework to guide the textile sector towards circularity by 2030. Grounded in Stakeholder and Institutional Theories, this study analyzes how stakeholder responses to coercive, normative, and mimetic pressures influence the potential effectiveness of the Strategy. A PRISMA-based systematic literature review and content analysis of 175 peer-reviewed articles was conducted to classify thematic priorities, stakeholder coverage, and theoretical foundations. Findings strongly emphasize the role of downstream actors, particularly consumers, brands and retailers, while upstream stakeholders receive limited attention. This imbalance appears driven by two factors: the greater accessibility of downstream actors to researchers and their prominence in prevailing sustainability narratives. Strategic actions related to consumer empowerment and business model innovation are frequently discussed, whereas regulatory and production-oriented interventions are comparatively underexplored. The study also identifies differentiated compliance behaviors across stakeholder groups, shaped by their position in the value chain and the institutional pressures they encounter. Downstream actors adopt proactive or strategic responses, while upstream stakeholders often engage reactively, constrained by resource limitations and weaker integration into sustainability dialogues. By clarifying how institutional pressures interact with stakeholder positioning, this review contributes to a more granular understanding of policy alignment in the textile sector. It underscores the need for more inclusive governance approaches that account for underrepresented actors and support the balanced implementation of the EU Strategy for Sustainable and Circular Textiles across all tiers of the value chain.

1. Introduction

The textile and apparel sector is among the most resource-intensive industries worldwide. In 2021, it ranked fifth in greenhouse gas emissions, fourth in overall environmental impacts, and third in water and land use (EEA, 2022). In response, governments, companies, and consumers have started adopting circular solutions such as the use of recycled fibers, low-impact dyes, cleaner production technologies, renewable energy, and initiatives that promote repair, reuse, and more responsible consumption (Lee, 2017).

To coordinate these efforts and guide the transition toward circularity, the European Union (EU) launched the EU Strategy for Sustainable and Circular Textiles in March 2022 (European Commission, 2022). This Strategy is part of the European Green Deal and the Circular

Economy Action Plan, which aim to achieve climate neutrality and resource efficiency by 2050. It sets out 24 actions grouped into four main areas, from eco-design and waste regulation to consumer empowerment and skills development, with the goal that by 2030, all textiles placed on the EU market will be durable, recyclable, and produced under fair and safe conditions (European Commission, 2022).

However, turning these ambitions into practice remains difficult. The Strategy proposes an extensive set of policies and voluntary measures but leaves open questions about how responsibilities and incentives are shared across the textile value chain (Puglia et al., 2024). Producers, suppliers, retailers, and consumers operate under distinct capabilities, constraints, and incentives, and coordination among them is still limited (Wen et al., 2019). While the EU has intensified the regulatory action, there is still little empirical understanding of how prepared different

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stakeholders are to act, collaborate, and comply (Puglia et al., 2024).

Academic research has to address how different stakeholders in the textile value chain interpret and respond to sustainability requirements. Yet, the current body of literature does not sufficiently capture the range of stakeholder perspectives or analyze how external pressures (e.g., regulatory, social, or competitive) influence their actions. Previous reviews have focused on sustainable fashion or circular business models (e.g., Ermini et al., 2024), but have rarely examined these issues within the specific policy framework of the abovementioned EU Strategy. Consequently, we still lack a consolidated view of how academic research supports or informs the Strategy implementation.

This study aims to fill this gap by systematically reviewing peer-reviewed journal articles to assess how academic literature engages with the actions and objectives of the EU Textile Strategy. It addresses the following Research Question: “*To what extent does the academic literature address the actions included in the EU Textile Strategy and the stakeholders’ responses to institutional pressures?*”. Drawing on the Stakeholder Theory (Edward Freeman and Mcvea, 2001) and Institutional Theory (Dimaggio and Powell, 1983), this study examines how stakeholder importance, defined by power, legitimacy, and urgency, interacts with institutional pressures, i.e., coercive (regulatory and contractual), normative (social and professional), and mimetic (competitive and imitative) pressures. Through this combined perspective, this review maps how academic research addresses the actions of the EU Textile Strategy, identifying which stakeholders and policy areas receive greater or limited attention, and highlighting where scholarly understanding remains fragmented. It offers an evidence-based overview of how existing studies align with the Strategy’s objectives, advances theoretical insights into sustainability governance, and points to the actors and institutional mechanisms that warrant greater consideration for an effective transition toward circular textiles.

2. Background and research framework

2.1. The European Union Strategy for Sustainable and Circular Textiles

The EU Strategy for Sustainable and Circular Textiles addresses the environmental and resource impacts of textile production and consumption (European Commission, 2022). It aligns with major EU frameworks, including the European Green Deal, the Circular Economy Action Plan, and the EU Industrial Strategy. Launched in 2019, the European Green Deal presents sustainability as a growth strategy to build a fairer, more prosperous society. It aims to create a resource-efficient, modern, and competitive economy that achieves net-zero greenhouse gas emissions by 2050 while supporting economic growth without increasing resource use (European Commission, 2019). The strategy also incorporates the United Nations, 2023 Agenda and its Sustainable Development Goals (SDGs), underscoring their relevance to the EU’s long-term climate and circularity objectives. A core ambition is to develop lead markets for climate-neutral and circular products, both within the EU and globally.

The EU Strategy comprises four action groups: *Actions under the Eco-design for Sustainable Products Regulation following its adoption; other actions on sustainable production and consumption; actions on waste challenges; and actions to enable the transition.* The actions, categorized by group, are listed in Table 1.

2.2. Stakeholder and Institutional Theories

This study draws on two interrelated theoretical perspectives, namely Stakeholder and Institutional Theory, to examine how actors in the textile sector respond to and influence the implementation of the EU Textile Strategy. These theories offer complementary viewpoints: while the Stakeholder Theory identifies the actors and their relational dynamics, the Institutional Theory explains the external pressures shaping organizational behavior and adaptation (Oliver, 1991).

Table 1

EU Textile Strategy - COM (2022) 141 final (European Commission, 2022).

Group code	Action Group	Action Code	Key actions
A1	Eco-design	A1.1	Mandatory Performance requirement
		A1.2	Digital Product Passport
		A1.3	Disclosure of the number of discarded products by large enterprises and their subsequent treatment, and measures on banning the destruction of unsold textiles
		A1.4	Mandatory requirements concerning green public procurement and Member State incentives
A2	Other actions on sustainable production and consumption	A2.1	Empowering consumers in the green transition and ensuring the reliability of green claims
		A2.2	Review of the Textile Labelling Regulation and considering the introduction of a digital label
		A2.3	Revision of the EU Ecolabel criteria for textiles and footwear
		A2.4	Product Environmental Footprint Category Rules for apparel and footwear
		A2.5	Initiative to address the unintentional release of microplastics from textile products
		A2.6	Review of the Best Available Techniques Reference Document for the Textiles Industry
		A2.7	Enforcing the Corporate Sustainability Due Diligence Directive in the textile sector
A3	Actions on waste challenges	A3.1	Extended Producer Responsibility requirements for textiles with eco-modulation of fees and measures to promote the waste hierarchy for textile waste
		A3.2	Launch of work on the setting of preparing for re-use and recycling targets for textiles
		A3.3	Enforcing the restrictions on exports of textile waste outside the OECD and developing criteria for distinguishing waste from second-hand textile products
A4	Actions to enable the transition	A4.1	Launch of the Transition Pathway for the Textiles Ecosystem
		A4.2	Guidance on supporting uptake and partnerships for the circular economy between social enterprises and other actors, including in the textile sector
		A4.3	Guidance on circular economy business models featuring the textile sector
		A4.4	2023 - Launch of #ReFashionNow
		A4.5	New European Bauhaus to support sustainable textiles
		A4.6	Horizon Europe calls to support R&D in textiles
		A4.7	Adoption of common industrial technology roadmap on circularity
		A4.8	Criteria for circular manufacturing of apparel under the Taxonomy Regulation
		A4.9	Work on skills for the textiles ecosystem within the European Skills Agenda and the renewed

(continued on next page)

Table 1 (continued)

Group code	Action Group	Action Code	Key actions
		A4.10	European Alliance for Apprenticeships Strengthening of market surveillance through cooperation between enforcement authorities and launch of EU Toolbox against counterfeiting

The Stakeholder Theory, originally introduced by Edward Freeman and Mcvea (2001) and further developed by Robert Edward Freeman and Mcvea (2001) and Parmar and Harrison (2010), argue that organizations must attend to a broad range of stakeholders such as employees, suppliers, consumers, shareholders, and communities whose interests intersect with the firm’s operations. The theory provides both ethical and practical perspectives. From a normative standpoint, it argues that all stakeholders deserve to be treated with moral respect (Donaldson and Preston, 1995). From an instrumental perspective, it suggests that actively involving stakeholders can improve strategic outcomes and help manage risks, especially in situations where sustainability and legitimacy are critical (Parmar and Harrison, 2010). Stakeholder *salience* (Mitchell et al., 1997) supports the interpretation of stakeholders’ involvement and actions. It can be understood through three defining attributes: *power*, *legitimacy*, and *urgency*, which together offer a coherent analytical vocabulary for interpreting variations in stakeholders’ perceived importance. For the textile industry, these attributes help explain, for instance, why certain actors appear more central to sustainability debates, particularly when their claims are viewed as legitimate and time-sensitive (Le, 2022). However, the attribute of power warrants contextualization: in the textile value chain, power is unevenly distributed and often structurally embedded. (Gereffi et al., 2005). In particular, regulatory power resides with supranational bodies such as the European Commission; economic power is concentrated among lead firms and global brands; and operational influence rests with upstream suppliers, many of whom face institutional constraints due to geographic, contractual, or informational asymmetries (Beckers, 2023). Acknowledging these dynamics might help prevent oversimplification and reflect the relational and hierarchical structure of the textile industry.

