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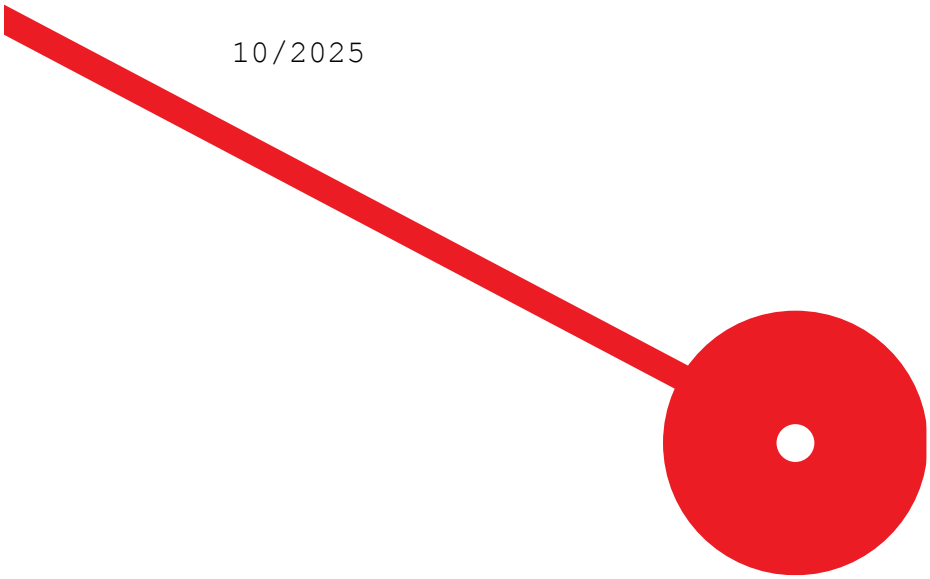
Greenwashing, Circular Economy and Sustainability in the Textile Industry: Theoretical Perspectives and an Analytical Study of Business Practices

Patrícia Pinheiro

10/2025



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Patrícia Pinheiro

Dissertation presented to the Porto Accounting and Business School to obtain the master's degree in Intercultural Studies for Business, under the supervision of Professor Sandra Ribeiro and Professor Ana Maria Rodrigues.

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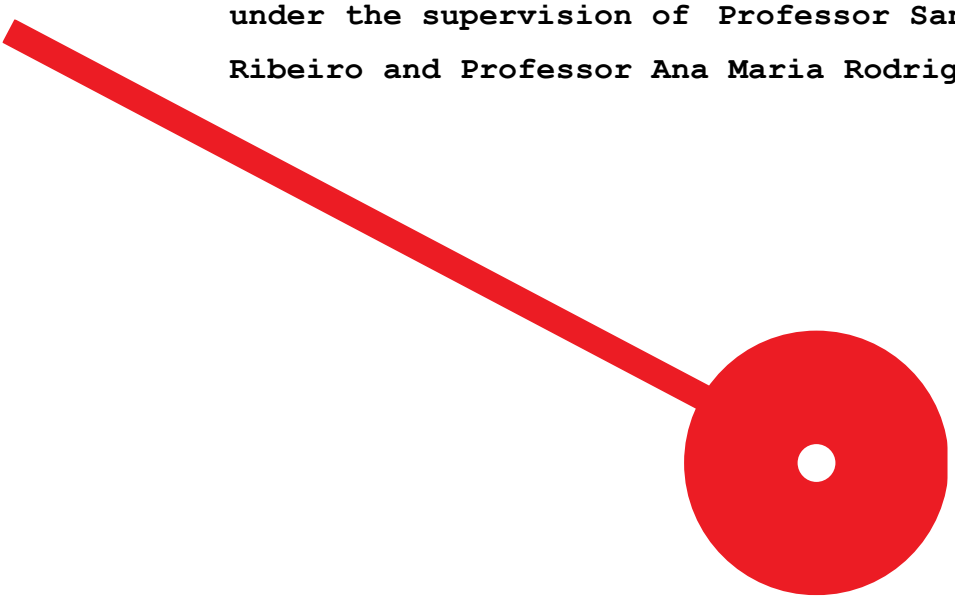

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A todos vocês,

Obrigada!

Resumo:

Esta tese tem como objetivo explorar criticamente a interseção entre *greenwashing*, economia circular e a sustentabilidade na indústria têxtil, analisando como as alegações ambientais das empresas são construídas, comunicadas e aplicáveis de forma integrada. No Capítulo I, *greenwashing* é tratado como um fenómeno estrutural que manipula narrativas sustentáveis para ganhos reputacionais, analisado à luz de modelos teóricos e quadros legais.

O Capítulo II aprofunda a economia circular como um modelo regenerativo e que desafia os princípios industriais da economia linear. Explora não só os seus princípios e ferramentas técnicas, mas também as suas implicações culturais e políticas. Demonstra que a circularidade só é efetiva quando integrada em cadeias de valor transparentes e suportada por uma governação robusta, evitando a sua utilização simbólica.

No Capítulo III, a sustentabilidade é analisada à luz do modelo *Triple Bottom Line*, integrando as dimensões ambiental, social e de governação e económica. Destaca-se a importância do ativismo cultural e artístico como ferramenta crítica e educativa contra o *greenwashing* e as práticas insustentáveis da indústria. Explora ainda o atual cenário de sustentabilidade na indústria têxtil, caracterizando-o e analisando os desafios existentes e os modos de produção.

O Capítulo IV tem por base a teoria desenvolvida ao longo dos últimos capítulos e parte para a prática através de um estudo analítico de quatro empresas têxteis: Zara, H&M, Salsa Jeans e Valérius, estudando de forma analítica as estratégias divergentes quanto à sustentabilidade e circularidade. Através de dados qualitativos e modelos teóricos, a análise identifica tanto iniciativas substantivas como performances simbólicas, as tensões estruturais e as oportunidades transformadoras em cada modelo de negócio.

A tese propõe uma abordagem que entende a sustentabilidade como um desafio intercultural na indústria têxtil, onde modelos circulares e responsáveis dependem da capacidade de negociar valores globais, combater o *greenwashing* e fortalecer políticas e literacia crítica.

Palavras chave: Greenwashing, Economia Circular, Sustentabilidade, Indústria Têxtil

Abstract:

This thesis aims to critically explore the intersection of greenwashing, the circular economy, and sustainability in the textile industry, analysing how companies' environmental claims are constructed, communicated, and enforceable in an integrated manner. In Chapter I, greenwashing is treated as a structural phenomenon that manipulates sustainable narratives for reputational gains, analysed in the context of theoretical models and legal frameworks.

Chapter II delves deeper into the circular economy as a regenerative model that challenges the industrial principles of the linear economy. It explores not only its technical principles and tools, but also its cultural and political implications. It demonstrates that circularity is only effective when integrated into transparent value chains and supported by robust governance, avoiding its symbolic use.

In Chapter III, sustainability is analysed considering the *Triple Bottom Line* model, integrating environmental, social, governance and economic dimensions. The importance of cultural and artistic activism as a critical and educational tool against *greenwashing* and unsustainable industry practices is highlighted. It also explores the current sustainability scenario in the textile industry, characterising it and analysing existing challenges and modes of production.

Chapter IV is based on the theory developed throughout the previous chapters and moves on to practice by analysing the divergent strategies of four textile companies —Zara, H&M, Salsa Jeans, and Valérius —regarding sustainability and circularity. Using qualitative data and theoretical models, the analysis identifies both substantive initiatives and symbolic performances, structural tensions and transformative opportunities in each business model.

The thesis proposes an approach that understands sustainability as an intercultural challenge in the textile industry, where circular and responsible models depend on the ability to negotiate global values, combat greenwashing, and strengthen critical policies and literacy.

Keywords: Greenwashing, Circular economy, Sustainability, Textile industry

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List of Abbreviations

DPP – Digital Product Passport

EPL – Extended Producer Liability

ESG – Environmental, Social and Governance

ESPR – Eco-design for Sustainable Products Regulation

EU – European Union

GHG – Greenhouse Gas

GRS – Global Recycled Standard

LCA – Life Cycle Assessment

SDG – Sustainable Development Goals

TBL – Triple Bottom Line

UN – United Nations

UPCD – Unfair Commercial Practices Directive

This thesis examines sustainability as an intercultural business challenge. Without intercultural competence —understood here as the ability to recognise, translate, and negotiate differing cultural norms, meanings, and expectations across stakeholders — Environmental, Social, and Governance (ESG) commitments, circularity strategies, and governance frameworks risk remaining aspirational or rhetorical, opening space for greenwashing. In global value chains, sustainability depends not only on technical innovation and environmental management but also on the ability to negotiate cross-cultural perspectives to build credibility, direct governance, and enable effective circular transitions.

Environmental claims, especially in the textile industry, are never just technical declarations. Rather, they are narratives that convey unique codes, norms, values, and ideologies, which stakeholders, who may not always hold the same cultural beliefs about accountability, openness, and justice, must comprehend. This argument is founded on the fact that greenwashing is not just an advertising or legal issue, but also a communicative and cultural one, arising when the language of sustainability is purposefully created and takes on different meanings in different situations (Berkland, 2023; Busch, 2016).

Greenwashing has emerged as a widespread and complex phenomenon in contemporary sustainability, particularly in the context of corporate environmentalism. Coined in the 1980s, the term describes the strategic manipulation of environmental narratives by companies seeking to project a sustainable image without undertaking substantive actions (Delmas & Burbano, 2011; Lyon & Maxwell, 2011).

As consumer demand for environmentally responsible practices increases, so does the incentive for companies to capitalise on that demand. Applied studies and analyses continue to reveal the frequency and scale of these practices across all industries, including textiles (Rahman, 2022; Trunk et al., 2021). Greenwashing is explored as a multifaceted phenomenon, examining its origins, strategic functions, cultural dimensions, legal frameworks, and impacts on consumer trust and environmental governance.

It draws on fundamental conceptual models, such as Terrachoice' s (2010) classification of the “seven sins” of misleading environmental claims, Delmas & Burbano’s (2011) performance-communication matrix, and Szabo & Webster’s (2021) “shades of greenwashing”, which refine the distinction between intentional and unintentional deception. These are complemented by Bowen’s (2014) view that corporate social

responsibility can be driven by profit motives or ethical commitments, and the observation that companies often prioritise symbolic disclosure in sustainability reports over substantive action. Together, these frameworks reflect and position greenwashing as a strategic market response and a communicative process shaped by cultural and institutional contexts.

The persistence of greenwashing shows that its danger lies not only in the absence of tangible action, but also in the deliberate use of ambiguity to manage reputation and delay systemic change (Delmas & Burbano, 2011; Lyon & Maxwell, 2011). In this sense, sustainability communication becomes both a business strategy and an ethical challenge, raising questions about how governance frameworks can protect stakeholders from misleading claims. The revision of the EU's Green Claims Directive illustrates the regulatory gap that allows companies to continue exploiting ambiguity, thereby undermining trust in sustainability discourse across global contexts (Gros & Giordano, 2025; Hess, 2025).

Thus, the study begins by establishing how greenwashing functions not only as a marketing strategy but also as a systemic barrier to meaningful environmental transformation. It raises questions about the legitimacy of companies' claims, the ethics of communicating sustainability, and the legal, cultural, and economic structures that foster the persistence of greenwashing practices.

Chapter II focuses on the phenomenon of the circular economy, which has emerged as a transformative paradigm that directly challenges the unsustainable foundations of the linear "take-make-discard" model. In contrast to extractive and wasteful practices, circularity proposes a regenerative system that prioritises resource efficiency, product longevity and systemic innovation (Kumar & Saravanan, 2019).

The section defines and traces the evolution of circularity, unpacking its principles and implementation paths, with particular attention to textiles, an industry known for its significant impacts on ecosystems, resources, and waste (Igini, 2023; Mishra, 2025). In this thesis, the word 'textile industry' refers to both textile production and the fashion sector. When making a distinction, 'textile industry' refers to the production and processing of fibres and fabrics, whereas 'fashion industry' relates to design, branding, marketing, and retailing.

The link between circularity and its role as a transformative reality in the fight against greenwashing is analysed, considering that intrinsic circularity can only be achieved in environments and business models free from greenwashing practices. Notably, the textile and fashion industry has repeatedly been identified as a core area for greenwashing, with EU investigations revealing that many environmental claims are vague, unfounded or misleading (European Commission, n.d.-b, 2024).

The textile industry is used as a central example, showing both the urgency of transformation, driven by fast fashion, plastic fibre pollution and microplastic contamination, and the systemic barriers preventing circular progress, including infrastructure gaps, design limitations and the persistence of linear economic incentives (European Commission, n.d.-a, 2022a; Roche, 2024b).

At its core, Chapter II positions the circular economy not just as an environmental solution, but as a cultural and governance shift, requiring inclusive policies. By researching both the theoretical foundations and the practical challenges of implementing circular value chains, this section prepares the groundwork for a broader critical analysis of sustainability.

Sustainability, as a multidimensional and evolving concept, encompasses not only environmental protection but also social equity and the integrity of governance. Based on the fundamental definition set forth by Pandit et al. (2019) and Purvis et al. (2019), the interrelationship between three different pillars - social, environmental and economic/government -, which are shaped by international agendas such as the Sustainable Development Goals in line with the United Nations, sustainability is regarded as a planned essential in all industries.

Chapter III begins by analysing the environmental pillar, focusing on issues such as greenhouse gas emissions, toxic waste, microplastics, water pollution, and unsustainable resource extraction, elements which are exacerbated by fast fashion and globalised supply chains. It then examines the social dimension, addressing labour exploitation, wage differentials, and unsafe working conditions in textile production. The governance/economic pillar is explored through discussions of supply chain transparency, certifications, auditing, and stakeholder engagement, with attention given to both corporate self-regulation and policy-driven oversight (Clune & Zehnder, 2018; Islam et al., 2022).

The interconnection of these three pillars, consistent with the Triple Bottom Line (TBL) approach ("people, planet, and profit"), is central to genuine sustainability. When one pillar dominates, most often the economic, imbalances emerge, and greenwashing proliferates. By contrast, integrated approaches show how environmental protection, social inclusion, and accountable governance can reinforce each other rather than compete.

A distinctive feature of Chapter III is its focus on cultural and artistic activism as a tool to raise awareness and challenge prevailing narratives. It explores cases that aim to convey a warning message, including those related to consumerism, such as the textile industry. Through examples such as Calder Kamin, Guerra de la Paz, Fulu/Colin Delfosse and Trash Talker, the chapter reveals how art can amplify the sustainability narrative, mobilise communities and expose phenomena such as greenwashing, allowing communities to analyse and reflect on the communication regarding sustainability in the textile industry/fashion. These interventions highlight the power of creativity and cultural engagement in shaping sustainability literacy and triggering critical reflection.

Overall, Chapter III stresses that environmental goals cannot be achieved without social inclusion and transparent governance. The chapter examines the growing unsustainability of the current production and consumption model, the excessive dependence on synthetic fibres, the geopolitical concentration of production, the social impacts along the value chain, and the risks associated with the scarcity of natural resources. By connecting environmental, social, and governance dimensions, the textile industry can move beyond symbolic commitments and towards substantive, systemic change.

The discussion of these themes—greenwashing, circular economy, and sustainability—paves the way for the analytical study detailed in Chapter IV, which analyses how the selected textile companies navigate, and sometimes contradict, the principles previously examined. The textile and fashion industries have business models that enable the investigation of the gap between sustainability rhetoric and material impact.

The companies selected have different operating methods and market positionings, as well as varying geographical contexts and levels of transparency. This includes fast fashion giants Zara and H&M, alongside Portuguese companies such as Salsa Jeans and Valérius. The latter is known for its industrial-scale circular processes and scientific

partnerships, capturing different business models, geographies, and levels of transparency.

The theoretical base of Chapters I, II and III guides the analysis of each of these four companies. Each case follows a common sequence: company overview, strategic positioning and public commitments, critical alignment between discourse and practice, and patterns of behaviour that reflect broader tensions between symbolic and substantive transformation. Within this structure, the evidence is organised into four thematic areas, environmental performance (emissions, material sourcing, waste management), governance and transparency (traceability systems, corporate accountability mechanisms), social responsibility (labour rights, supply-chain practices), and narrative construction (how companies communicate, frame, and legitimise their sustainability claims).

This classification enables a structured analysis between discourse and practice, highlighting patterns of symbolic action, selective transparency, and potential structural transformation. Analysing sustainability narratives is crucial because corporate communication not only reflects but actively shapes public perception, stakeholder trust, and regulatory agendas. Through a critical analysis of the construction of these narratives and their controversy, this chapter assesses whether innovation and transparency serve merely as reputational tools or as agents of systemic change.

Ultimately, this chapter provides a critical lens for assessing how sustainability and circularity are translated into practice, and how greenwashing can be identified and challenged across various corporate actors. This chapter also lays the groundwork for future research and deeper critical research into the tensions and contradictions at the core of sustainability discourse and practice.

1 Greenwashing

1.1 Defining Greenwashing: Concept and Meaning

This chapter analyses greenwashing, looking at its definitions, types, historical development, and theoretical and legal frameworks. The analysis starts with an operational view of the phenomenon. In lexicographic terms, the Oxford English Dictionary records the entries *greenwash* (verb) and *greenwashing* (noun) in the context of corporate environmental communication (Oxford English Dictionary, 2002a, 2002b). In this thesis, greenwashing is defined as the disclosure and/or production of environmental communications intended to portray a business as environmentally responsible, even when its actions do not support that image. This includes communications that are baseless, irrational, or intentionally misleading.

1.1.1 Operational and Practical Dimensions of Greenwashing

From this operational perspective, some recurrent approaches can be identified. The first is selective disclosure, which means strategically emphasising positive environmental information while omitting or concealing negative aspects, thus giving the impression of sustainability without a complete picture. The second is decoupling, that is, the deliberate separation between discourse and practice: organisations make symbolic commitments to sustainability without implementing corresponding concrete actions. In both cases, the objective is to preserve or enhance corporate legitimacy, influence stakeholder perceptions, and cultivate an overly positive public image, even when real practices do not align with declared promises (de Freitas Netto et al., 2020).

Beyond this definition, it is important to observe how the phenomenon manifests in practice. The institutionalisation of ESG criteria has transformed voluntary CSR into more standardised and measurable forms of reporting. These standards aim to align business operations with social justice, environmental sustainability, and governmental responsibility (Zervoudi et al., 2025). Paradoxically, this normalisation has also created new opportunities for greenwashing, as companies can appear more sustainable than they really are without making significant environmental changes (Zervoudi et al., 2025).

1.1.2 Typologies of Greenwashing

Recognising the existence of different typologies of greenwashing is crucial to fully comprehending its definition. When textual claims overstate, misrepresent, or lack adequate evidence to support environmental benefits, it can occur declaratively, through explicit written or verbal statements such as slogans, labels, or reports that suggest environmental responsibility without corresponding substantive action.

In this sense, declarative greenwashing (also referred to as claim greenwashing) constructs an image of environmental responsibility that remains largely symbolic, rather than reflecting meaningful organisational change. A sense of environmental responsibility can be created without actual change by combining these claims, which can be in the product, process, image, or fact-based (Zervoudi et al., 2025).

It may also occur in an executional form (visual cues) such as colours, images of nature, packaging design that implicitly suggest a "green" image without really implementing sustainable measures. Hybrid forms, which combine verbal claims and visual signals, frequently mask the disparity between declared and real environmental performance. Using environmental certifications or seals as evidence of sustainability is one potential example. Because it combines visual marketing with apparent evidence, this sophisticated form of greenwashing makes the deception seem more credible (Zervoudi et al., 2025).

Other categories, such as passive versus active greenwashing, and positive versus negative greenwashing, demonstrate the range of strategies employed by businesses to sway stakeholder attitudes (Zervoudi et al., 2025).

The persistence of greenwashing has also been documented through risk typologies. Delmas & Burbano (2011) examined the types of businesses operating in the environmental performance and communication space. They examined four models in their study:

- Vocal Green Companies: High performance and active communication of sustainability initiatives.
- Silent Green Companies: High performance but limited communication.
- Brown Companies: Low performance and little communication.
- Greenwashing Companies: Low performance but strong communication

Although this model, developed by Delmas & Burbano (2011), offers a solid starting point for understanding how companies position themselves in terms of environmental performance and communication, more recent research, such as Shades of Greenwashing by Szabo & Webster (2021), further refines these categories by highlighting:

- Intentional Greenwashers: deliberately deceptive green marketing.
- Unintentional Greenwashers: deceive unintentionally, misleading due to supply chain complexity.
- Green Muters or Green Blushers: engaged in sustainable practices but reluctant to communicate them.
- Truthful non-Greeners: companies that aren't transparent about their products, specific cases of symbolic manipulation or underestimation of environmental practices (Szabo & Webster, 2021).

These refinements show that assessing greenwashing involves not only performance and environmental claims (Delmas & Burbano, 2011), but also the ways in which companies intentionally or unintentionally shape perceptions of sustainability. This reveals more detailed typologies and behavioural distinctions from the standpoint of communication strategy and stakeholder perception (Szabo & Webster, 2021).

Understanding and analysing these typologies highlights the diversity of strategies used and the positioning of companies in relation to sustainability, regardless of whether they correspond to actual practices. The analysis of these categories will be particularly useful for understanding the fundamentals of the analytical study in Chapter IV of this thesis. It allows us to map the positioning of companies in relation to greenwashing and interpret their communication and environmental performance more critically.

1.1.3 Theoretical and Critical Perspectives

Greenwashing is not only a matter of misleading marketing techniques, but it can also be understood within a broader theoretical framework connected to the logic of capitalism. In a narrow sense, it refers to deliberate deception, through exaggerated or fraudulent claims of sustainability, where punishment of offenders is seen as necessary to ensure that "green markets" function as promised (Williams, 2024).

From a wider perspective, however, sustainability is reframed to fit market logic, allowing capitalism to absorb environmental criticism without changing its growth-driven foundations. This enables markets to continue operating in ways that may harm the environment while maintaining an appearance of ecological concern (Williams, 2024).

Greenwashing replaces the social and environmental reality of production with an apparent "green value" through the mechanism of commodity fetishism. This Marxian concept describes how labour conditions, social relations, and ecological costs rooted in production are obscured and replaced by the "mystified" value of the commodity itself. Using labels, imagery, and selective metrics, greenwashing assigns a moral aura to products, making them seem environmentally friendly. It works as a green capitalist strategy to preserve large-scale production models that depend on precarious labour and fossil fuels, while deflecting attention from systemic reform and maintaining reputational advantage (Williams, 2024).

This first section of Chapter I examined the operational approach of greenwashing, focusing on practical communication and advertising tactics that create a positive environmental image without requiring significant changes in organisations' actions. The theoretical viewpoint enables us to comprehend greenwashing in a broader context, situating it within the structural logic of capitalism and its capacity to reshape environmental concerns into market narratives. This prepares the ground for the cultural and symbolic interpretations developed later in this chapter.

Greenwashing can take many forms, according to the analysis of the different typologies, ranging from statements and symbols to complex combinations of communication and environmental performance. This section of the chapter aims to provide the reader with a thorough understanding of the problem, including its origins, historical development, and place within the corporate system. By combining both the operational and the theoretical perspectives, this section offers a more comprehensive understanding of greenwashing, showing it not only as a set of practical communication strategies but also as a phenomenon rooted in broader capitalist logics.

1.2 Greenwashing Through Time: Emergence and Evolution

The evolution of greenwashing can be traced both historically, through emblematic cases, and conceptually, through academic research that has progressively refined its definition and structure. The origins of greenwashing can be traced back to a significant incident in 1986 when Jay Westerveld, an ecology student, visited a hotel in Fiji. Due to the hotel's expansion close to delicate island ecosystems, Westerveld viewed the hotel's encouragement of visitors to reuse towels as hypocritical (Lindwall, 2023).

Since then, the term has been applied to companies that misrepresent their environmental policies or the ecological benefits of their products, whether at the corporate or product level (Delmas & Burbano, 2011). This early definition marked the start of a trend in which greenwashing evolved from isolated instances of corporate hypocrisy to a broader and more systematic practice integrated into business strategies.

From the 1980s onwards, greenwashing came to describe businesses that engage in destructive behaviours while simultaneously pushing sustainability projects and making extravagant environmental claims in front of the public. Companies strive to meet consumer demand for sustainability to stay ahead of the curve, though often insincerely or unethically (Delmas & Burbano, 2011).

During this period, several high-profile examples reached the front pages of newspapers. Chevron's 1980s campaign, for instance, portrayed employees as guardians of wildlife through TV commercials and company media. The initiative even won an Effie advertising award and became a Harvard Business School case study. Yet, at the same time, Chevron was repeatedly violating the U.S. Clean Air Act (1970) and U.S. Clean Water Act (1972), while spilling oil into wildlife refuges (Watson, 2016).

This adaptive strategy also surfaced in BP's promotion of its carbon footprint calculator in the 1990s and 2000s. This move subtly shifted responsibility for emissions to individuals while the company continued massive investments in fossil fuels (Lindwall, 2023).

In 1989, DuPont launched a campaign depicting new oil tankers as 'environmentally friendly' through idyllic imagery and classical music, despite the company being one of the largest polluters in the United States at the time (Watson, 2016). Together, these cases highlight the strategic sophistication of greenwashing: companies used highly visible

campaigns to present minor or legally required measures as transformative actions, while masking ongoing harmful practices (Lindwall, 2023).

Many more instances could be cited to demonstrate these practices. Still, the cases discussed here are representative historical examples that show where greenwashing came from and how it works. They also serve as benchmarks, illustrating how environmental advertising detached itself from substantive environmental improvements and evolved into a tool of reputation management. These early instances provide a clear reference for understanding greenwashing's historical trajectory, even though this thesis will later focus on the textile industry.