The Institutional Theory, on the other hand, provides a complementary perspective by focusing on broader environmental conditions and mechanisms that shape organizational responses (Dimaggio and Powell, 1983). Foundational work by DiMaggio and Powell (1983) introduced ‘Institutional Isomorphism’ to explain convergence in organizational practices in response to three types of pressure: coercive (e.g., laws, regulations, contracts), normative (e.g., professional standards and stakeholder expectations), and mimetic (e.g., imitation of successful peers). Zucker (1987) and later contributions (Dacin et al., 2002; Scott, 2008) further conceptualized institutions as evolving and contested systems shaped by functional, symbolic, and political influences. In the context of the EU Textile Strategy, the Institutional Theory enables analysis of how firms respond to binding regulations (e.g., chemical use, waste treatment, eco-design standards) and soft pressures (e.g., voluntary sustainability codes, industry benchmarking, reputational concerns). These pressures generate both constraints and opportunities, shaping the trajectories through which circular practices and compliance strategies develop. For example, coercive compliance may trigger mimetic diffusion or strengthen normative alignment with sustainability goals (Abbate et al., 2023).

2.3. Research framework

Together, the Stakeholder and the Institutional Theories offer an interpretive framework for analyzing organizational behavior in

sustainability transitions. The Stakeholder Theory explains who is involved and how their interests intersect, while the Institutional Theory sheds light on why organizations modify their behaviors to maintain legitimacy and competitive advantage. Combined, these perspectives support the analysis of how and why organizations align or fail to align with policy-driven sustainability objectives. Based on this background, Fig. 1 depicts a research framework to structure the interaction between institutional pressures (coercive, mimetic, normative), organizational responses, stakeholder engagement, and their influence on the potential success of the EU Textile Strategy implementation. It comprises three interrelated layers that support a structured interpretation of how policy objectives are implemented and negotiated across the textile sector.

The first layer delineates the institutional pressures that define expectations for sustainability-oriented behavior. These include regulatory instruments such as EU waste directives, normative expectations embedded in stakeholder standards and voluntary codes of conduct, and mimetic influences arising from industry benchmarking and emulation (Dimaggio and Powell, 1983). These forces set the parameters within which organizations are expected to adopt practices such as circular production models, product traceability, and durability enhancements.

The second layer captures how these pressures are translated into strategic and operational responses, shaped by interaction between firms and their stakeholder networks. Responses may include eco-innovation, supply chain restructuring, or technology adoption (Scott, 2008). Stakeholder engagement is central to this process, as organizations collaborate with Non-Governmental Organizations (NGOs), regulators, consumers, and investors to enable or reinforce implementation efforts (Donaldson and Preston, 1995).

The third layer focuses on the outcomes that result from these interactions, i.e., the effectiveness of the potential implementation of the EU Textile Strategy. For instance, positive intended effects include strengthened regulatory compliance, scaling of recycling infrastructure and adoption of durability-focused business models (European Commission, 2022). At the same time, challenges persist. Unintended consequences such as waste exports, affordability constraints, or strategic circumvention of regulations indicate areas where policy implementation is undermined or only partially realized (Solis et al., 2025). This layer helps assess more precisely how institutional goals are interpreted or adapted in practice, and under which conditions stakeholder relationships either strengthen or weaken the intended outcomes. Overall, the framework allows examination of how pressures and interactions contribute to or undermine intended outcomes of circularity-oriented policy implementation.

3. Methodology

3.1. Literature search strategy and selection criteria

This research followed a systematic literature review approach based on the identification of specific keywords. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were followed to ensure transparency and clarity (Page et al., 2021). The overall process is depicted in Fig. 2.

For the identification step, two keyword sets were used to locate pertinent research. The first set of keywords is linked to circular economy and sustainability in the textile, fashion, clothing, and apparel sectors, and is represented by the search string “Sustainability” OR “Circular Economy” AND “Textile” OR “Fashion” OR “Clothing” OR “Apparel”. The second set of keywords stemmed from a systematic examination of the 24 actions outlined in the EU Textile Strategy (Table 1). Key terms aligned with the strategy’s core objectives were extracted from the titles and thematic content of each action. By focusing on the principal goals and topical emphases within each action, we aimed to ensure our literature search reflected the breadth of issues addressed in this EU’s policy framework. From this process, we compiled the following search string: “Eco-design” OR “eco-design” OR “design-for-x”

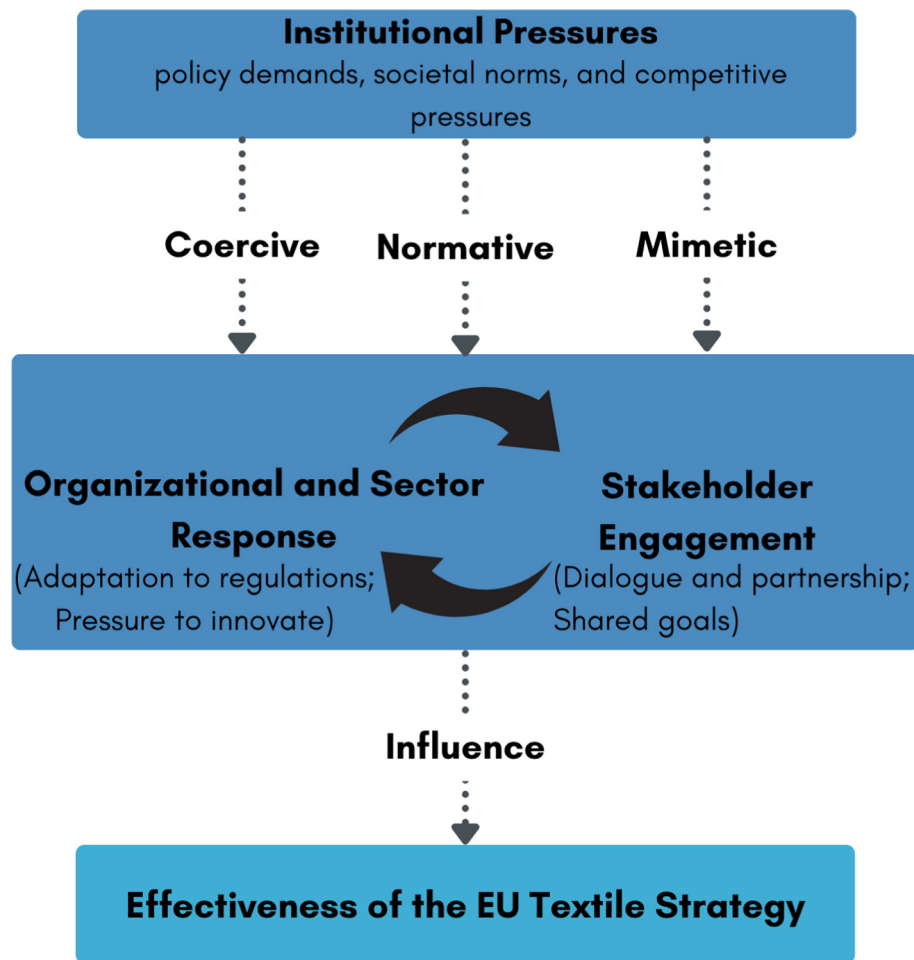


Fig. 1. – The research framework.

OR “digital product passport” OR “track*” OR “trace*” OR “green public procurement” OR “ecolabel” OR “label*” OR “bat” OR “best available techniq*” OR “EPR” OR “extended producer responsibility” OR “recycl*” OR “reus*” OR “second-hand” OR “claim” OR “microplastic*” OR “ecosystem*” OR “partnership” OR “business model” OR “R&D” OR “Research and development” OR “funding” OR “horizon*” OR “counterfeiting”.

For the screening stage, only English articles published in journals ranked Q1 in the SCIMAGO classification were retained. Following an initial selection process, 390 articles were identified for screening. Inclusion criteria required that articles either demonstrate the benefits or highlight persistent issues related to one or more actions belonging to the EU Textile Strategy. In particular, the following criteria were applied for inclusion: (i.) articles explicitly discussing one or more of the 24 actions outlined in the EU Strategy, or thematically related issues, even if the strategy is not named directly; (ii.) articles providing insights, case studies, or data that can be interpreted or applied to understand the implications or effectiveness of the specified actions - examples include studies discussing policy implications or offering recommendations for key stakeholders (e.g., policymakers, industry leaders, NGOs); or research analyzing the economic, social, and environmental effects of the actions, including outcomes such as shifts in production processes, sustainability improvements, or competitive advantages. Since the EU Textile Strategy was first published in 2022, explicit references to this Strategy or its specific actions are understandably absent in literature published before this year. Nevertheless, many publications address topics central to the strategy’s objectives, including circular business models, Extended Producer Responsibility (EPR), sustainable

production, or textile waste management. These works have been included when their content aligns with the themes or intended impacts of the strategy’s actions. The same applies to post-2022 publications: explicit mention of the strategy or its actions is not required for classification. Articles addressing policies, practices, or developments aligned with the strategy’s aims are included, even without naming specific actions. This approach acknowledges that academic and industry discourse often anticipates or parallels formal policy, offering insights into implementation challenges, feasibility, and impacts. This interpretive flexibility supports a comprehensive review while maintaining alignment with the strategy’s core objectives. It also permits inclusion of works that, though not explicitly referencing the strategy, provide foundational knowledge, relevant case studies, or critical assessments useful for evaluating its effectiveness and implications.

During screening, titles and abstracts were assessed for eligibility. Articles not meeting the above-mentioned criteria were then excluded, leaving 240 papers for full reading. Studies covering multiple industries or lacking relevance to the EU Strategy’s actions were further excluded, yielding a final sample of 160 articles. Cross-referencing (Seuring and Gold, 2012) added 15 more articles, bringing the total to 175 articles, which constitutes the basis for the subsequent descriptive and interpretive analyses.

3.2. Literature classification criteria and content-based analysis

The literature selected through the PRISMA process was classified and analyzed according to the research framework presented in Section 2.3. Following the methodological principles outlined by White and

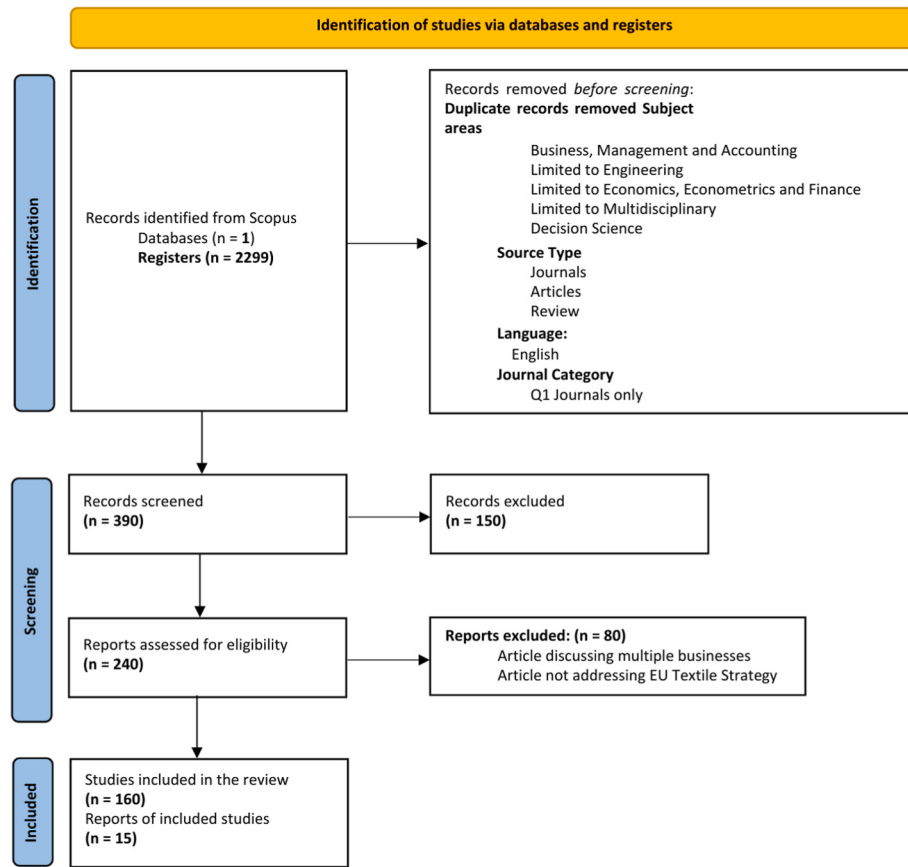


Fig. 2. – The Systematic Literature Review process.

Marsh (2006) for content-based analysis, each article was reviewed in full and analyzed using a structured classification scheme. Articles were classified around the following dimensions. First, articles were classified according to their publication year, allowing for a temporal publication trend analysis (Section 4.1). Second, an analysis of the theoretical lenses employed by the reviewed articles has been carried out (Section 4.2). This analysis follows the principle that theoretical grounding strengthens research design and knowledge-building (Webster and Watson, 2002; Whetten, 1989). Theories were categorized as: Individual/Behavioral (e.g., Theory of Planned Behavior); Social/Cultural (e.g., Social Practice Theory); Organizational/Managerial (e.g., Stakeholder Theory, Institutional Theory); or No Explicit Theory for conceptual or exploratory studies. The methodological orientation was noted for theory-absent papers. This classification distinguished between empirically rich but conceptually limited studies and theory-informed research addressing stakeholder behavior and institutional change. Third, an analysis of the distribution of the reviewed articles across stakeholders and EU Textile Strategy actions is performed, to assess their coverage (Section 4.3). Stakeholder groups were identified using the World Resources Institute framework (Sadowski et al., 2021), extended to include Government and Policymakers, NGOs, and Technology Providers observed in the reviewed literature. The classification the thematic focus against the 24 policy actions in the EU Textile Strategy was based through thematic alignment rather than literal reference. The actions were aggregated into four policy domains: (A1) Eco-design for Sustainable Products, promoting durability, reusability, repairability, recyclability, and Digital Product Passports; (A2) Sustainable Production and Consumption, addressing sustainable materials, transparency, green claims, and consumer information; (A3) Waste and End-of-Life Management, covering waste reduction, collection systems, and recycling infrastructure; and (A4) Enabling the Transition, supporting

innovation, R&D, skills, social fairness, and international collaboration. This mapping identified research coverage and gaps across the EU Textile Strategy's scope. In particular, 22 out of the 24 policy actions were considered: two actions on funding (A4.5, A4.6) were consolidated under "Government Funding" due to thematic overlap, while one campaign-oriented action (#ReFashionNow, A4.4) was excluded as it primarily targets public awareness rather than governance or managerial mechanisms relevant to this analysis. Finally, an analysis of the institutional pressures and stakeholders' responses emerged from the literature sample was carried out (Section 4.4), to uncover how coercive, normative, and mimetic pressures interact with stakeholder responses, providing a basis for understanding how these pressures manifest and are negotiated across the value chain.

4. Literature review results

4.1. Temporal publication trend

Since 2011, publications on sustainable and circular textiles have significantly increased (Fig. 3). Low publication numbers from 2011 to 2014 suggest these concepts were not yet mainstream in academic discourse (Saha et al., 2024). Steady growth from 2015 to 2019 may reflect the industry's gradual adoption of sustainable practices, increased consumer awareness, regulatory changes, and shifts in demand for eco-friendly products, leading to more research and development (Vishavjeet Singh et al., 2024). In March 2020, the EU published the Circular Economy Action Plan (European Commission, 2020), followed by the EU Textile Strategy, signaling a significant surge in research interest. Growing consumer interest and supportive regulations continue to drive sustainability in the textile sector, suggesting these topics will remain central to its future (Schiarioli et al., 2024).

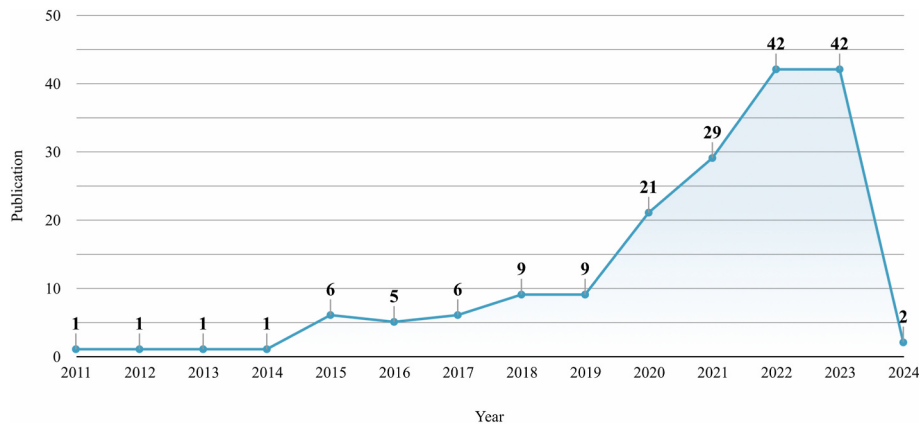


Fig. 3. Yearly distribution of publications.

4.2. Theoretical perspectives, objectives and methodologies adopted in prior studies

The review reveals substantial variation in how theory has been applied across the 175 papers analyzed. Only 55 studies explicitly draw on well-established theoretical frameworks, while the remaining 120 lack a defined conceptual grounding. This imbalance indicates that empirical and descriptive investigations continue to dominate the field, reflecting the persistent gap between practice-oriented sustainability research and theoretical development noted by Whetten (1989).

Table 2 summarizes the distribution of theories across the four categories established in this research. Among the theory-based studies, a diverse range of perspectives was identified. The majority focus on organizational or managerial dynamics, with Stakeholder Theory (9 papers) and Institutional Theory (4 papers) emerging as the most frequently adopted frameworks. A smaller group of papers applies behavioral or sociological theories such as the Theory of Planned Behavior (6) and Social Practice Theory (2) to explore individual decision-making and social practices. These theoretical orientations highlight how research has primarily examined firm-level strategies and stakeholder interactions, while individual and social dimensions remain

Table 2
Theory Distribution of the reviewed articles.