Over time, academic research has refined the concept, categorising greenwashing based on its scale (business level vs. product/service level), mechanism (claims vs. implementation clues), and degree of deceit. Executional greenwashing falls into the latter category because it uses implicit symbols, such as images, colours related to nature, to influence consumers.

In contrast, claim-based greenwashing relies on explicit textual statements that are frequently ambiguous, impossible to verify, or irrelevant (Zervoudi et al., 2025). This distinction demonstrates the increasing complexity of greenwashing, which evolved from simple claims to multi-layered symbolic techniques.

Greenwashing cannot be fully understood in terms of its processes alone, as the framework emphasises its evolution from a complex practice into a phenomenon that also operates across multiple levels of impact in society. These levels can be recognised as follows:

- Individual level: Consumers can be misled by greenwashing claims, making it difficult for them to discern between legitimate sustainable products and those that merely appear sustainable.
- Organisation level: Companies engage in greenwashing to align with growing consumer demand for sustainability while avoiding significant operational changes. This is often driven by a focus on short-term financial gain over long-term sustainability.
- External level: External parties such as activists, the media and regulators can denounce and counter greenwashing by exposing the falsehoods that companies

spread, especially in markets with lax environmental regulations (Delmas & Burbano, 2011).

Understanding the evolution of greenwashing also requires attention to the structural factors that have shaped its development. Rising environmental awareness among consumers, along with the growing demand for green products, has created stronger reputational incentives for companies to appear sustainable (de Freitas Netto et al., 2020). In this sense, pressures on the demand side were accompanied by innovations on the supply side in terms of communication, creating an environment where appearances often outweighed substantive changes.

The rise of Corporate Social Responsibility (CSR) reporting has increased pressure on firms to demonstrate their commitment to sustainability. However, regulatory frameworks have sometimes lagged, particularly in developing countries, enabling companies to make vague or unsupported claims. Companies increasingly exploit emotionally charged stories and environmental imagery across social media, packaging, corporate communications, and advertising to divert attention from their actual environmental impact. What began as a small-scale advertising tactic has evolved into a comprehensive reputation management strategy, posing ongoing challenges for consumers, supervisory organisations, and regulators in distinguishing well-crafted but deceptive claims from genuine environmental responsibility (de Freitas Netto et al., 2020; Lindwall, 2023).

To more feasibly aid in identifying such practices, Terrachoice (2010) has created the "seven sins of greenwashing". These sins include:

- “Hidden Trade-off”: A company sells its unique ecological aspect while ignoring environmental damage on a larger scale.
- “No Proof”: A company claims to be sustainable but fails to provide quantifiable proof.
- “Vagueness”: A company uses vague language to imply sustainability without providing specific details.
- “Irrelevance”: Highlighting legally required environmental practices as if they are voluntary.
- “Lesser of Two Evils”: Presenting a product as green based on a narrow context, ignoring its broader environmental harm.

- “Fibbing”: Making false environmental claims.
- “Worshipping False Labels”: Using fake certifications or endorsements.

In addition to illustrating common misleading advertising techniques, these categories provide the framework for Chapter IV's analytical study, in which episodes from companies are examined through the lens of the sins of greenwashing to better understand their practices. They also offer a conceptual link between the historical evolution of greenwashing and its current manifestations, highlighting how deceptive tendencies influence consumer perceptions.

These categories clarify how advertising strategies can mislead consumers into believing a company is environmentally responsible. For instance, a “100% natural” label may lead consumers to assume sustainability benefits without understanding the true meaning of “natural”. According to Trunk et al. (2021), around 59% of environmental claims by fashion brands were unfounded or misleading, with companies such as H&M, ASOS, and Marks & Spencer making highly ambiguous and unsustainable claims. Alarmingly, 91% of these were classified as “vague”, underscoring the persistent lack of concrete evidence behind most environmental claims in the textile industry (Rahman, 2022).

Greenwashing's historical development demonstrates how the practice, which began as isolated instances of corporate hypocrisy, has evolved into a structured and increasingly sophisticated approach to shaping public perception. This evolution reflects a continuous adaptation to consumer expectations and communication trends, progressing from simple claims to intricate symbolic narratives. The critical tools for identifying these tactics in real time are offered by academically developed conceptual frameworks, including claim structures, implementation clues, and the sins of greenwashing.

This theoretical and historical foundation is essential for understanding how businesses continue to make misleading environmental claims. By examining the historical evolution of greenwashing and conceptual refinements, it’s possible to better analyse corporate practices not only in terms of their operational mechanisms but also in relation to the broader contexts in which they are surrounded.

This perspective demonstrates that greenwashing has evolved into a multifaceted phenomenon, deceiving customers and maintaining corporate legitimacy, which paves the path for its examination as a discursive and cultural process. The upcoming section delves into the discursive and cultural frameworks of greenwashing, analysing how

language, symbols, media narratives, and cultural institutions contribute to its continued prevalence.

1.3 Discursive and Cultural Framings of Greenwashing

Greenwashing is not only a business strategy but also a discursive and cultural phenomenon. Corporate campaigns, celebrity endorsements, and media framing can create a symbolic image of sustainability that conceals deeper ecological impacts. Understanding greenwashing from this perspective requires examining the ways in which language, symbols, and cultural narratives shape public perceptions of environmental responsibility.

According to the OECD (2025), corporate sustainability, also known as corporate environmentalism, refers to the integration of environmental and social aspects into business strategies and operations. Focusing on strengthening governance and supporting companies and investors in identifying long-term risks and opportunities. However, as Bowen (2014, p.15) highlights, this corporate environmentalism is essentially perceived in its symbolic dimension, meaning that the changes occur mostly driven by stakeholder perceptions rather than substantive environmental improvements.

Bowen (2014) offers a systematic analysis of symbolic corporate environmentalism and identifies three main perspectives in this debate. Optimists contend that heightened activism, scholarly scrutiny, and rising consumer awareness have largely ended the earlier periods marked by unchecked corporate greenwashing. Cynics, by contrast, argue that greenwashing remains widespread, since businesses continue to employ corporate environmentalism to preserve their reputation and market identity. Realists suggest that even symbolic environmental initiatives play a role in shaping public opinion and increasing awareness of sustainability challenges, even if they do not always result in substantial change (Bowen, 2014, pp. 37-38).

Extending Bowen's (2014) argument, corporate environmentalism frequently includes symbolic elements: even when managers implement changes ostensibly for environmental reasons, their actions are shaped by how stakeholders perceive them. Symbolic corporate environmentalism refers to the meanings, language, labels, and behaviours that accompany these changes, regardless of whether they result in actual environmental improvements. Greenwashing is a more purposeful variant of this

symbolism in which businesses provide the appearance of environmental care while having no real impact (Bowen, 2014, pp. 31-33).

To understand symbolic corporate environmentalism, it is important to evaluate two key concepts, symbolic gaps and symbolic performance, which together reveal the disconnect between corporate environmental discourse and actual practices:

- Symbolic gap: The discrepancy between a company's environmental statements and its real environmental performance. Companies can benefit from a positive image while maintaining these gaps if they go (Bowen, 2014, p. 113; Suchman, 1995).
- Symbolic performance: Actions taken to demonstrate environmental responsibility, such as installing an environmental management system or producing sustainability reports. These actions are easily interpreted by the public and reinforce a responsible corporate identity, even if they do not lead to substantial environmental improvements (Bowen, 2014, p. 113; Suchman, 1995).

Bowen (2014, pp. 80-85) argues that businesses balance symbolic and substantive investments to maintain reputation and economic stability. Symbolic investments include marketing campaigns, sustainability reports, and certifications, while substantive investments involve initiatives that improve environmental performance. He further classifies corporate strategies as altruistic, compelled egoism, and strategic environmentalism. Understanding these characteristics allows for a more comprehensive picture of corporate environmental conduct. These ideas serve as the foundation for the last chapter's analytical study design, guiding analyses and helping to recognise how firms make environmental decisions.

Building on this cultural lens, Miller & Maxwell (2017) in *Greenwashing Culture*, demonstrate how greenwashing functions as a discursive tactic that perpetuates distorted cultural views of the environment while seeming to promote ecological change. They highlight how the media, cultural organisations, and celebrities collaborate, consciously or unconsciously, with major polluters to create the appearance of environmental commitment.

In this framework, companies like BP, Chevron, and Shell position themselves as benefactors to society while deflecting attention away from environmental damage. Case examples, such as BP's support of Tate Britain and science museum exhibits on fossil

fuels, demonstrate how cultural institutions can become complicit in sustaining corporate reputation (Miller & Maxwell, 2017).

These dynamics also intersect with broader structures of power. Corporations often marginalise indigenous ecological knowledge and reproduce neocolonial patterns by exploiting communities in developing nations for cheap raw materials. By adopting environmental rhetoric, corporations present themselves as sustainability leaders while preserving existing power structures and avoiding deeper systemic change. This control over narratives and resources deepens the tension between symbolic corporate environmentalism and substantive pathways toward sustainability (Bowen, 2014, p. 47). Culture, therefore, plays a dual role in the climate crisis: it generates environmental impact through its production while serving as a showcase that maintains corporate legitimacy (Miller & Maxwell, 2017).

Greenwashing is far from innocuous: it actively hinders climate action by taking funds away from truly effective solutions. Many corporate "green" initiatives are presented discursively as voluntary commitments, yet they are either legally mandated or disconnected from core business activities (United Nations, n.d.-b).

Nevertheless, Seda Yildirim (2023) highlights the paradox of greenwashing, which can deceive the public with exaggerated environmental claims while subtly encouraging incremental sustainability awareness. The drawback is the development of a false image where businesses continue their destructive practices while shifting environmental responsibility onto customers.

This paradox mirrors a broader tension between the cultural demand for sustainability and the economic logic of profit. In this sense, Larry Fink (2022), CEO of BlackRock, reframes sustainability not as environmental idealism but as a capitalist necessity, arguing that companies must adapt their business models to the massive changes reshaping the economy. As he stated it:

> We focus on sustainability not because we are environmentalists, but because we are capitalists and fiduciaries to our clients. That requires understanding how companies are adjusting their businesses for the massive changes the economy is undergoing (Fink, 2022).

Alternatively, Fink's view highlights how profit-oriented companies, while primarily motivated by economic incentives, may still contribute to a broader cultural shift towards

environmental awareness, even if these changes remain incremental and superficial. Yet, such symbolic gestures also carry the risk of reinforcing greenwashing dynamics. According to Bowen (2014, pp. 34-35), the rise of social media and digital monitoring tools has radically reshaped environmental accountability, empowering activists, journalists, and consumers to expose inconsistencies in real time. A notable example is Chevron's "We Agree" campaign, which was parodied by the activist group The Yes Men, thereby revealing the contradictions underlying the company's environmental discourse.

These narratives exemplify how digital activism challenges greenwashing and amplifies scrutiny, particularly when traditional media have failed to question corporate campaigns. This growing power of digital activism connects with Miller & Maxwell's (2017) notion of cultural complicity, as it highlights how culture can both legitimise harmful practices and provide the tools to contest them. In this way, online activism challenges the credibility of corporate sponsorships and public relations efforts that aim to appear transparent and engaged with environmental issues.

This section of Chapter I has focused on the cultural and discursive aspects of greenwashing, demonstrating that it is more than just a misleading ploy. It is heavily attached in symbolic business acts, and it can be driven by economic incentives, with companies projecting favourable images that frequently shape public opinions rather than delivering substantial environmental effects.

Symbols, narratives, and institutional endorsements, including media and celebrity participation, often reinforce these gestures, supporting corporate legitimacy and delaying systemic change. Concepts such as symbolic gaps and symbolic performance help explain how public perception is influenced, but symbolic activities may generate only limited or superficial awareness of environmental issues.

Understanding greenwashing entails recognizing it as both a discursive and organizational technique for maintaining corporate legitimacy. It creates narratives of environmental responsibility that influence public perception while reconciling the structural conflict between profit-driven logic and the pressing need for true environmental action. The following section deepens this discussion by examining the ways in which cultural and discursive mechanisms are operationalised in strategic communication. It demonstrates how companies transform symbolic actions and

sustainability narratives into messages designed to influence consumer perceptions, reinforcing legitimacy and reputational risk management, even when there are no substantial environmental results.

1.4 Greenwashing as Strategic Communication and Consumer Perceptions

Greenwashing can be understood not merely as traditional advertising strategy, but more as a form of strategic communication, through which companies construct public narratives about sustainability to secure legitimacy, trust and reputational advantage. By appropriating ecological discourses and implementing symbolic gestures, businesses can establish a 'green' identity that resonates with consumer expectations.

Voluntary certifications such as ISO 14001 or EMAS, a European environmental management system that calls for external auditing and verified public reports, illustrate this dynamic: many companies adopt these standards only symbolically, meeting minimal requirements while projecting a sustainable image. In fact, fewer than half of the environmental indicators reported under EMAS demonstrate real improvements (Heras-Saizarbitoria et al., 2020).

This symbolic layer carries significant economic and reputational weight (Miller & Maxwell, 2017), enabling industries to maintain resource-intensive practices while portraying themselves as responsible actors, often through vague, ambiguous, or weak environmental claims. Regulatory evidence reinforces this concern: according to the European Commission, a 2021 screening of company websites revealed that in 42% of cases, green claims were considered exaggerated, false, or misleading, potentially amounting to unfair commercial practices under EU rules (European Union, 2022b).