Category	Theories or Approach (Number of Papers)
No Explicit Theory	Conceptual or Narrative (29); Empirical Qualitative (28); Empirical Mixed Method (5); Analytical or Exploratory (3); Methodological (6)
Individual/Behavioral (Psychological)	Theory of Planned Behavior (6); Value-Belief-Norm (2); Theory of Reasoned Action (1); Means-End Chain Theory (1); Maslow's Hierarchy of Needs (1); Schwartz's Value Theory (1); Need for Uniqueness (NFU) Theory (1); Behavioral-Reasoning Theory (1); Anti-Consumption Theory (1); Social Cognitive Theory (1); Social Judgment Theory (1); Social Learning Theory (1); Contamination Theory (1)
Social/Cultural (Sociological)	Social Capital Theory (2); Social Practice Theory (2); Social Exchange Theory (1); Social Identity Theory (1); Social Constructionism Theory (1); Practice Theory (1); Loose-Coupling Theory (1); Dominant Social Paradigm (1); Unified Theory of Acceptance and Use of Technology (UTAUT) (1)
Organizational/Managerial	Stakeholder Theory (9); Institutional Theory (4); Resource Orchestration Theory (2); Natural Resource-Based View (2); Innovation System Theory (2); Dynamic Capability View (2); Contingency Theory (1); Value Co-Creation Theory (1); Strategic Innovation Theory (1); System Theory (1); Resource-Based Theory (1); Relationship-to-Profit Theory (1); Moral Responsibility Theory of Corporate Sustainability (MRCS) (1); Signaling Theory (1)

relatively underrepresented. A further eight papers employ multiple theories to build composite frameworks, most commonly combining organizational and behavioral lenses to link firm strategies with consumer or stakeholder behaviors. This integrative tendency suggests a growing interest in explaining sustainability transitions through multi-level perspectives, although such efforts remain sporadic.

On the other hand, the largest share of publications has no explicit reference to any theory used to support the findings. They include conceptual reflections, exploratory analyses, and data-driven studies without explicit theoretical grounding. Conceptual or Narrative papers (29) offer ideas or frameworks derived from practice or literature but without a formal theoretical lens (e.g. Arrigo, 2021; Leal Filho et al., 2019). Empirical - Qualitative studies (28) use interviews, case studies, or ethnography to generate contextual insights, yet do not anchor findings in recognized theories (e.g. Kazancoglu et al., 2021; Nyvall et al., 2023). Empirical - Quantitative articles (53) test hypotheses or analyze data using internally developed models, but without explicit linkage to established theory, remaining largely exploratory or data-driven (e.g. Colombo et al., 2023; Uddin and Uddin, 2023). A smaller subset includes Empirical - Mixed Methods papers (5), which blend qualitative and quantitative approaches but similarly lack theoretical framing (e.g. Hellström and Olsson, 2024; Mittal et al., 2023). Analytical or Exploratory works (3) identify patterns or relationships without referencing theory (e.g. Huang et al., 2021; Kahoush and Kadi, 2022; Papasolomou et al., 2023). Lastly, Methodological papers (6) introduce new tools, measurement scales, or data strategies without invoking existing frameworks (e.g., Agarwal and Singh, 2022; Martina and Oskam, 2021). Overall, this categorization illustrates the methodological breadth of the field and the widespread absence of explicit theory in much of the research reviewed.

The methodological distribution of the reviewed literature, as presented in Fig. 4, is predominantly qualitative (58 %), with case studies as the most commonly employed method (42 %), frequently used to examine stakeholder dynamics and contextual dimensions of sustainability (Franco, 2017; Kumar et al., 2023). Systematic literature reviews and participatory qualitative approaches are each employed in 17 % of studies. Quantitative methodologies, represented in 57 papers (33 %), primarily involve surveys (44 papers, 25 %). More technical quantitative methods are significantly less frequent, each employed in fewer than 8 % of papers. These include static simulations (e.g., Life Cycle Costing, Life Cycle Analysis, Material Flow Analysis), analytical models, mathematical programming, and dynamic simulations (e.g., system dynamics, agent-based modeling, discrete-event simulation, Monte Carlo simulation). Lastly, mixed-method approaches, integrating qualitative and quantitative techniques, account for only 16 papers (9 %). The clear preference for qualitative and empirical data-driven methodologies aligns with research objectives that emphasize exploration, stakeholder perspectives, and impact evaluation, which are particularly relevant in

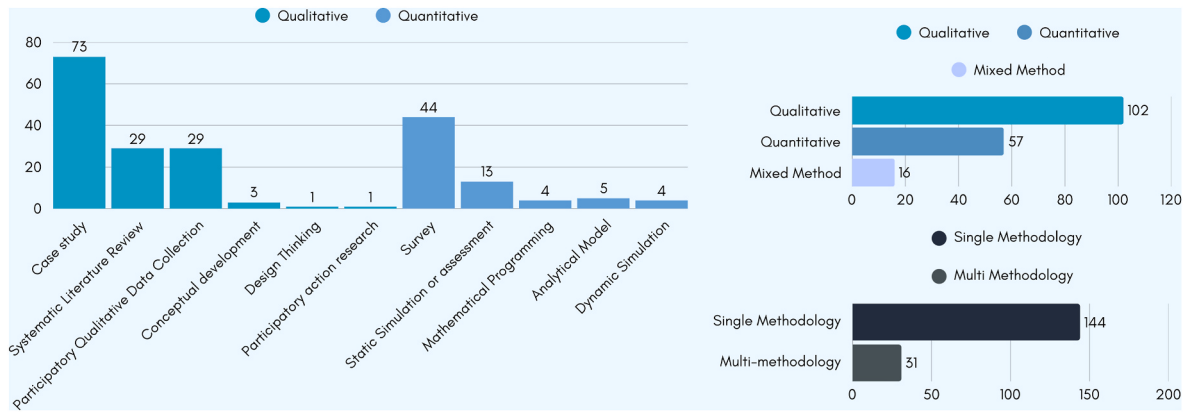


Fig. 4. Methodology distribution of the reviewed articles.

sustainable development and policy analysis.

Lastly, the analysis of the alignment between research objectives and methodological choices (Fig. 5) shows specific patterns. Objectives exploring determinants and relationships primarily use surveys (22 papers) and participatory qualitative data collection methods (16 papers). Impact evaluation objectives predominantly employ case studies (31 papers) and static simulations or assessments (11 papers). Proposals for new methodologies frequently adopt case studies (20 papers) and systematic literature reviews (14 papers). Designing practical solutions is the least addressed objective, primarily using case studies. Other methodologies, such as Design Thinking, Participatory Action Research, conceptual development, mathematical programming, analytical modeling, and dynamic simulations, collectively represent under 10 % of the papers. Limited adoption of these approaches likely stems from practical barriers, including complexity, resource intensity, and limited familiarity in the research community. Moreover, the use of quantitative models probably also stems from insufficient data availability due to low digitization, especially in smaller textile firms (Bressanelli et al., 2022; Saccani et al., 2023).

These results underscore that while explicit use of theory can structure research inquiries and clarify underlying mechanisms, over two-thirds of papers lack theoretical frameworks, highlighting the need for future work to situate findings within established conceptual models. This would deepen theoretical contributions, promote consistent terminology, and strengthen the coherence and practical relevance of scholarly work. The current strong preference for qualitative methods and basic quantitative approaches, combined with limited adoption of advanced quantitative methodologies, presents opportunities for more methodological diversification. As digitalization progresses, also thanks to the introduction of tools like the Digital Product Passport, firms, including SMEs, will grant access to richer datasets, opening new opportunities for quantitative model-based research.

4.3. Literature coverage of the EU Textile Strategy actions and stakeholders

Recognizing the complexity of the stakeholder landscape, the literature review identified several stakeholder groups, including brands (acknowledged as Tier 1), Government and Policymakers, NGOs, and Technology Providers, which were systematically included for comprehensive analysis (Table 3). On the other hand, a total of 260 action-level occurrences were identified across the literature sample (Table 4), i.e., the number of times individual actions were substantially addressed. Since several papers engage with multiple actions, occurrence percentages are non-cumulative.

The results reveal a clear concentration of academic attention on a limited set of stakeholders and actions under the EU Textile Strategy. As shown in Table 3, Brands/Retailers (45 %) and Consumers (45 %) are by far the most frequently addressed stakeholder groups. Correspondingly, Table 4 illustrates that the most studied actions include Empowering consumers with 24 % (A2.1), circular business models with 20 % (A4.3), and reuse and recycling targets with 17 % (A3.2) each closely aligned with these stakeholder groups.

In academic literature, stakeholder salience often reflects which actors are easier to access. Brands, retailers, and consumers, being more visible and geographically closer to research institutions (Oliver, 1991), are more frequently studied, reinforcing their perceived urgency and legitimacy. In contrast, upstream Tier 2 to 4 suppliers as well as End-of-life actors, are less accessible and thus underrepresented (see Table 4), even if their role in enabling structural change is critical, being central to material flows, production processes, and compliance implementation. Scholarly attention may therefore mirror accessibility rather than actual impact. Unsustainable practices at the raw material extraction or initial processing stages, in fact, may overshadow downstream sustainability efforts (United Nations, 2023). Many of these upstream firms operate in less regulated environments and may be embedded in informal economic contexts: this picture risks overlooking significant



Fig. 5. Relations among objectives pursued and methodology adopted by the reviewed articles.

Table 3
Stakeholder occurrence in the reviewed articles.

Stakeholder	Short Definition	Detailed Definition	Position	Occurrence	%
Tier 4	Raw Material Extraction	Cultivation and extraction of raw materials from the earth, plants, or animals.	Upstream	9	5.1%
Tier 3	Raw Material Processing	Processing of raw materials into yarn (cotton spinning, mills, wool spinners) and other intermediate products.		16	9.1%
Tier 2	Material Production	Production and finishing of materials (e.g., fabric, trims) that go directly into the finished product.		41	23.4%
Tier 1	Finished Production Assembly	Assembly and manufacturing of final products.		15	8.5%
Brands/Retailers	Marketing and Distribution	Companies responsible for designing, branding, marketing, and selling the final products to consumers through various retail channels.	Downstream	79	45.1%
Consumer	End Users	Individuals or entities that purchase and use the final products.		79	45.1%
End-of-life actors	Waste Management and Recycling	Parties involved in the disposal, recycling, or repurposing of products after their use, including waste management companies and recycling facilities.		39	22.2%
Gov/Polymakers	Regulatory Bodies	Government entities responsible for creating and enforcing laws, regulations, and policies that influence industry practices and standards.	Other actors	32	18.2%
NGOs	Advocacy Organizations	Non-governmental organizations that serve as normative pressures by promoting social, environmental, and ethical standards within the industry.		15	8.5%
Tech Providers	Technology Solution Providers	Companies offering technological tools, software, and innovations that support and enhance processes across various levels of the supply chain.		12	6.8%
Others	Additional Relevant Parties	Other stakeholders not covered in the above categories		3	1.7%
Not Identified	Unspecified Stakeholders	Stakeholders not specifically identified or categorized		7	4.0%

environmental and social issues originating at earlier production stages (Mol, 2015).