At the same time, the growing global sustainable fashion market, valued at US$7.8 billion in 2023 and expected to reach US$33.05 billion by 2030 (Adegeest, 2024), exemplifies an opportunity that is leading many companies to adopt sustainability narratives. These sustainability narratives, as macro-concepts, frame environmental and social challenges and offer seemingly comprehensive solutions, functioning as strategic guidance for business practices, policy, and social processes (D'Amato, 2021).

The adoption of these narratives often reflects a self-imposed strategy, as organisations recognise the potential for growth and profitability while seeking to align with this

movement. Consumers' perceptions of the genuineness of corporate commitment to sustainability are impacted when such narratives are primarily mobilised at the communication level without substantive changes.

Consumer confidence, a key indicator of economic optimism and spending behaviour, is particularly exposed in this context (Bondarenko, 2025). When sustainability claims are exposed as false, they generate cynicism and mistrust. The percentage of high-risk cases increased to 30%, indicating that some businesses are moving toward more aggressive and manipulative forms of greenwashing, even though overall incidents of greenwashing decreased by 12% because of increased oversight and awareness (Fürer, 2024). These patterns emphasise the contradiction between the potential for strategic communication to increase involvement and the danger that it will undermine customer trust, harm perceptions, and block significant change.

Research by the Changing Markets Foundation, analysed 4,028 products from the Spring/Summer 2021 online collections of major brands such as ASOS, H&M, Zara, Gucci, and others, and revealed that 39% of the products under study had a green claim associated with them, most brands made sustainability claims, and greenwashing emerged as a practice particularly prevalent in the textile industry (Trunk et al., 2021). Even though many people say they care about sustainability and want to purchase eco-friendly products, very few do so. For instance, only roughly 26% of consumers who responded to a survey buy from companies that promote sustainability and are tailored towards a particular purpose, despite 65% of them saying they would like to do so (White et al., 2019).

Greenwashing is a complex phenomenon that combines operational practices, strategic communication and symbolic construction to project an image of sustainability, sometimes without substantive changes. Companies have evolved from making solitary claims to launching sophisticated campaigns that mix texts, symbols, certifications, and cultural narratives to influence public views.

This communication strategy directly impacts consumer confidence and perceptions, setting expectations that can be disappointed when reality does not match the projected image. A comprehensive examination of the historical, cultural, and strategic factors reveals the conflict between economic interests and the need for effective environmental reform. This communicative dynamic raises not only reputational and cultural issues but

also legal concerns, paving the way for a debate on stronger regulation and potential criminalisation. Building on the insights developed throughout this chapter, the final section outlines the approach to examining this systemic challenge, which necessitates explicit legal limitations and accountability mechanisms.

1.5 Legal and Regulatory Dimensions of Greenwashing

Greenwashing has become a recurring practice that weakens the effectiveness of sustainability initiatives by masking harmful corporate actions. In the EU, greenwashing is generally considered an unfair commercial practice under consumer law, rather than a separate criminal offence. As such, sanctions and procedures are largely administrative/civil and vary between Member States (European Union, 2022a). Addressing this distinction is crucial because it challenges the conventional wisdom that treats greenwashing as primarily a corporate or commercial matter and emphasises the pressing need for legal clarity and cross-jurisdictional harmonisation.

Beyond its role as a communication strategy, greenwashing raises legal and regulatory concerns, as it involves misleading representations of environmental performance (Delmas & Burbano, 2011). Economically speaking, it undermines true sustainability by giving businesses that merely seem to be environmentally conscious, without implementing significant environmental initiatives, a competitive edge (Feghali et al., 2025).

According to recent EU initiatives under the European Green Deal, a policy framework launched in 2019 aiming to transform Europe into a climate-neutral, resource-efficient, and socially fair economy, the textile industry has one of the highest environmental impacts in Europe, ranking fourth after housing, food, and mobility (European Commission, 2019, 2022b). Annually, Europeans generate approximately 12.6 million tonnes of textile waste, equivalent to about 12 kg per person, with less than 1% of all textiles recycled globally into new products (European Commission, n.d.-a; European Council, 2025b).

To address this, the EU Strategy for Sustainable and Circular Textiles aim that by 2030, textile products on the EU market are long-lasting, recyclable, made primarily from recycled fibres, free of hazardous substances, and produced respecting social rights. Key

measures include mandatory extended producer responsibility schemes, digital product passports, eco-design requirements, and efforts to tackle fast fashion and microplastic release (European Commission, 2022a, 2022b). In September 2025, the European Parliament approved new regulations introducing Extended Producer Responsibility (EPR) for textiles. Member states will have 20 months to transpose directives into national legislation and 30 months to adopt EPR regimes (with an additional year for microbusinesses) (European Parliament, 2025b).

The textile industry's dependence on synthetic fibres has direct health effects in addition to the environmental ones. In fact, plastic fibres make up over one-third (33%) of all fibres found indoors, and each year society inhales between 13,000 and 68,000 plastic microfibres from our clothes, carpets, curtains, and other textiles (Trunk et al., 2021).

Beyond regulatory initiatives, it is important to highlight that greenwashing also carries legal implications. Deceptive environmental claims erode the social legitimacy necessary for regulatory innovation and climate law. In this stance, greenwashing functions as a structural barrier to genuine sustainability and circularity, delaying essential progress while eroding trust between businesses, consumers, and society (Feghali et al., 2025; Li, 2024).

Establishing regulatory frameworks to address, detect, and combat greenwashing has then become essential, as the analysis of its profound impacts shows. The Unfair Commercial Practices Directive (UCPD) (Directive 2005/29/EC), which defines misleading actions and omissions as well as aggressive practices, and includes a list of prohibitions together with requirements for effective, proportionate, and dissuasive penalties, provides the EU with a significant legal foundation (European Commission, 2024). Article 6 defines unfair commercial practices as those that contain false or misleading information likely to deceive the average consumer, while Annexe I expressly prohibits environmental claims that are unsubstantiated or impossible to measure (European Union, 2022a).

1.5.1 Consumer law baseline

In 2024, the European Union issued Directive (EU) 2024/825, which changes the UCPD and establishes explicit provisions against greenwashing, effective September 27, 2026, (European Commission, 2024; European Union, 2024b). The change is a huge step

forward for consumer protection and the promotion of open commercial practices. Among the key measures, the use of generic and unsubstantiated environmental claims such as 'environmentally friendly,' 'eco-friendly,' 'green,' 'biodegradable,' or 'climate-friendly' will be prohibited, unless the trader can recognise and verified excellent environmental performance directly linked to the claim (European Union, 2022a, 2024b).

Sustainability labels not based on a credible certification scheme or established by public authorities are prohibited, with minimum transparency and reliability criteria and independent third-party monitoring. In addition, the directive prohibits claims of climate neutrality or positivity based solely on compensation mechanisms, such as "climate neutral" or "CO_2 neutral certified", requiring such claims to reflect a real impact on the product's life cycle (European Commission, n.d.-b; European Union, 2024b). Durability, reparability and recyclability are now treated as key information that cannot be used in a misleading way (European Union, 2022a, 2024b).

In terms of enforcement and penalties, Member States must ensure that consumers have access to appropriate remedies and impose sanctions that are effective, proportionate and dissuasive (European Commission, 2024; European Union, 2024b).

The reform addresses flaws found in Commission studies, which discovered in 2021 that traders gave inadequate information in over half of the cases examined. Ambiguous terms like "sustainable" or "eco-friendly" were used in 37% of claims, and there was no readily available evidence in 59% of cases. In 42% of cases, the authorities believed the claims might be false or misleading, in violation of the UCPD (European Commission, 2021).

According to the European Commission, more than half (53%) of environmental claims are vague or misleading, 40% have no supporting evidence, and many labels lack adequate verification, in a scenario marked by the existence of hundreds of sustainability and green energy labels, characterised by significant variability in transparency, governance and reliability (European Commission, n.d.-b).

1.5.2 Political and enforcement gaps

In a significant political shift, in June 2025 the European Commission announced its intention to withdraw and potentially revise the Green Claims Directive, leaving its adoption temporarily on hold while under political review, which had been designed to

strengthen and standardise verification of environmental claims across the EU. Conservative political groups, particularly the European People's Party (EPP), had argued that the directive imposed an excessive administrative burden on small and microbusinesses. The Commission justified its decision by emphasising the broader objective of enhancing corporate competitiveness and simplifying regulations (Abnett, 2025; Gros & Giordano, 2025).

Environmental NGOs, political parties like the Socialists & Democrats, the Greens/EFA, and Renew Europe, as well as segments of the textile industry, criticised these policies. While legal simplification can have advantages, EURATEX also emphasised that companies urgently require a solid and predictable framework to direct sustainable efforts. Otherwise, green advertising will persist with little accountability (Abnett, 2025; European Parliament, 2025a; Gros & Giordano, 2025).

With the Green Claims Directive now interrupted, existing consumer protection legislation remains the main legal instrument to address misleading environmental claims. However, the UCPD still lacks standardised verification mechanisms and independent auditing procedures. Therefore, the Commission's 2025 statement raises legal ambiguity and risks compromising consumer protection. It could also make it more difficult for the EU to combat greenwashing successfully. This episode demonstrates how political processes can postpone systemic environmental reforms and emphasises the need for stronger, more transparent, enforceable, and uniform mechanisms across Member States (European Parliament, 2025a; Gros & Giordano, 2025; Hess, 2025).

The question that arises in this regard is whether this legal fragmentation should be interpreted merely as a technical failing or whether there is a deeper cause, reflecting the political and corporate interests that shape regulation. The absence of robust, consistent procedures suggests that stronger, more uniform measures may be required to eliminate opportunities for deceptive claims, and that current frameworks can privilege competitiveness over environmental integrity and consumer protection.

The European Commission conducted inventories of environmental claims in 2014 and 2020, analysing 150 cases based on the UCPD principles of clarity, accuracy, verifiability and lack of ambiguity. The most recent study revealed that more than half of the claims (53.3%) conveyed vague or misleading information about the environmental

characteristics of the products (European Union, 2023). In addition, around 40% of the claims were not supported by evidence.

These findings were confirmed by a parallel investigation by consumer protection cooperation authorities, which, when assessing 344 sustainability claims, found it difficult to determine their exact scope. In more than half of the cases (57.5%), there was insufficient information to assess their veracity. In 50% of cases, it was unclear whether the claim covered the entire product or only components. In 36% of cases, it was unclear whether it applied to the company or only to certain goods. Finally, in 75% of cases the stage of the life cycle considered was not specified (European Union, 2023).

This supports a shift from merely reacting to claims to proactively requiring companies to provide verifiable evidence and detailed plans to substantiate such claims, supported by explicit EU-wide guidance under the new directive (Riordan, 2024).

Concerning the Green Claims Directive, some EU measures may not be achieving their intended effect. For example, the goal of reducing microplastics was translated into generic guidance without clearly defined specific actions. Moreover, the rationale for a proposed rule against greenwashing does not explicitly include microplastic pollution, which may result in clothing made from cheap polyester being seen as more sustainable than that made from organic cotton. Organisations associated with natural fibres argue this is highly deceptive and call for more precise and stringent regulation (Roche, 2024b).

According to the European Union Agency for Fundamental Rights (2024), the directive's practical implementation varies from nation to nation, even though it creates a consistent legal framework to address unfair economic activities, including false environmental claims. Stricter enforcement and successful prosecution cases against greenwashing are hallmarks of countries like France and Germany. However, in countries such as Portugal and Bulgaria, there are hardly any legal proceedings based on these provisions.

In Portugal, greenwashing is not classified as a specific criminal offence. Although consumer protection aligns with EU regulations, it is regulated by the *Lei da Defesa do Consumidor* (Law no. 24/96, of July 31). This limited treatment of greenwashing within the criminal law framework is reflected in the predominant reliance on civil and administrative enforcement mechanisms (Diário da República, 1996). However, national initiatives have emerged to combat misleading environmental practices, such as the guide “Alegações Ambientais na Comunicação Comercial” issued by the Direcção-Geral do

Consumidor (DGC) and the Autorregulação Publicitária (ARP), which provides clear guidelines for truthful, precise, and verifiable environmental claims, and alerts consumers to misleading advertising practices (APAN, n.d.).

Despite these legal protections, greenwashing remains common, threatening the implementation of the circular economy and a sustainable standpoint. Studies show that a significant share of environmental claims in Portugal is vague or misleading. Regulatory bodies like the DGC and the Autoridade da Concorrência (AdC) have been active in promoting transparency and penalising infractions, while European directives propose the prior verification of claims and substantial penalties for non-compliance (Carchedi & Ferrer, 2020; Costa, 2020; M. C. Dias, 2025). This raises a critical question: can current legal frameworks effectively discourage companies from engaging in greenwashing and drive a sustainable economic transformation if enforcement remains fragmented and insufficiently robust?