Other important stakeholder groups remain peripheral. NGOs (10 %), despite their role in advocacy and accountability, and Tech Providers (7 %), who enable innovation in materials, production, and recycling technologies, receive relatively limited attention. While technical contributions from technology providers are noted (Che and Yang, 2022; Dohale et al., 2023), studies often omit the managerial and institutional conditions necessary for integrating these innovations into broader transition processes, further limiting the practical utility of the knowledge base.

A similar pattern is observed in the distribution of attention to strategic actions. Several regulatory and public-sector interventions – despite being integral to the EU Textile Strategy – are significantly underrepresented. For example, the Textile Labelling Regulation (A2.2) and Green Public Procurement (A1.4) appear in only two and one publication respectively (Cruz & Rosado da Cruz, 2023; Rainville, 2021; Riemens et al., 2023). More strikingly, three actions have no associated publications within the reviewed sample: Criteria for Circular Manufacturing of Apparel under the Taxonomy Regulation (A4.8), Strengthening of Market Surveillance and Launch of the EU Toolbox Against Counterfeiting (A4.10), and Unintentional Release of Microplastics (A2.5). The absence of research on microplastics reflects a methodological exclusion of papers lacking clear managerial

implications in this literature review, yet the broader lack of engagement with regulatory instruments reveals important blind spots. These actions often target upstream or institutional change and exhibit high systemic relevance, yet their limited accessibility and weaker narrative framing result in low academic visibility.

This reveals a potential asymmetry: actors and actions that are accessible and discursively prominent receive disproportionate scholarly attention, while some remain underexamined despite holding systemic relevance.

4.4. Institutional pressures and stakeholders' responses

4.4.1. Coercive pressures

Coercive pressures such as regulatory mandates can induce firms to adjust internal processes to maintain legitimacy (Scott, 2008). While often associated with public regulations, they also emerge from private governance mechanisms, particularly in global supply chains where buyers enforce contractual compliance and certification schemes (Gereffi et al., 2005). Together, these pressures act as compliance triggers and as catalysts for stakeholder engagement. Whether from state mandates or commercial contracts, coercive instruments compel organizations to align with sustainability goals, often shaping supply chain restructuring and collaborative practices (Ponte, 2019).

Compliance with legal obligations often focuses on design for

Table 4
Stakeholder versus Action distribution in the reviewed articles.

Action Group	Occurrence	% ^a	Actions	Occurrence	% ^a	Tier 4	Tier 3	Tier 2	Tier 1	Brands/Retailers	Consumer	End of life	Gov./Policymaker	NGO	Tech Providers	Others	Not specified	Total
A1	39	22 %	A1.1	13	7.4 %	0	0	2	0	6	10	3	1	0	1	0	1	24
			A1.2	24	13.7 %	1	3	7	4	11	12	5	3	1	6	0	2	55
			A1.3	1	0.6 %	0	0	0	0	0	0	0	0	0	0	0	0	0
			A1.4	1	0.6 %	0	0	0	0	0	0	0	1	0	0	0	0	1
			A1.5	42	24.0 %	0	0	1	0	24	39	4	4	3	1	0	0	76
A2	106	60 %	A2.1	2	1.1 %	0	0	0	0	1	2	0	1	0	0	0	0	4
			A2.2	14	8.0 %	2	2	3	1	7	10	2	3	0	0	0	0	30
			A2.3	15	8.6 %	6	8	10	5	3	5	6	2	1	0	2	1	49
			A2.4	0	0.0 %	0	0	0	0	0	0	0	0	0	0	0	0	0
			A2.5 ^a	16	9.1 %	1	1	10	0	0	0	3	0	0	3	1	0	19
A3	44	25 %	A2.6	17	9.7 %	0	0	2	0	11	10	1	3	3	0	0	1	31
			A2.7	9	5.1 %	0	0	0	0	5	3	5	3	2	1	0	0	19
			A3.1	31	17.7 %	3	4	11	3	10	7	21	6	2	2	0	0	69
			A3.2	4	2.3 %	0	0	0	0	3	1	2	0	2	1	0	0	9
			A3.3	11	6.3 %	0	1	3	2	4	2	1	3	1	0	1	2	20
A4	71	40 %	A4.1	6	3.4 %	0	0	0	1	3	1	1	2	5	0	0	0	13
			A4.2	36	20.6 %	0	1	3	0	29	24	2	4	4	1	0	1	69
			A4.3	9	5.1 %	1	2	3	3	4	3	1	9	1	1	0	0	28
			A4.4/5/6	3	1.7 %	1	2	2	2	2	1	0	1	1	2	0	0	14
			A4.7	0	0.0 %	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	260		A4.8	6	3.4 %	1	2	2	3	3	1	1	3	0	1	0	0	17
			A4.9	0	0.0 %	0	0	0	0	0	0	0	0	0	0	0	0	0
			A4.10	260		16	26	59	24	126	131	58	49	26	20	4	8	0

^a The percentage was calculated based on the total number of papers (175) rather than the frequency of occurrences.

reusability (Piller, 2023), closed-loop systems (Nyvall et al., 2023), and waste minimization (Millward-Hopkins et al., 2023). In Australia, state-imposed textile waste policies served as “clear directives” that spurred collaboration across actors (Khan et al., 2023). Similarly, EPR frameworks in France and Sweden compelled producers to embed sustainability in upstream operations (Leal Filho et al., 2019). These interventions illustrate how coercive regulation can expand stakeholder engagement and institutionalize environmental objectives.

At the same time, coercive pressures also stem from commercial buyers, particularly global brands and retailers, that impose contractual terms, audit regimes, and mandatory standards on suppliers (Locke et al., 2007; Ponte, 2019). These mechanisms function as compliance systems, particularly for Tier-1 to Tier-4 actors. While these private pressures drive formal compliance, they often lack contextual flexibility, especially for small or upstream suppliers with limited resources (Wilhelm et al., 2016).

Coercive pressures, when paired with stakeholder engagement, can drive changes in production and consumption. Pakistani exporters' compliance with ISO 14001 demonstrates this alignment of legal frameworks and consumer expectations (Hayat et al., 2020). Effective compliance depends on partnerships between regulators, NGOs, and Tier 1–4 stakeholders (Kazancoglu et al., 2022). Multi-stakeholder forums, transparent reporting, and shared incentives promote innovation beyond basic compliance (Ermini et al., 2024). Continued engagement enhances accountability and legitimizes sustainability efforts (Williams et al., 2023).

However, coercive pressures may also incentivize greenwashing, especially when standards are difficult to meet (Soundararajan and Brown, 2016). Firms under pressure to achieve targets may resort to symbolic compliance. Uyar et al. (2020) found that companies often use sustainability reports to meet expectations without real improvements. Calzolari et al. (2023) observed that companies in the early circular economy adoption stages focus on image enhancement rather than redesigning processes. Thus, policymakers and stakeholders must promote authentic sustainability efforts while limiting greenwashing. Literature suggests that regulations should be paired with verification mechanisms (Christmann and Taylor, 2006). When firms know claims are audited via inspections or life-cycle analyses, they are less likely to misrepresent actions (Gao and Wei, 2025).

4.4.2. Normative pressures

Normative pressures arise from societal expectations, cultural values, and ethical norms that encourage sustainable behavior (Scott, 2008). NGOs, charities, social enterprises, and consumers promote actions such as clothing donation campaigns, local recycling initiatives, and advocacy for traceability and labor conditions (Fischer and Pascucci, 2017; Hirscher et al., 2018). While brand-led take-back programs represent corporate responses, broader normative influence originates in civil society. These efforts align with the EU Strategy by supporting resource recovery and social inclusion. Charities and social enterprises translate normative expectations into practice. For instance a B-Corp together with NGOs and other local institutions in the textile district of Prato cooperate to train migrants to prepare them for professions such as sorter, spinner, and weaver, which are essential for local textile recycling supply chain (Ermini et al., 2024).

NGOs act as “norm entrepreneurs” advocating for supply chain ethics and amplifying consumer demands (Di Vaio et al., 2022). This interaction drives the adoption of certifications (e.g., ISO 14001, Oeko-Tex) and transparency (Abreu et al., 2021; Hayat et al., 2020). The rise of second-hand and sharing economy models illustrates how normative pressures reshape markets (Tura and Laukkanen, 2023).

Still, normative pressures may be insufficient for systemic change. Some multinational brands adopt sustainability measures for reputational purposes, contributing to greenwashing through vague labels and limited transparency (Williams et al., 2023). In addition, research from Stål and Corvellec (2022) highlights how textile collection initiatives

may unintentionally drive overconsumption. The EU's cultural diversity further complicates standardized approaches, necessitating strategies aligned with local contexts (De Pascale et al., 2023). To be effective, normative pressures therefore need to be supported by clearer standards and structured guidance. This includes consistent certification schemes, education and awareness campaigns, and communication strategies tailored to cultural contexts, complemented by monitoring and accountability mechanisms that discourage purely symbolic compliance (Ma et al., 2023).

4.4.3. Mimetic pressures

Mimetic pressures lead firms to imitate peers under uncertainty, accelerating sustainability practices (Dimaggio and Powell, 1983). For example, Patagonia's second-hand resale model inspired adoption across mainstream brands such as Levi's, COS, and Madewell, normalizing re-commerce across diverse market segments (Köksal et al., 2017). Even in emerging economies like Malaysia, retailers adopt second-life retailing concepts tested in mature markets to align with global sustainability expectations (Beh et al., 2016). Stakeholder expectations, particularly consumer pressures, significantly encourage companies to adopt circular economy principles and sustainable supply chain practices (Khan et al., 2023). Mimetic pressures, however, may limit substantive innovation by encouraging *symbolic* compliance. For example, firms may implement highly visible initiatives such as garment collection schemes that generate reputational benefits but have limited impact on sustainability outcomes, as they leave core operations unchanged (Stål and Corvellec, 2022). Though responsive to stakeholder expectations, these actions lack transformative potential. Transposing practices from affluent markets without local adjustments may introduce infrastructural and economic challenges, questioning the long-term efficacy of mimetic strategies (Arranz and Arroyabe, 2023; Arranz et al., 2019). Balancing these factors suggests imitation is both a valuable diffusion mechanism and a potential source of symbolic compliance. Trusted brands adopting sustainable practices enhance credibility, signaling their value to industry peers (Karaosman et al., 2020). Yet, successful imitation requires robust oversight, customized strategies, and internal capability-building (Ermini et al., 2024). Cross-sector collaborations also influence mimetic pressures. Initiatives like wastewater treatment programs or enhanced supplier auditing, which demonstrate clear operational and reputational benefits, tend to gain industry-wide momentum (Abreu et al., 2021). Industry networks and coalitions further encourage imitation by showcasing tangible outcomes, compelling lagging firms to follow suit to avoid reputational risks (Greenwood et al., 2008).

To avoid superficial adoption, firms must complement imitation with deeper learning, tailored implementation strategies, ongoing stakeholder-driven evaluation, and continuous internal capability development (Ermini et al., 2024). By acknowledging these complexities, stakeholders can ensure imitation serves as a genuine pathway toward sustainable progress.

4.4.4. Stakeholder's responses to institutional pressures

Stakeholders across the textile value chain respond to institutional pressures shaped by their position, resource capacity, and exposure to scrutiny.

Tier-4 actors, such as raw material providers and smallholder farmers, face coercive pressure to retain market access, often by joining buyer-mandated certification schemes like Fair Trade or Better Cotton (Hayat et al., 2020). However, limited technical and financial capacity frequently results in superficial compliance or exclusion (Karaosman et al., 2020). Despite their importance to sustainable transitions, these actors remain under-examined and exhibit reactive sustainability behavior due to dependence on upstream players.

Tier-3 suppliers respond to coercive pressure through audits and buyer mandates, adopting standards such as GOTS and the Global Recycled Standard (Arafat and Uddin, 2022). Mimetic influence appears

in the rapid adoption of traceability tools once peers adopt them (Wang et al., 2018). Still, being bounded by commodity pricing and thin margins, they often limit efforts beyond minimal compliance unless clear benefits emerge (Arafat and Uddin, 2022). Their responses are typically reactive, driven by stronger actors, and constructive engagement increases when Tier 2 and brands offer incentives or knowledge rather than imposing requirements (Ma et al., 2023). This shift can potentially transform coercive pressure into supportive normative alignment.

Tier-2 suppliers respond through compliance initiatives, technological upgrades, and strategic collaborations. Coercive pressures emerge through buyer audits and regulatory inspections, where non-compliance can result in exclusion from global value chains (Karaosman et al., 2020). In response to normative expectations, fabric mills adopt certifications and implement internal improvements to reinforce legitimacy (Bressanelli et al., 2022; Saccani et al., 2023). Mimetic pressures drive the adoption of operational models perceived as effective, especially under uncertainty (Oliver, 1991). Suppliers imitate peers who achieve buyer approval, particularly through strategic partnerships that enhance compliance with social sustainability protocols (Venkatesh et al., 2020). Fast fashion dynamics further incentivize emulation of production systems that enable rapid turnaround and flexibility, such as modular setups and just-in-time processes (Nath and Eweje, 2021). However, sustainability monitoring remains difficult due to the sector's fragmentation and indirect oversight (Kazancoglu et al., 2021). While compliance is often formally documented, actual practices especially in lower tiers frequently fall short (Karaosman et al., 2020).

Tier-1 suppliers navigate institutional pressures through mixed strategies. Coercive demands embedded in contracts are addressed via documentation, infrastructure investment, and compliance units (Soundararajan and Brown, 2016). In some cases, this results in temporal compliance only to manage conflicting requirements (Karaosman et al., 2020). Normative pressures lead firms to adopt voluntary standards like WRAP and CSR reporting (Ma et al., 2023). Mimetic influence appears in regional imitation and buyer-led learning. Tier-1 actors also cascade compliance expectations upstream and form alliances to address limitations. Still, SMEs face barriers to proactive engagement due to persistent power asymmetries.

Brands and retailers face overlapping institutional pressures and exhibit diverse responses depending on organizational capacity and reputational risk. Regulations, investor demands, legal obligations have driven the establishment of compliance departments, traceability tools, and due diligence processes (N. Liu et al., 2023). Some firms engage in anticipatory compliance via voluntary standards, public disclosures, or science-based targets (N. Liu et al., 2023). Normative alignment often involves collaboration with NGOs and multistakeholder initiatives such as the International Accord or the Ethical Trading Initiative (Fransen and Burgoon, 2013). However, responses vary widely. Larger or premium brands often surpass regulatory minimums by investing in sustainable materials, circular models, or wage initiatives, thereby turning compliance into competitive advantage (Das, 2024). This divergence reflects the unequal ability of brands to translate external pressures into either symbolic or substantive outcomes.

Consumers respond to institutional pressures through behaviors influenced by normative and mimetic dynamics during both purchase and post-use phases. Practices such as renting, swapping, and second-hand purchasing show how circular values are increasingly mainstream, partly due to resale platform growth (Arrigo, 2023), though often led by price and convenience benefits (Ronda, 2023). A form of coercive social pressure has also emerged in the form of consumer activism, where individuals engage in actions such as boycotting brands associated with unethical practices or "buycotting", intentionally purchasing from firms perceived as responsible. For instance, campaigns linked to initiatives such as Fashion Revolution's #WhoMadeMyClothes have pushed brands to increase transparency (Fashion Revolution, 2024). These practices reflect moral reasoning and peer influence, yet they can be limited by accessibility barriers and skepticism toward

corporate claims (Pradeep and Pradeep, 2023; Rothenberg and Matthews, 2017).

At the end-of-life stage, coercive mechanisms such as EPR mandates have led to textile collection systems, public awareness campaigns, and recycler partnerships (Reike et al., 2023). These contribute to recovery-oriented infrastructure (Rothenberg and Matthews, 2017). Normative pressure supports this trend, as actors increasingly pursue goals like zero textile waste and engage in transparency initiatives, education, and recycling networks (Sandvik and Stubbs, 2019). Mimetic behavior is evident in replication of circular models initiated by startups and adopted by established players seeking to capture post-consumer value (Todeschini et al., 2017). Moreover, actors in this tier increasingly influence upstream practices by advocating recyclability and producer accountability.

Governments respond to institutional pressures through legislation, reforms, and strategic programs (Shen and Jiang, 2020). Coercive pressures from global buyers, trade partners, and international bodies have led some producing countries to tighten regulations. Germany's Supply Chain Due Diligence Act, for instance, obliges large firms to address environmental and human rights risks across supply chains (Mardenli et al., 2025). Normative pressures lead governments to join voluntary programs like Better Work and align with global standards through stakeholder engagement and capacity-building (Abreu et al., 2021). However, many producing countries face tensions between policy ambitions and enforcement capacity. Where institutional strength is limited, states rely more on voluntary or private governance mechanisms, resulting in fragmented implementation (Abreu et al., 2021).

NGOs adopt adaptive strategies to maintain autonomy while remaining engaged in sustainability governance. Under coercive conditions such as donor influence or political restriction, they may restructure legally or functionally, e.g., becoming consultancies or social enterprises (S. Y. H. Liu et al., 2020). These adaptations illustrate organizational resilience and institutional isomorphism (Dimaggio and Powell, 1983). Traditional charitable organizations engaged in textile redistribution are professionalizing, integrating digital tools, and aligning with EPR frameworks to remain relevant amid commercial competition (Watson et al., 2019). Concurrently, NGOs are expanding their roles in policy development and regulatory discourse, using local embeddedness to address gaps in under-regulated value chain segments (Boström and Hallström, 2010). Still, financial precarity, donor agendas, and political constraints shape their strategic orientation and legitimacy (Banks et al., 2015).

Lastly, technology providers respond to institutional pressures by aligning innovations with regulatory, normative, and commercial expectations. Coercive drivers, such as regulations, prompt adjustments in offerings. For instance, Australia's textile policies encouraged the development of data infrastructure for compliance (Khan et al., 2023). Beyond compliance, tech providers integrate fragmented supply chains via solutions like traceability platforms that meet transparency and coordination demands. Examples include Swedish brands deploying take-back and repair programs, demonstrating how sustainability implementation depends increasingly on technological support (Brydges, 2021). The spread of circular models in retail shows that tech providers shape how circularity is practiced and scaled (Hultberg and Pal, 2021). By enabling transparency and logistical coordination, they not only respond to pressure but also help others navigate it effectively.

Based on the above illustration, Table 5 synthesizes the main pressure types, and the typical organizational responses for each stakeholder group.