Even with current legislative protections, the fines do not always deter businesses in Portugal from making false environmental claims. The predominance of civil and administrative enforcement under the UCPD and the *Lei da Defesa do Consumidor* (Law no. 24/96) may be scarce to prevent greenwashing effectively.

Recent proposals, however, also include exclusion from public contracts and fines proportional to turnover for companies that misrepresent environmental claims, indicating a growing effort to strengthen enforcement (S. S. Dias, 2024). These initiatives emphasise the necessity of more precise, strict, and uniformly applied national legislation to ensure that environmental claims can be independently verified and that businesses are held accountable for misleading tactics.

At the EU level, the updated Corporate Sustainability Reporting Directive (CSRD), revised under the *Omnibus 2025* package, reflects an ongoing effort to enhance sustainability reporting and combat greenwashing (Anderson, 2025; Baumüller & Grbenic, 2021; European Commission, 2023; Fürer, 2023). The proposal, targeting large companies with over 1,000 employees, seeks to reduce administrative burdens, align with international standards, and require non-EU subsidiaries operating in the EU to comply with these standards. A notable improvement is the introduction of mandatory external audits for sustainability data, which boosts transparency and trust in corporate environmental performance (Anderson, 2025; Baumüller & Grbenic, 2021; Fürer, 2023).

At the same time, the European Union has strengthened the regulatory framework in the financial sector, acknowledging that the risk of greenwashing extends beyond corporate communications aimed at consumers and into capital markets, where financial products are frequently promoted as sustainable. The Sustainable Finance Disclosure Regulation (SFDR) (Reg. (EU) 2019/2088) requires asset managers and financial advisers to disclose transparently how they integrate sustainability risks and substantiate sustainability claims for their products, helping investors make informed choices and reducing the risk of misleading advertising practices (European Commission, n.d.-c).

1.5.3 Beyond consumer law

Beyond EU market rules, the same requirement for verifiable and useful information for decision-making also underpins the international climate regime. In the broader global governance framework, the Paris Agreement is a legally binding international treaty on climate change, adopted in 2015 at COP21 in Paris. Its overarching goal is to limit global warming to well below 2°C, while pursuing efforts to stay within 1.5°C (United Nations, 2015b). The agreement unites 196 nations on common climate goals and is regarded as the most significant international climate pact.

This agreement is also relevant when examining the legal foundations of greenwashing. Since greenwashing undermines the core principles of Article 6 of the Paris Agreement, namely transparency, environmental integrity and accurate accounting, it is widely seen as incompatible with the commitments of that article. While Article 6 aims to guarantee that mitigation outcomes are authentic, verifiable and appropriately used, greenwashing creates only an appearance of progress, thereby undermining the legitimacy and efficacy of global collaboration. This persistent gap between environmental claims and actual performance not only threatens environmental integrity but also jeopardises the Paris Agreement's shared goal of reducing global warming (European Council, 2025a; Roth et al., 2019; United Nations, 2015a; World Bank Group, 2022).

Aligned with these concerns, the European Union is also finalising a Directive to combat greenwashing, requiring companies to present credible environmental claims in a short period (such as 10 days, as proposed) and imposing "effective, proportionate and dissuasive" penalties (Neslen, 2023). The regulation indicates a growing legal push to go beyond simple civil penalties and introduce substantial consequences for misleading

environmental claims. However, the exact definition of penalties is left to the discretion of the Member States (Neslen, 2023).

Greenwashing constitutes a complex and multifaceted challenge at the intersection of business strategy, consumer perception, and environmental sustainability. This chapter has examined its origins, historical development, and operational, symbolic, cultural, and regulatory dimensions, highlighting how corporate practices, communication tactics, and societal structures shape its persistence. Far from being mere deceptive advertising, rooted in today's culture and history, greenwashing influences public perception and hinders substantive sustainability progress and circularity.

From a legal and regulatory standpoint, the landscape remains uncertain due to the withdrawal of the Green Claims proposal and the reliance on the Unfair Commercial Practices Directive to support the verification of environmental claims. As a result, the mechanisms are limited and might not follow a consistent pattern. Research on national frameworks, such as Portugal's, reveals that consumer protection legislation relies on civil and administrative enforcement, which frequently fails to stop misleading activities. The fines proportional to turnover, exclusion from public contracts and mandatory external audits under the amended Corporate Sustainability Reporting Directive demonstrate a growing realisation of the need for stronger, more unified and enforceable tools. Such procedures are critical for maintaining transparency, accountability and uniformity across jurisdictions.

At the same time, it has become evident that this consistency derives from a wider issue: beyond national frameworks, greenwashing weakens global climate commitment efforts like the Paris Agreement. All of this focuses on the chapter's main issue, which has been raised and discussed in each section when discussing greenwashing. Distinguishing between genuinely sustainable initiatives and symbolic gestures remains a pressing challenge, as superficial practices can be confused with substantive progress, delaying systemic and circular economic transformation.

Greenwashing is a significant barrier to the adoption of genuine sustainability practices and the transition to a circular economy. Thus, understanding greenwashing means not only exposing a deceptive practice, but also taking a necessary step to open the way for a truly sustainable circular model. Without effective and unified regulatory measures, this phenomenon will continue to undermine global efforts. In the following chapters, the

focus turns to the circular economy and sustainability. Their connection is not coincidental, but rather intrinsic: credible progress on one is dependent on the other. Circularity and sustainability cannot be achieved if greenwashing persists. Understanding both concepts is crucial for assessing their impact and identifying pathways toward genuinely sustainable corporate practices. The following chapter develops this discussion by introducing the idea of the circular economy, tracing its evolution, principles, and challenges, and aiming to distinguish between substantive sustainable transitions and merely symbolic actions.

2 Circular Economy

2.1 From Linear to Circular: Concept, Purpose and Evolution

The "take-make-discard" model contrasts with the transformative approach of the circular economy, which seeks to replace the conventional linear paradigm with a system of continuous and regenerative use of resources (Kumar & Saravanan, 2019).

As depicted in Figure 1, the linear economy follows a one-way trajectory, resources are extracted, transformed into products, and ultimately discarded as waste. In contrast, the circular economy is built on a closed loop, in which materials are continuously recycled, repurposed, and maintained in use for as long as possible. By combining recycling, rehabilitation, and remanufacturing, this concept increases the value and lifespan of products (Kumar & Saravanan, 2019).

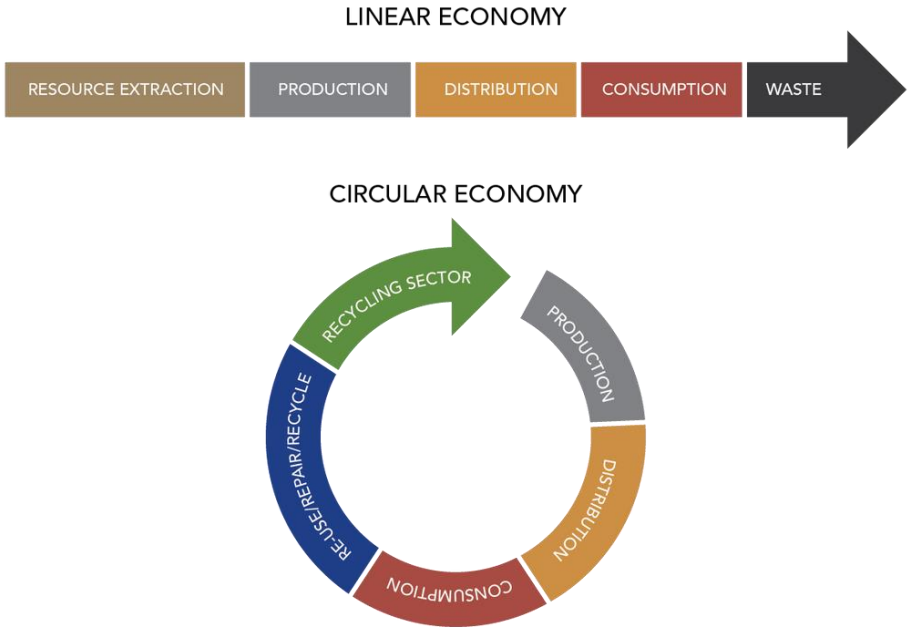

Figure 1. *Circular vs. Linear Economy*.

Source: Kivati, 2018.

The following consolidation of key impact indicators can help to ground the necessity of this change in the textile industry. Approximately 92 million tons of textile waste are produced annually by the fashion sector. Furthermore, the throwaway nature of contemporary production is demonstrated by the 36% decrease in the number of uses per garment over the past 15 years brought about by the fast fashion culture. This information

highlights how urgently the industry needs to undergo a structural shift in how products are designed, used, and discarded (Igini, 2023). The magnitude of the issue is highlighted by United Nations data, which show that the textile industry is responsible for 2–8% of global greenhouse gas emissions, uses water equal to 86 million Olympic-sized swimming pools annually, and burns or dumps a garbage truck load of clothing every second (Mishra, 2025).

The circular economy conveys a paradigm shift, offering a more sustainable alternative to conventional techniques. It provides a solution to sustainability and a resilient future by addressing increasing environmental pressures such as pollution, resource scarcity, and climate change. To comprehend the circular economy, it is crucial to understand the traditional linear model, which relies on extracting raw materials, producing goods, and ultimately discarding them. Because this model assumes an endless supply of finite resources, it is inherently unsustainable and contributes significantly to environmental degradation. The circular economy seeks to transform this linear process into a closed-loop system by prioritising design for durability, reuse and safe material cycles (Kumar & Saravanan, 2019).

The circular economy has both environmental and financial benefits. According to Lacy & Rutqvist (2015), adopting sharing platforms, circular supply chains and product-life extension could unlock trillions in value by 2030. This highlights how crucial it is that businesses give equal weight to long-term financial success and environmental sustainability (Ellen MacArthur Foundation, 2022). Unlike greenwashing, which covers unsustainable practices, the circular economy promotes transparency and measurable progress in sustainability, encouraging genuine environmental responsibility.

2.1.1 Historical Evolution and Early Warnings

Essentially, the circular economy addresses the inefficiencies and environmental harm of the traditional “cradle to grave” linear model. According to Braungart & McDonough (2002) in *Cradle to Cradle*, this linear method results in substantial material waste and a loss of economic value, which eventually affects across the environment and society globally.

The structured idea of the circular economy and the concept itself have evolved and changed over time, mostly in response to the demands and worries surrounding resource shortages and environmental degradation. Environmentalists and scientists have long cautioned against the unsustainable nature of the conventional linear economic model, which was built on the "take-make-discard" strategy and was widely used in industrial development (Lacy & Rutqvist, 2015). This industrial model approach encourages consumers to replace and discard things regularly by designing and selling them with built-in obsolescence (Braungart & McDonough, 2002).

The circular economy can be traced back to specific moments, people, and historical events. The consumption of natural resources since the early days of industrialisation has progressively disrupted the balance of ecosystems, as evidenced by the link between economic expansion and environmental degradation. An important turning point was the Industrial Revolution, which fuelled economic growth through mechanisation and intensified both waste generation and resource extraction. For more than two centuries, global production and consumption have been shaped by a predominantly linear model. Still, it's increasingly unsustainable nature has resulted in a systemic crisis, worsened by the crossing of planetary boundaries such as biodiversity loss and climate change (Lacy & Rutqvist, 2015).

In the textile industry, the dominance of the linear model, characterised by mass production, short product lifespans, and rapid disposal, has resulted in significant environmental and social challenges. Between 2000 and 2014, the average consumer increased clothing purchases by 60%, yet garments were kept for only half as long (European Union, n.d.-a).

The urgency for systemic transformation has intensified, particularly as the fashion industry is projected to consume 26% of the global carbon budget by 2050 (Li, 2024). The COVID-19 pandemic further exposed the vulnerabilities of linear systems, with disruptions in supply chains, such as textile shortages, highlighting the need for resilient, circular alternatives like closed-loop recycling (Lacy & Rutqvist, 2015).

2.1.2 Governance Support and Multilevel Frameworks

The historical trajectory of the circular economy has continued into the twenty-first century. It has gained institutional traction through organisations such as the Ellen MacArthur Foundation and the United Nations, which have promoted policies and projects supporting circularity. These groups contributed to the creation of circular economy-related policies and institutional recognition (Lacy & Rutqvist, 2015; United Nations, n.d.-a).

To demonstrate that resource conservation and economic expansion can coexist, the UNDP, for instance, works with governments and partners to assist companies in implementing sustainable models. The feasibility and profitability of circular practices such as eco-design, waste reduction, and circular supply chains are demonstrated by research from a variety of industries, including textiles (Lacy & Rutqvist, 2015; United Nations, n.d.-a).

This growing institutional support has helped expand the understanding and application of the circular economy at different levels of society and governance. These levels - micro, meso, and macro - organise the way circular strategies are implemented:

- Micro level: Refers to individual companies or entrepreneurs adopting a circular strategy, such as:
    - Extending the life of products.
    - Using remanufacturing techniques.
    - Innovating in materials to reduce waste and resource use.
- Meso level: Involves cooperation between companies within shared networks or systems, such as:
    - Eco-industrial parks or industrial commons, where businesses work together.
    - One company's waste or residual materials are used as resources by another.
    - This collaboration boosts efficiency and reduces overall waste.
- Macro level: Focuses on the role of governments and global institutions in:
    - Creating legal frameworks and incentives to support circular practices.
    - Promoting circularity in urban planning and infrastructure.
    - Implementing policies that guide national and international action.