5. Discussion

This discussion synthesizes the results of the literature review through the framework presented in Section 2.3, examining how institutional pressures interact with stakeholder responses to shape the implementation and effectiveness of the EU Strategy for Sustainable and

Table 5
Institutional pressures and stakeholders' response.

Stakeholder	Coercive (Source → Response)	Normative (Source → Response)	Mimetic (Source → Response)
Tier-4 Suppliers	Buyer-enforced certifications and regulatory (e.g., Better Cotton) → Adopt minimum compliance to retain market access under tight constraints	NGO campaigns and transnational buyer coalitions → Join voluntary sustainability schemes when support is externally available	Certification benchmarking → Limited imitation; peer diffusion weak due to low visibility and resource constraints
Tier-3 Suppliers	Private audit regimes and sourcing contracts → Implement third-party standards with limited flexibility or negotiation power	Civil society and buyer-aligned expectations → Comply with ethical and environmental production norms	Peer-led adoption of traceability tools → Emulate practices to align with procurement norms and avoid buyer sanctions
Tier-2 Suppliers	Buyer oversight and regulatory inspections → Upgrade operations to meet performance thresholds in contracts and public law	Industry-wide certifications (e.g., GOTS, Oeko-Tex) → Adopt to maintain reputational and commercial legitimacy	Innovation signaling → Adopt peer-tested technologies like digital printing for legitimacy and efficiency
Tier-1 Suppliers	Contractual obligations and compliance audits → Establish monitoring systems and adapt workflows to meet traceability demands	NGO alliances and CSR platforms → Integrate sustainability reporting to strengthen positioning in global value chains	Buyer proximity and regional trends → Emulate frontrunner initiatives to meet client expectations
Brands/Retailers	Due diligence laws and investor pressure → Institutionalize sustainability governance and traceability mechanisms	Public campaigns and multistakeholder initiatives → Internalize sustainability goals into sourcing and branding strategies	Strategic imitation of market leaders → Adopt circular business models pioneered by high-profile peers
Consumers	Legal rights and activism (e.g., petitions, lawsuits) → Influence corporate behavior via demand-based coercion	Cultural expectations and ethical norms → Shift toward sustainable and circular consumption modes	Peer influence and social proof → Embrace second-hand and rental models normalized by social networks
End-of-Life Actors	EPR mandates and local waste laws → Develop collection, sorting, and recovery systems to comply with legal obligations	Normative pressure from zero-waste movements and sustainability advocates → Engage in community-based recovery programs	Startup-driven innovation → Adopt models such as reuse platforms and textile-to-textile recycling inspired by pioneers
Governments	Trade agreements and international regulations → Reform national policy to align with sustainability and circularity benchmarks	Global public opinion and diplomatic engagement → Integrate sustainability narratives into national development strategies	Policy emulation across regions → Adopt successful frameworks from frontrunners to gain legitimacy and international support
NGOs	Donor funding rules and	Societal trust expectations →	Hybridization with consultancies and

(continued on next page)

Table 5 (continued)

Stakeholder	Coercive (Source → Response)	Normative (Source → Response)	Mimetic (Source → Response)
Technology Providers	registration laws → Restructure organizational forms to remain operational and legally compliant	Adopt transparency and reporting norms to secure legitimacy and operational access	social enterprises → Emulate forms that ensure survival under changing institutional logics
	Regulatory frameworks and compliance thresholds → Embed legal compatibility into digital infrastructure (e. g., DPP solutions)	Market and buyer expectations → Align technologies with sustainability and traceability requirements in the sector	Leading platform adoption (e.g., blockchain for traceability) → Follow frontrunner tech designs to maintain competitiveness

Circular Textiles. Fig. 6 depicts the Research Framework, populated with the results of the systematic literature review. In particular, our analysis focuses on the upper and middle layer of the framework.

The analysis reveals that institutional pressures are not uniformly experienced but reflect a tiered and relational architecture of influence shaped by power asymmetries, governance positioning, and access to

resources.

The **first layer** of the framework established that coercive, normative, and mimetic pressures define expectations for sustainability-oriented behavior across the textile sector. *Coercive pressure* constitutes a multifaceted force spanning the value chain, stemming not only from state regulations but also from private governance regimes. Among Tier 1–3 suppliers, coercion often takes the form of buyer-driven audits, third-party certifications, and performance benchmarks embedded in sourcing contracts (Wilhelm et al., 2016). Although these tools reflect normative sustainability ideals, they operate coercively when compliance is contractually enforced through the threat of exclusion or loss of business. Tier-4 suppliers, while formally aligned with certification schemes, often lack the resources and autonomy to implement them effectively (Hayat et al., 2020). Overall, coercive pressures, public or private, tend to trigger initial compliance but require complementary mechanisms to foster deeper organizational change. *Normative pressures* from NGOs and consumers primarily affect downstream actors (brands/retailers), driving demands for transparency and ethical standards (Sandvik and Stubbs, 2019), while technology providers facilitate change primarily through infrastructure. End-of-life actors operationalize circularity, but their influence as normative actors is very limited. Upstream suppliers, especially Tier-4, are mostly excluded from sustainability dialogues and norm-setting platforms (Karaosman et al.,

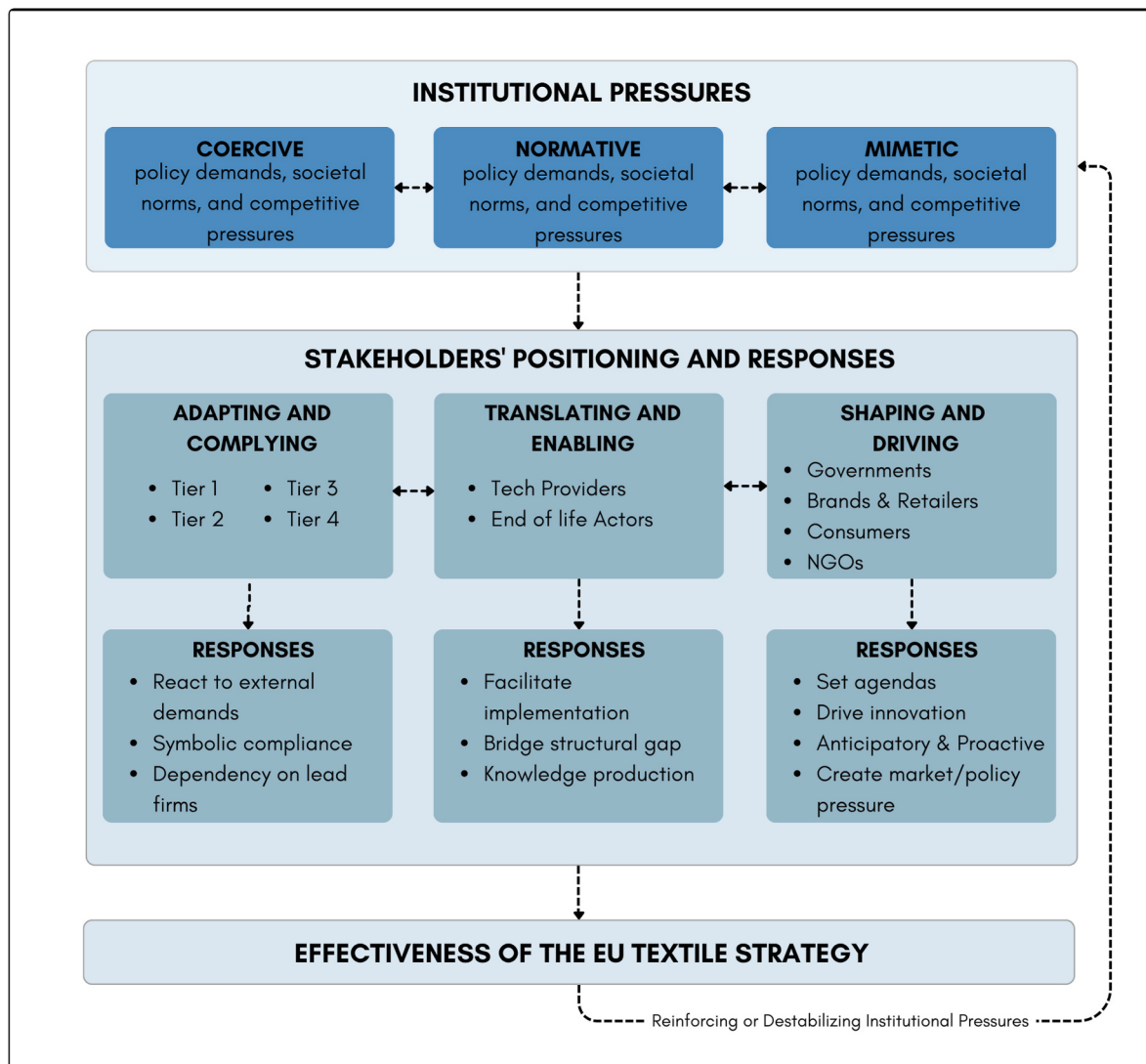


Fig. 6. – Research Framework informed through the results of the Systematic Literature Review

2020). This causes normative pressures to fail in penetrating the full depth of the value chain. *Mimetic pressures* drive downstream brands and retailers to emulate sustainability frontrunners by adopting solutions (e.g., circular models, traceability) popularized by early movers (Das, 2024). Conversely, upstream suppliers exhibit less voluntary mimicry; their adoption of similar practices usually stems from coercive/normative pressures or only after practices are legitimized by mandates or clear competitive advantages from early adopters.

The **second layer** of the framework captures how these institutional pressures are translated into strategic and operational responses by stakeholders. Three distinct response types emerge, *shaping and driving*, *enabling and translating*, and *adapting and complying*.

Regulators, brands, retailers, consumers, and NGO proactively respond to institutional pressures by *shaping and driving* sustainability initiatives. These stakeholders often translate pressures into anticipatory or strategic actions (Liu et al., 2023). Governments develop sustainability-related legislation, brands and retailers invest in sustainability-oriented innovation, reporting systems, and voluntary certifications (N. Arranz et al., 2019; Latif et al., 2020; Locke et al., 2007). Consumers, in turn, switch to more sustainable purchasing practices, i.e., favoring sustainable brands or second-hand platforms or brand resale initiatives (Papasolomou et al., 2023). NGOs actively lobby and collaborate with governments to drive the creation of new sustainability-related legislation and stronger enforcement mechanisms, and mobilize customers (Hirscher et al., 2018). These actors share high autonomy, enabling them to set agendas, define norms, and create market/policy pressure that actively shapes the institutional environment.

Technology providers and certification bodies, instead, respond to institutional pressure by *translating* abstract pressures into concrete practices and *enabling* their implementation. Technology providers leverage their expertise and tools (e.g., traceability systems, data management) to facilitate alignment between regulatory expectations and operational capabilities (Hultberg and Pal, 2021). Certification bodies translate broad concepts (e.g., “ethical labor,” “sustainable materials,” “circularity”) into measurable, auditable standards, protocols, and technical specifications (e.g., Global Organic Textile Standard, Fair Trade, ISO 14001). In addition, they provide third-party assurance that a company or product meets certain sustainability criteria and legitimizes the company’s efforts in the eyes of regulators, brands, and consumers (Brydges, 2021).

Tier-3, Tier-2 suppliers, and End-of-life actors, instead, display *adapting and complying* responses, engaging reactively rather than proactively due to limited bargaining power, resource scarcity, and poor upstream visibility (Calzolari et al., 2023). Their compliance is conditioned by regulatory clarity, resource availability, and structural dependencies (Karaosman et al., 2020). Compliance can be symbolic (prioritizing legitimacy through signaling like certifications), especially among lower-tier suppliers facing narrow profit margins and low autonomy (Wilhelm et al., 2016). Systemic, integrated compliance emerges only when coercive, normative, and mimetic pressures converge clearly, supported by third-party verification, capacity-building, and reputational incentives (Di Vaio et al., 2022; Khan et al., 2023).

Another interesting message emerges by considering the first two layers of the framework and their influence on the third one. Our findings suggest that coercive, normative, and mimetic pressures are mutually reinforcing: mandates catalyze collaboration (coercive–normative), societal expectations inform rules (normative–coercive), and imitation stems from rules and values (coercive–normative–mimetic). The EU Strategy uses coercive pressures as foundational catalysts, enabling normative and mimetic influences to scale sustainability. However, coercive mandates alone yield mixed outcomes; they can be counterproductive without flexibility (Daddi et al., 2016), and resource-rich firms may opt to pay fines instead of complying (Wang et al., 2018).

Overall, the Stakeholder Theory complements Institutional Theory by highlighting how institutional change is not only shaped by top-down regulatory forces but also co-constructed through the actions of inter-dependent actors exhibiting distinct response patterns.

6. Conclusion

6.1. Theoretical contribution

This research contributes to accumulating knowledge on institutional pressures and stakeholder engagement in the textile supply chain, in light of the European Textile Strategy. Three main conceptual contributions can be outlined.

First, this study contributes to filling a gap pointed out in the literature analysis, i.e., the scarcity of theoretical underpinnings in addressing sustainability issues and supply chain relationships in the textile industry. To do so, this research combined the perspectives from the Institutional and Stakeholder Theory. By integrating the two theories, we clarify how institutional pressures interact with stakeholder positioning across value chain tiers, building a more granular understanding of sustainability transition in the textile industry.

Second, this article addresses the research question: “*To what extent does academic literature address the actions included in the EU Textile Strategy and the stakeholders’ responses to institutional pressures?*”. Mapping the stakeholders in the textile industry and the 24 actions of the European Textile Strategy through a systematic literature review, it is found that literature coverage of stakeholders and actions is unevenly distributed. Academic attention shows a strong focus on brands and consumers, while upstream tiers (materials and manufacturing) and other groups (e.g., NGOs, technology providers) are underrepresented, despite their important role. As well, the largest part of the literature is related to a few actions (A2.1 Empowering consumers in the green transition and ensuring the reliability of green claims; A4.3 Guidance on circular economy business models featuring the textile sector; A3.2 Launch of work on the setting of preparing for re-use and recycling targets for textiles; A1.2 Digital Product Passport). Thus, actors and actions that are accessible and discursively prominent receive high scholarly attention, while others remain underexamined despite holding systemic relevance.

Third, building on the abovementioned combination of Institutional and Stakeholder theories, this paper has built a research framework to interpret the literature. We found that stakeholders are subject to different institutional pressures in the coercive, normative, and mimetic domains and activate different responses. Coercive pressures, either public or private, trigger compliance. However, the potential risk at all levels (and especially on the upper tiers, often SMEs with limited resources) is of entailing symbolic compliance instead of actual supply chain transformation towards circularity and sustainability. Normative pressures mainly arise from consumers and NGOs, and especially trigger responses from brands and retailers. While they trigger visible actions, especially by brands, the risk is of a symbolic response (e.g., take-back programs of limited breadth) leading to greenwashing instead of systemic change. Finally, mimetic pressures trigger responses at all supply chain tiers: they can lead to the diffusion of best practices and real transformation. In all cases, a purely symbolic outcome should be avoided through effective implementation strategies and capability development.

On the other hand, institutional pressures produce different response outcomes depending on the relational configuration across multi-tier systems. The same regulatory instrument generates substantive compliance when embedded in coherent normative and mimetic contexts (e.g., EPR schemes with advocacy support) yet elicits symbolic responses when isolated (e.g., production standards without capacity-building). In particular, we found three groups of response behaviors. Regulators, brands, retailers, consumers, and NGOs proactively respond to institutional pressures by *shaping and driving* sustainability initiatives. Technology providers and certification bodies respond to institutional

pressures by *translating* them into concrete practices and *enabling* their implementation. Suppliers at all tiers, and End-of-life actors, instead, display *adapting and complying* responses, engaging reactively rather than proactively due to limited bargaining power, resource scarcity, and poor upstream visibility. In sum, this analysis advances theory on how institutional pressures drive change in complex, globally dispersed industries.

6.2. Practical contribution

The mapping of EU Textile Strategy actions across the literature provides stakeholders with a consolidated view of which interventions have been most studied and where promising practices are emerging. This synthesis allows policymakers, firms, and NGOs to identify documented pathways for implementation, facilitating learning from existing cases and supporting evidence-based decision-making.

For policymakers, the findings underscore the need for more inclusive governance approaches that account for underrepresented actors and support balanced Strategy implementation across all value chain tiers. Achieving the EU Strategy's 2030 vision requires a shift from a downstream-focused approach to one that redistributes policy support toward underrepresented actors. The interdependencies among pressures pointed out in the discussion call for governance systems that recognize stakeholder positioning and response patterns: policymakers must implement differentiated pathways and cohesive governance that explicitly align coercive, normative, and mimetic pressures across all value chain tiers.

For industry practitioners, particularly brands and retailers operating as high-salience actors with governance leverage, the analysis highlights responsibilities extending beyond direct operations. This requires first, to move from unilateral mandate imposition to co-creating implementation pathways with supply chain partners. By recognizing that sustainable practices must remain economically viable across all tiers, collaborative development of feasible solutions generates substantive change where mandates alone produce only symbolic compliance. Second, practitioners should establish transparency about implementation challenges rather than presenting idealized progress narratives. Publicly acknowledging barriers, failures, and partial successes provides mimetic learning opportunities for industry peers and supplies policymakers with realistic information for refining regulatory approaches.

6.3. Limitations and future research

This analysis relies on secondary data from peer-reviewed literature and official EU documentation. The exclusion of grey literature enhances methodological rigor but potentially overlooks practitioner knowledge, meaning the review captures scholarly attention rather than complete implementation realities.

Furthermore, the study did not explicitly consider the geographical distribution of research and the socio-economic characteristics of countries when analyzing institutional pressures. However, the contextual environment of different countries, even inside Europe, may influence the actual pressures (especially normative and mimetic) faced, as well as stakeholder responses. In the literature sample, a strong concentration of research and cases was found in Northern and Western Europe, while key textile-producing countries in Eastern Europe (such as Romania or Poland) are significantly underrepresented. Future research should explore how regional and developmental diversity shapes Strategy effectiveness across the EU and in global supplier countries and investigate especially emerging eastern European economies with relevant textile industries.

Future studies should also adopt longitudinal approaches to examine how relationships among stakeholders evolve from policy design to implementation and enforcement across governance levels. Special attention should be directed toward non-EU suppliers and

intermediaries, whose practices critically influence the global diffusion of the EU Strategy's principles.

Finally, extending the analytical framework developed here to adjacent sectors such as electronics, plastics, or automotive manufacturing could test its external validity and contribute to a broader theorization of stakeholder-institutional interplay in circular economy and sustainability governance.

CRedit authorship contribution statement

Guilherme Hörner Bussolo: Conceptualization, Methodology, Investigation, Writing – original draft, Writing – Review & Editing. **Filippo Visintin:** Validation, Methodology, Supervision, Resources, Writing – Review & Editing. **Nicola Sacconi:** Validation, Methodology, Supervision, Writing – Review & Editing. **Gianmarco Bressanelli:** Methodology, Conceptualization, Writing – Review & Editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Data availability

No data was used for the research described in the article.

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