Together, these levels create an integrated approach to scaling the circular economy, from individual actions to systemic change (Kirchherr et al., 2017).

2.1.3 The Textile Industry: Impact and Urgency

The textile industry has the potential to be one of the most affected by the shift from linear to circular models. It uses a lot of resources and works with fast consumption cycles, making it a key test for circular practices. Even though institutions and companies are showing growing commitment, the industry still shows a clear gap between circular goals and the persistence of linear practices. This discrepancy becomes evident when analysing key impact metrics that illustrate both the environmental scale of the industry and the urgency of systemic transformation:

- An entire garbage truck's worth of clothing is burned or dumped in a landfill every second (Ellen MacArthur Foundation, 2022).
- By 2022, around 85 per cent of household textile waste in Europe will not have been collected separately, ending up mixed with public solid waste and consequently sent to landfill or incineration, making it impossible to reuse or recycle (European Environment Agency, 2025).
- The first discovery of microplastics in human brain tissue samples was reported by researchers in September 2024, raising the possibility that the microplastics could cross the blood-brain barrier. The discovery gives urgency to the reduction of synthetic fibres in the textile chain and raises the environmental pollution argument to a direct public health dimension (Roche, 2024b).

This results in higher environmental responsibilities and waste management expenses, especially when synthetic materials and intricate material combinations proliferate. Global garbage output is predicted to rise by 70% by 2050, according to the European Investment Bank (EIB), underscoring the shortcomings of the present paradigm and the pressing need for systemic change (Knight, 2023; Stahel & MacArthur, 2019).

The consequences of this model can also be translated into cotton price volatility, pollution from synthetic fibres and dyes, and a continued dependence on non-renewable resources and hazardous chemicals. Combined with practices like planned obsolescence,

these factors contribute to the worsening of environmental degradation and the instability of global textile markets (European Parliament, 2020).

The growing challenges within the textile industry show that superficial solutions, such as basic recycling, are insufficient. The circular economy offers a systemic alternative, but its adoption still depends on overcoming structural economic, technological, cultural and institutional barriers, even if it is increasingly acknowledged as an environmental and socioeconomic necessity (Stahel & MacArthur, 2019).

2.2 Principles of Circularity and Design Implication

According to the *Circular Economy User's Guide* the linear model, which emphasises the idea of globalised production, is not actually boosting society's overall prosperity. The linear approach only substitutes new products for outdated ones, producing no substantial added value or long-term economic sustainability, as opposed to creating sustainable economic growth. By proving that sustainability and profitability can coexist successfully, the circular economy prioritises waste reduction and the prevention of resource depletion (Stahel & MacArthur, 2019).

The linear industrial economy, on the other hand, places more emphasis on waste management techniques like recycling and burning than on methods that extend the useful life and value of materials. Unlike incineration, which destroys existing resources, recycling often entails a loss of material quality (Stahel & MacArthur, 2019). A more structured and preventive approach is needed, one that rethinks not only how materials are handled after use but how products are designed and consumed in the first place (European Commission, 2020; Rathinamoorthy, 2019).

This shift also calls for Extended Producer Liability (EPL), which emphasises producers' accountability for the full life cycle of their products and the individual responsibility for end-of-life materials. In many texts and policies, this is referred to as Extended Producer Responsibility (EPR), an environmental approach that makes producers responsible for products throughout their lifecycle and encourages redesign, durability, and waste reduction (Knight, 2023; Stahel & MacArthur, 2019; United Nations Environment Programme, n.d.).

The European Commission's Circular Economy Action Plan includes a strategy for the textile industry that addresses these issues. To guarantee transparency in the production chain, this approach suggests certain guidelines for reducing synthetic fibres and introducing a single digital label. Furthermore, as previously stated, the proposal to enhance Extended Producer Responsibility (EPR) is a crucial step for businesses to internalise the environmental costs of the product life cycle and guarantee that sustainability claims are supported by verifiable data (European Commission, n.d., 2020, 2022b).

Beyond the conventional "reduce-reuse-recycle" approach, the 9R model offers a more comprehensive hierarchy of circular acts and highlights tactics like converting cotton waste into insulation (European Union, n.d.-a; Grow Circular, 2021; Rathinamoorthy, 2019). This hierarchy goes from R0 Refuse, which questions the necessity of a product, to R9 Recover, which concentrates on recovering energy from waste materials, as seen in Figure 2.

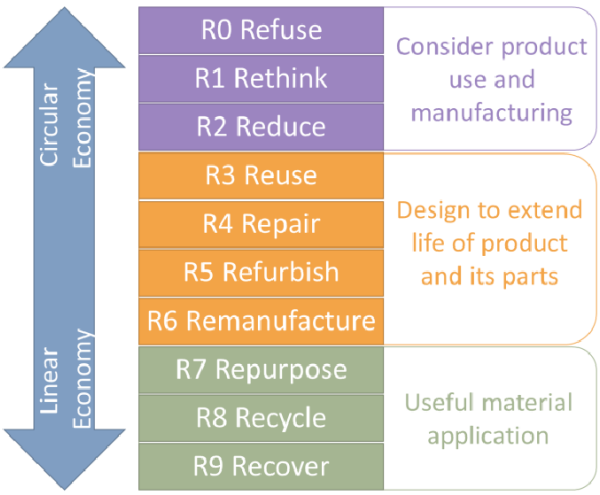

Figure 2. *Circular economy and Linear Economy – the 9Rs.*

Source: Paul & Eggermont, 2022, p.2.

The lower the level in the hierarchy, the smaller the positive impact on the environment and on promoting a circular model. Because waste is stopped from being produced in the first place, actions like refuse, reconsider, and reduce (R0-R2) are thought to have a greater impact. Recycling and recovery (R8–R9), on the other hand, are less successful since they address the effects of waste after it has already been produced (Grow Circular, 2021).

The visual hierarchy depicted in Figure 2 show how crucial it is to prioritise solutions at the start of the product life cycle, like durable design, reuse, and repair, rather than depending solely on end-of-life tactics like recycling or energy recovery, when it comes to putting circularity into practice. This transition from a linear economy, where resources move in a single path toward disposal, to a circular economy, where value is maintained and renewed throughout the system, is highlighted by the arrow next to the illustration (Grow Circular, 2021).

But putting these effective strategies into practice in the textile industry is fraught with difficulties. One major barrier is the widespread use of blended textiles, such as cotton-polyester blends, which cannot be recycled using current techniques. Elastane, commonly added to fabrics to improve their performance, contaminates most recycling procedures, reducing their environmental and economic viability. Even mixtures of polyester types can have a detrimental effect on mechanical recycling and reduce output quality. Additionally, consumer behaviour, which continues to favour inexpensive, trend-driven products, the cheaper the item, the more likely the customer is to purchase it, maintaining a cycle of overconsumption and unsustainable fashion practices (European Commission, 2022a, 2022c; Rathinamoorthy, 2019).

This type of systemic vulnerability, already evident in episodes such as the 1973 oil crisis, is mirrored today in industries like textiles, where production still heavily relies on non-renewable resources such as petroleum-based fibres and fossil fuel energy. The circular economy offers a robust option to these fragile, linear dependencies (Lacy & Rutqvist, 2015; Yergin, 2023).

While the circular economy offers a resilient alternative to linear dependency and is increasingly supported by institutional frameworks and innovative practices, its successful implementation is still challenged by deeper systemic barriers. These include not only technical and economic constraints, but also cultural dynamics, policy alignment, and issues of social inclusion.

According to Gardetti (2019), it is possible to understand that the circular economy is based on intercultural communication, innovation, and systemic thinking, in addition to being a model for environmental regeneration. Therefore, cultural diversity, cross-border collaboration, and the requirement for inclusive narratives that are in line with both local and global reality must all be considered while implementing it.

As evidenced by (Kirchherr et al., 2017), socio-cultural perspectives strongly shape how the circular economy is framed, designed, and approached within sustainability debates. The best illustration of this is the way cultural perspectives affect how the circular economy is conceived: in Europe, it is primarily associated with environmental responsibility and regulatory frameworks, while in regions such as Asia, it is viewed as an opportunity for economic growth and industrial innovation. Therefore, it is equally necessary to see the circular economy as a socio-cultural shift (Kirchherr et al., 2017).

The circular economy is built on foundational principles inspired by the functioning of natural ecosystems, as described by Gardetti (2019). These principles not only support a structural shift in production and consumption patterns but also offer a framework through which companies can promote diversity, creativity, and cultural adaptation.

Drawing on the Council of Europe's intercultural cities framework, the implementation of a circular economy must also integrate social and intercultural considerations alongside environmental and economic dimensions.

According to the Council of Europe, circular cities must involve communities from diverse cultural backgrounds as co-creators of environmental solutions, recognising their unique contributions in terms of cultural knowledge, lived experience, and community networks. These groups are not passive recipients but active agents who can contribute innovative and inclusive solutions to sustainability challenges (Council of Europe, n.d.).

Embracing cultural diversity as a core component of circularity strengthens social cohesion, fosters collaboration, and enhances the resilience of urban systems. Thus, the circular economy extends beyond product design and life cycle considerations to incorporate social justice and cultural integration as key pillars for developing environmentally and socially responsible solutions (Council of Europe, n.d.).

Within this broader vision, the following core pillars of the circular economy can be highlighted:

- Waste as Nutrients:

First, the "waste as nutrient" notion illustrates how waste materials should be used as raw materials for new goods in a circular economy. With new production models being driven by the innovations, experiences, and customs of the past, this shows the growing need for cross-cultural information sharing in organisations. The ability to reinterpret and reuse

existing cultural knowledge allows the industry to develop competitive advantages in global industries. Sustainable practices turn waste into value; that is, by incorporating circularity into the company's identity, the company is creating value at every level of its operation (Gardetti, 2019).

In *Cradle to Cradle*, Braungart & McDonough (2002) contend that nature operates on the tenet that "waste is food", meaning that each byproduct creates new life. Industry could adopt this idea: goods should be made as technical nutrients (capable of being endlessly reprocessed) or biological nutrients (safely biodegradable).

- Resilience:

Rooted in the idea of biodiversity, this principle suggests that diverse systems are more adaptable to change. From a business perspective, integrating a variety of cultural viewpoints and practices leads to greater resilience in supply chains and decision-making processes. Diversity fosters the health of ecosystems, and similarly, businesses that value cultural inclusiveness are better prepared to navigate environmental and social challenges (Gardetti, 2019).

- Renewable Energy:

Energy from renewable sources is essential to the operation of circular systems. Only when energy consumption does not degrade finite resources can circular economy models be considered sustainable. This paradigm is supported by multinational corporations that embrace transnational identities and combine innovation, renewable energy, and moral behaviour that respects cultural and environmental boundaries (Gardetti, 2019).

- Systemic Interconnection:

All elements in the circular economy are interconnected: technological, ecological, social, and cultural. This means that no decision occurs in isolation, and businesses must adopt a systemic view of their operations. True circularity demands collaboration across sectors, industries, and borders, with policies that are sensitive to different cultural and social realities (Gardetti, 2019).

Sharing platforms such as clothing rental services and shared ownership models embody circularity by enabling multiple users to access products without owning them, reducing demand for new goods and limiting environmental harm. These cooperative models,

alongside innovations like biodegradable materials and renewable energy, are essential to breaking the fashion industry's dependence on plastics (European Commission, n.d., 2020; Rathinamoorthy, 2019; Stahel & MacArthur, 2019).

Although these ideas offer a solid theoretical basis, several studies highlight the difficulties in real-world applications. Kirchherr et al (2017), for example, point out that many conceptions of the circular economy still exclude important social aspects: social fairness is mentioned in just 18–20% of them, while intergenerational justice is mentioned in less than 1%. This disparity emphasises how vital it is to develop inclusive and socially conscious circular approaches.

Although recycling is not the most impactful strategy in the circular economy hierarchy (9R), fibre-by-fibre recycling remains a crucial way to reduce dependence on virgin resources in the textile sector. Examples of fibre-to-fibre recycling initiatives in the textile industry include reducing the use of toxic chemicals and non-renewable resources, promoting clothes buy-back programmes, and creating business incentives for more sustainable production. Adopting a collaborative approach to circularity in the industry has numerous advantages, including improved economic efficiency, reduced costs for raw materials, and fewer negative consequences from the global supply chain. The circular economy has increasingly positioned itself as a strategic response to the textile industry's environmental and social challenges, playing a vital role in shaping public awareness and fostering more sustainable patterns of production and consumption (European Commission, n.d.-a, 2020; Petrie, 2023).

The potential of the circular economy to advance social justice is frequently disregarded. Ensuring that the benefits of circularity are fairly distributed requires approaches that are socially inclusive and attentive to diverse cultural contexts. Similarly, there are still differences between conceptual frameworks and actual implementation, even though Gardetti (2019) provides a useful theoretical perspective on the continuation of the circular economy. Closing these breaks is essential to improving our comprehension of "Cradle to Cradle" models. The upcycle notion is especially pertinent in this context because it demonstrates how the circular economy works through regenerative design techniques. These techniques actively improve ecosystems, encourage abundance, and minimise environmental harm (McDonough & Braungart, 2013).

Businesses and society at large require concrete examples of successful circular activities to encourage broad adoption. A common goal emerges from examining previous crises: understanding how the linear model operates and why the circular economy can serve as a more resilient alternative in similar socioeconomic contexts. Examining these instances in greater detail reveals that if circularity had been as both a practical and operational model and a theory, the environmental harm, especially regarding waste and resource depletion, might have been much lessened (Lacy & Rutqvist, 2015). Analytical studies of companies that have integrated circularity into their strategies, together with policies promoting inclusivity in circular economy initiatives, are therefore essential and will constitute a key focus of the last chapter.

2.3 Challenges of Implementation and Strategic Pathways

The shift to a circular economy presents major obstacles that require determined structural change in addition to the promise of environmental sustainability. Although the model encourages resource efficiency and waste reduction, its application necessitates a change at many societal and industrial levels, from consumer behaviour and cultural narratives to production processes and legislative frameworks (Braungart & McDonough, 2002; Kirchherr et al., 2017; Kumar & Saravanan, 2019).

However, a fundamental change in business paradigms is required for such a transition. Companies must create and implement creative solutions that remove the barrier of traditional sales in a market where conscious use is valued more than ownership. This makes creativity a crucial component of the circular economy (Kumar & Saravanan, 2019).

In this context, innovation must meet the requirements of effectiveness and transparency. The circular economy's emphasis on observable, verifiable outcomes directly counters greenwashing. Upcycling is one strategy that highlights intentional and sustainable design. By using safe materials and renewable energy, businesses may lessen their impact on the environment and encourage innovation throughout the value chain (McDonough & Braungart, 2013). This approach fosters a reimagining of prosperity where environmental preservation and economic growth are complementary goals rather than mutually exclusive ones.

Despite these advantages, there are drawbacks to the shift. Reorganising supply chains, restoring products, and investing in new recovery systems are examples of operational restructuring that require a substantial investment of time and money. It is difficult for many firms, especially small and medium-sized ones, to finance and implement such improvements. Therefore, the interaction of internal initiatives and external enablers, such as legislative backing, technological innovation, and consumer awareness, is essential for a successful circular transformation (Kumar & Saravanan, 2019).

The linear economy in the textile industry is a framework model primarily used by brands that create low-cost, trend-driven clothing that is intended for short-term use. Analyses of consumer use patterns show that some garments are discarded after as few as ten uses, indicating that overproduction and rapid degradation are structurally rooted in the system. It ignores the notion that waste is a major issue and functions on the premise that resources are limited. For clothing alone, around 124 million tonnes of fibres were produced in 2023, with synthetic materials, mainly polyester, accounting for over 60% of the total market (Rathinamoorthy, 2019; Textile Exchange, 2024b).

Reusability and durability are two of the most effective ways to reduce greenhouse gas emissions in the fashion sector, as specialists cited by the United Nations estimate that doubling the average lifespan of clothing could lower the industry’s climate footprint by up to 44% (Mishra, 2025).

Is it truly necessary to use so many resources to produce such a vast amount of fibre, and is the world preparing for this consumption need? Is consuming on this scale truly necessary and vital? What effects will the fast fashion industry's continued use of unsustainable business practices have on the environment? Cotton cultivation uses water and pesticides, and the creation of synthetic fibres, which are derived from fossil fuels, releases 700 million tonnes of CO2 equivalent per year, making textiles the fourth greatest consumer of agricultural chemicals (European Union, n.d.-a; Rathinamoorthy, 2019).

Up to 40% of the 80–150 billion garments manufactured annually, roughly 60 billion items, are never sold and are instead discounted, disposed of, or land-filled, making oversupply one of the "dirty secrets" of fashion (Tonti, 2024).

Every year, between 200,000 and 500,000 tonnes of microplastics from synthetic textiles enter the global marine environment, accounting for an estimated 16% to 35% of all microplastics in the oceans. In Europe, synthetic textiles contribute to around 8% of

microplastic pollution in marine ecosystems, contaminating biodiversity and entering the food chain (European Environment Agency, 2022).

Does society really need to use so many textiles that it constantly compromises the environment? Are these numbers concerning enough to change anything? The reality is that some corporate identities promote themselves as sustainability leaders, advocating measures such as using recycled materials to reduce impact and washing bags to trap microfibres. These fixes, however, do not address the underlying cause of the issue, which is the fashion industry's reliance on plastic. Microplastics are still generated during the usage and disposal of synthetic clothes. Fashion is the world's third-largest consumer of plastic, with 37.2 million tons of plastic produced solely for synthetic fibres in 2017 alone (European Union, n.d.-a; Rathinamoorthy, 2019).

Furthermore, instead of advocating for deep structural changes, specific high-profile brands address environmental issues through prominent campaigns that can appear sensationalist. These efforts often focus more on showcasing initiatives than on measuring their actual impact. A recent example demonstrates this: a campaign claiming that recycled nylon apparel "protects the oceans" led to a greenwashing complaint in France. After reviewing the tactics considering recognised greenwashing sins, the national advertising ethics body considered the message deceptive because it overstated the impact of the actions and could lead consumers to believe that purchasing clothing directly contributes to ocean conservation (European Union, n.d.-a; Rathinamoorthy, 2019).

Circularity is one potential application for lowering the textile industry's reliance on plastic, reusing and recycling materials, and minimising industrial waste. Systemic transformation has become essential in the textile industry. Replacing the current linear model enables deeper thinking and prioritises longevity and biodegradability over rapid consumption (European Union, n.d.-a; Rathinamoorthy, 2019). The creation of systemic policy frameworks that promote sustainable public procurement, product liability, and environmental planning is one of the main factors facilitating circularity.

The supply chain's globalised character further hampers the shift to the circular economy. Fast fashion is dependent on distributed production networks, which are frequently found in nations with low labour costs and laxer environmental standards, such as Bangladesh and Vietnam. Implementing circular systems, which call for more localised and

transparent supply chains to ensure material traceability, is challenging due to this decentralised nature. However, this transformation is hampered by logistical challenges and a lack of suitable bases, necessitating a thorough reform of industrial processes with an emphasis on improving access to working conditions (Stahel & MacArthur, 2019).

On a larger scale, this entails implementing coordinated institutional and legal reforms to incorporate the circular economy into all sectors (Kirchherr et al., 2017). According to Kirchherr et al (2017), the circular economy should be viewed as a socio-cultural shift that is considerate of local customs and values, in addition to being an economic or technological shift. Inspired by nature, this closed-loop system turns every output into an input for new life. It signifies a shift from efficiency to plenty and from harm reduction to regeneration (Braungart & McDonough, 2002). Significant structural and behavioural barriers continue to slow down the transition. These same challenges highlight the importance of rethinking value creation, with a focus on circular value chains, which will be discussed in the final sections of this chapter.

2.4 Circular Value Chains: Towards Regenerative Textile Systems

The ongoing transformation of the textile industry marks a shift from conventional linear processes towards systems in which materials circulate through regenerative cycles. In this context, circular value chains refer to systems that:

- Give priority to minimising the exploitation of intact natural resources.
- Aim to reduce environmental degradation throughout the textile production process significantly.
- Are driven by strategic innovations in textile processing and product design.
- Are fundamentally closed-loop models (Kumar & Saravanan, 2019).

Associated with these fundamental aspects, these models also stand out for their inclusion of advanced recycling technologies, such as:

- Fibre-to-fibre recycling.
- Chemical recovery of polyester and cellulose fibres.

These technologies allow the repeated reuse of materials with minimal loss of quality (Kumar & Saravanan, 2019). Circular value chains thus represent a shift towards sustainable and regenerative practices in the textile industry.

2.4.1 Assessing and Implementing Circular Value Chains

However, despite the transformative potential of circular value chains, their operationalisation faces significant barriers, particularly in terms of impact measurement and result verification. The absence of standardised indicators makes it difficult to compare companies and processes consistently across the industry (Balanay & Halog, 2019).

The main tools currently used to support this evaluation include Life Cycle Assessment (LCA), which assesses the environmental impacts of a product throughout its life cycle, Social Life Cycle Assessment (SLCA), which focuses on the social and labour-related effects along the value chain, and Life Cycle Sustainability Assessment (LCSA), which integrates environmental, social, and economic dimensions into a single framework (Balanay & Halog, 2019; Textile Exchange, 2025).

Life Cycle Assessment (LCA) serves as the analytical foundation for a circular textile economy, enabling the evaluation of the environmental impact of circular systems, especially in the textile. LCA is described by ISO 14040 as a process for gathering and assessing a product system's inputs, outputs, and possible environmental effects over the course of its life cycle (Balanay & Halog, 2019; ISO, 1997; Textile Exchange, 2025).

Other relevant instruments include the Material Circularity Indicator (MCI), which quantifies the circularity level of material flows in a product and assesses the degree to which a product is truly "closed-loop", guiding choices about the design, sourcing, and end-of-life strategy of clothing (Rocchi et al., 2021).

While these methods are crucial for evaluating the textile industry's progress toward circularity, their application varies, making it challenging to identify the degree of circularity in specific businesses precisely. Therefore, greater standardisation of measurements, improved data collection, and the development of robust evaluation frameworks are necessary to address these challenges (Balanay & Halog, 2019).

As the basis of circularity, it is essential to precisely define the components of a circular textile value chain, especially given the challenges in implementing and measuring them. Design for circularity is the foundation of any circular value chain and the starting point for the interconnected processes that make up a textile product's life cycle. This includes concepts like modular structure, biodegradability, durability, non-toxicity, and reusability, according to the UNEP report from 2023 (Petrie, 2023; Rathinamoorthy, 2019).

Using mono materials makes recycling and disassembly easier, while modular design enables component replacement or maintenance. Conversion, resale, and reuse of things are made possible by designing with various life cycles in mind. Ultimately, sustainability begins with design: integrating circularity from the outset reduces waste generation during both the production and end-of-life phases (Petrie, 2023; Rathinamoorthy, 2019).

Textile Exchange has defined several quantifiable objectives, reflecting a strong commitment to supporting the industry transition to circularity. Among these initiatives are the development of open-source tools and data platforms aimed at promoting sustainable sourcing and increasing transparency:

- Material Impact Explorer (MIE): Developed in collaboration with Google, NGIS and WWF, this tool assesses the regional environmental risks associated with the raw materials used in fashion (Textile Exchange, n.d.-a).
- Preferred Fibre and Materials Matrix (PFMM): Created by Textile Exchange, this platform allows the comparison of more than 80 environmental and social indicators, helping companies to identify more sustainable material choices (Textile Exchange, n.d.-b, 2025).
- Materials Directory (online transparency database): Includes data from over 700 facilities and 280 verified products, offering a detailed overview of supply chains, operations and raw materials (Textile Exchange, 2024a, 2024b).

These non-profit initiatives demonstrate clear and growing support for the fashion industry's transition to circularity, helping stakeholders navigate this change through accessible tools and actionable data (Petrie, 2023; Rathinamoorthy, 2019).

2.4.2 Integrating Sustainability Across the Textile Value Chain

Sustainability needs to be rooted throughout the textile value chain to ensure the coherence and effectiveness of circular value chains. As shown in Figure 3, the textile value chain encompasses a wide range of interconnected stages, from raw material extraction to end-of-life. Each of these tiers must be addressed not only through improvements in material flows but also by integrating the economic, social, and environmental systems that support them (Petrie, 2023).

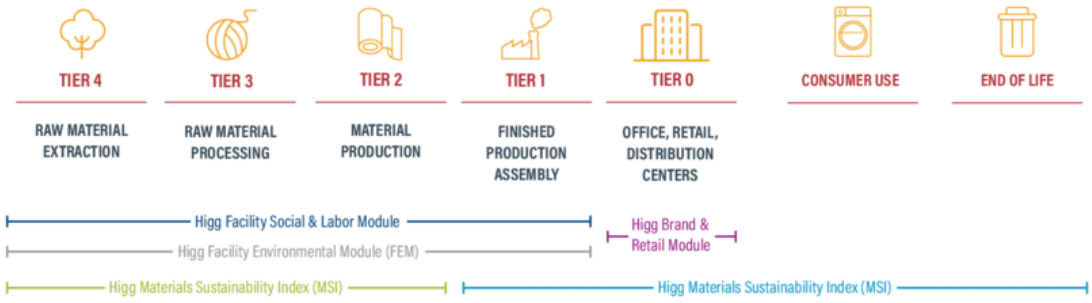

Figure 3. *Stages of the Textile Value Chain and Corresponding Sustainability Measurement Tools.*

Source: Sadowski et al., 2021.

The chain begins upstream with Tier 4 (raw material extraction), followed by Tier 3 (raw material processing), and then the production of components and final products in Tiers 2 and 1, as illustrated in Figure 3. Tier 0 represents the retail, distribution, and office stage. However, the value chain does not end at the point of sale. As highlighted throughout this chapter, it extends into the product's full life cycle, encompassing consumer use, maintenance, and the crucial end-of-life stage, where strategies such as reuse, remanufacturing, recycling, or composting are implemented. This systemic perspective, moving beyond a linear model, is what defines circularity (Petrie, 2023; Textile Exchange, 2024a, 2024b).

However, the absence of traceability and transparency beyond Tier 1 suppliers is one of the primary barriers to putting this systemic transformation into practice. Although businesses frequently maintain compliance frameworks with their direct partners, they often lack visibility into deeper supply chain levels, particularly levels 2 and 3, where most environmental and social hazards typically arise (Rahman, 2022).

The textile supply chain is highly fragmented, which exacerbates opacity. As outlined in the OEM-Tier supplier pyramid, it can be integrated with the consumer pyramid. Tier 1 suppliers collaborate closely with the brand, tier 2 suppliers provide individual components, and tier 3 and lower tiers deal with upstream processes such as spinning, dyeing, and raw material preparation, corresponding to the “consumer pyramid” (retail to end user) that creates demand signals. As a result, even in allegedly audited and accredited manufacturing systems, non-compliant behaviours may continue unnoticed, eroding the legitimacy of sustainability initiatives (Rahman, 2022).

Adopting circular value chains requires setting measurable objectives. Real progress necessitates quantifiable commitments from all industry participants, from raw material suppliers to major brands, and goes beyond the initiatives of groups like Textile Exchange. The goal is for all priority materials, including regenerative, certified organic, and responsibly farmed inputs, to originate fully from sustainable sources by 2030. To lessen dependency on virgin, fossil-based synthetics, targets also include employing 90% recycled polyester and making sure that 30% of revenue originates from circular business models such as subscriptions, resale, rental, and repair (Petrie, 2023; Textile Exchange, 2024a).

It is crucial to foster collective responsibility, which translates into cooperative action along the entire value chain. Sustainable material sourcing is becoming the foundation of fashion's future rather than a specialised effort. Rethinking how materials are produced, processed, designed, utilised, and reintroduced into the economy is necessary to integrate circularity into the textile value chain. Recycling alone is not enough (Petrie, 2023).

Ethical and resource-efficient production is a key component of a circular value chain, which seeks to balance environmental responsibility with social justice and economic feasibility. It transcends technical fixes. By incorporating fair wages, gender equality, safe working conditions, and ecosystem preservation into the circular model, the UN Environment Programme prioritises "better" production over just "less" (Petrie, 2023).

2.4.3 Digital Tools for Traceability and Transparency

Circularity is a long-term approach to sustainability, not just a way to lessen harm. Transparent governance and regenerative systems are advocated by the UN program,

particularly in low-income nations where environmental harm and labour exploitation are prevalent (Petrie, 2023).

Controlling the consumer phase is just as important. Circular chains must address extended use and end-of-life recovery. Modifying clothes care practices could drastically cut emissions, research indicates that by 2030, fewer washings and dryings could prevent up to 186 million tons of CO_2. Despite its influence on energy use, water consumption, microfibre release, and chemical pollution, the consumer use phase remains largely neglected, since there is a dearth of standardised data on user behaviour (Petrie, 2023). To get beyond greenwashing and direct decision-making, trustworthy instruments are required. Metrics are crucial for monitoring development, calculating effects, and supporting circular supply chain tactics (ISO, 1997).

However, the increasing use of measuring tools also draws attention to some of the shortcomings and uncertainties in current frameworks. As previously mentioned, there are situations where communication does not fully align with the larger objectives of circularity due to the technical complexity of circular systems and the lack of thorough integration. In these situations, companies could inadvertently highlight discrete metrics, like the proportion of recycled materials or carbon offsets, as independent evidence of sustainability. These initiatives run the danger of being misunderstood or exaggerated if they are not placed inside a larger circular strategy (Petrie, 2023; Textile Exchange, 2024a, 2024b).

For instance, mentioning that some clothing is made of recycled polyester could appear like a straightforward environmental statement. However, this message may offer customers an inaccurate impression if it is not complemented by clarity regarding other factors, such as labour conditions or chemical processing. This phenomenon, often called the "halo effect", can undermine trust and block the development of a value chain that is more open and genuinely circular (Petrie, 2023; Textile Exchange, 2024a, 2024b).

As a result, blockchain technology is becoming recognised as a powerful instrument for enhancing supply chain traceability and transparency. This technology provides the basis for innovations such as Digital Product Passports (DPPs), a European Union regulatory initiative under the Ecodesign for Sustainable Products Regulation (ESPR), adopted in 2024, making it possible to reliably log data and track material (Alves et al., 2022; Stretton & Buzeti, 2024).

A DPP is a digital record of a physical product that gathers and stores important lifecycle data. Stakeholders can obtain verified information on origin, production processes, environmental effect, recyclability, and durability since each item is associated with a unique identifier, such as an RFID tag or QR code (European Union, 2024a; Gieß & Möller, 2025).

These two digital tools operate synergistically to support circularity:

Blockchain technology:

- Ensures data integrity across the value chain.
- Enables full material traceability from origin to end-of-life.
- Protects sensitive business data while verifying sustainability claims.
- Supports accountability and combats greenwashing (Alves et al., 2022; Gieß & Möller, 2025; Stretton & Buzeti, 2024).

Digital Product Passports (DPPs):

- Provide structured, product-specific lifecycle data.
- Include details like raw material origin, resource use, composition, and certifications.
- Help recyclers efficiently recover materials.
- Facilitate a shared language of circularity across all stakeholders.
- Operate as policy tools aligned with the EU's Circular Economy Action Plan (European Union, 2024a; Gieß & Möller, 2025; Murphy, 2022).

To illustrate, a sustainable viscose dress's production chain will include every step from the certified wood-harvesting company to the product's distributor. Every block in the chain is connected to every other block and cannot be changed. Only new information can be added. So even while traders can conceal technical details, the blockchain allows one to understand the source of the wood, and the company's claims will be supported by transparent and genuine data to try to avoid greenwashing. The DPP of the dress made of sustainable viscose has all this information (European Union, 2024a; Gieß & Möller, 2025; Stretton & Buzeti, 2024).

Examining the circular economy reveals that its implementation in the textile industry entails more than just cutting waste or substituting used resources. Redesigning

production processes, rethinking value linkages, and rebalancing effects across the chain are all necessary for this significant structural shift. By turning waste into resources and prolonging product life cycles, the circular model suggests a regenerative strategy that harmonises technological progress with social justice and environmental responsibility.

The complete operationalisation of circular value chains, however, still confronts many obstacles, from the continuation of linear and economic paradigms to the absence of standardisation of metrics and infrastructure, despite their evident disruptive potential. Although they are important advancements, tools like LCA, MCI, DPP are still scarce, making it difficult to ensure complete transparency or to stop and identify greenwashing. Beyond closed systems, circularity necessitates coherence and traceability.

Sustainability must be founded on shared responsibility across the value chain, ethical working conditions, and responsible governance, and it cannot be reduced to environmental measures alone. Without incorporating these ideas, circularity runs the risk of being a symbolic gesture unrelated to the larger change that is desired. Beyond materials and design, inclusive and transparent sustainability measures must be integral to a true circular strategy.

Aligning environmental goals with social justice and institutional integrity is a difficulty facing the industry as it develops. In this view, sustainability is a continual, adaptive, participative process that is incorporated into governance and industrial structures rather than a static, fixed objective. The following section offers a practical perspective for assessing and validating sustainability in the textile industry and beyond.

CHAPTER III – SUSTAINABILITY: SOCIAL, GOVERNANCE AND ENVIRONMENT

3 Sustainability: Social, Governance and Environment

3.1 The Three Pillars of Sustainability

Sustainability is a multifaceted concept in the textile industry that includes environmental, social, and governance aspects. As a complex and multidisciplinary framework that seeks to balance environmental integrity, social well-being, and economic development, the union of these three pillars is crucial to addressing the industry's difficulties and ensuring long-term viability (Pandit et al., 2019; Purvis et al., 2019).

Beyond its technical and policy dimensions, sustainability is also an intercultural construct: sustainability claims function as narratives that circulate among culturally diverse stakeholders, each with different expectations of accountability, transparency, and fairness. Interpreting them requires intercultural competence to recognise how meanings and expectations shift across contexts, languages, and governance regimes (Berkland, 2023; Busch, 2016).

While the classical sustainability model (Figure 4) refers to Environmental, Social, and Economic pillars, some academic perspectives highlight that the economic dimension often operates through institutional mechanisms of governance, which enable sustainability goals to be implemented and regulated (Clune & Zehnder, 2018; Islam et al., 2022). This chapter adopts that interpretation by referring to the third pillar as the 'Economic and Governance' dimension, acknowledging that economic structures often function through regulatory and institutional mechanisms.

Accordingly, it is equally important to comprehend how the three sustainability pillars relate to one another and to comprehend the pillars themselves. Their intersection and the centrality of sustainability are depicted in Figure 4, specifically in row (a). This image illustrates a fundamental principle: true sustainability is only possible when all three domains, social, environmental, and economic, are integrated equally. Sustainable practices in the textile industry succeed only when they address social justice, environmental preservation, financial and governance viability together (Pandit et al., 2019).

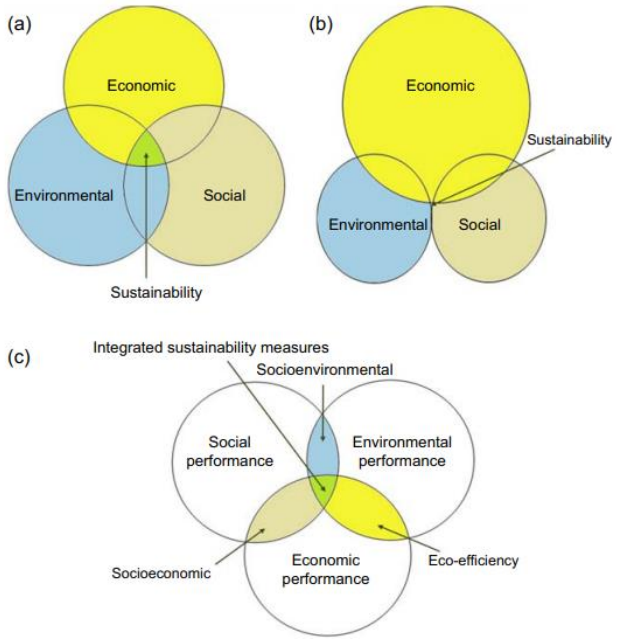

Figure 4. *The Three Pillars of Sustainability and Their Interconnection*.

Source: Pandit et al. (2019).

However, as can be seen in point (b) of Figure 4.:

- When one or more spheres dominate, phenomena like greenwashing emerge.
- This often happens when businesses prioritise profitability or branding over authentic commitments to sustainability.
- Such an imbalance risks misleading consumers and maintaining unsustainable practices.

In this way, understanding sustainability also helps understand how greenwashing functions as a distortion of the concept.

Point (c) of Figure 4 further contributes by showing how:

- The three pillars can be operationalised in coordination.
- Their intersections —socio-environmental, socio-economic, and eco-efficiency —highlight how integrated thinking improves impact.
- Rather than isolating dimensions, combining them provides a more accurate sustainability evaluation (Pandit et al., 2019).

In practice, the textile industry can be demonstrated by the following example: a company that wants to increase eco-efficiency by lowering energy consumption (addressing environmental and economic aspects) must also consider socio-environmental impacts, such as the health and well-being of its employees and the communities in which it operates, to ensure a truly integrate approach within the organisation (Pandit et al., 2019).

This basic model of the pillars of sustainability emphasises that recognising and managing the dynamic interactions between environmental integrity, social equity, and economic governance is essential to long-term progress in the textile industry. It also functions as a visual map to guide and evaluate sustainability in the textile industry.

However, there is still a vast and diverse network of advancements in the field of sustainability behind this seemingly straightforward and useful paradigm of tackling the pillars of sustainability. And without exploring its roots, how is it possible to comprehend sustainability itself?

The term "sustainability" was coined in the middle of the 20th century to address or respond to the obvious social and environmental implications of the industrialised world's rapid industrialisation. Calls for a new development paradigm that respected the planet's boundaries and human well-being were sparked by worries about pollution, environmental deterioration, and detrimental health effects (Gbolarumi et al., 2021). Thus, the Brundtland Report in 1987, which defined sustainable development as addressing present demands without compromising future ones, gave the world a call to preserve people and the earth. As illustrated in Figure 4, this research solidified the notion that social justice, economic advancement, and environmental stewardship are interrelated pillars that must support one another rather than being mutually exclusive objectives (Gbolarumi et al., 2021; Ghimire, 2023; Purvis et al., 2019).

As the concept of sustainability began to take shape, initiatives like Agenda 21 and the 1992 Rio Summit transformed sustainability into a workable framework. To move sustainability from ambition to action, the UN and its Commission on Sustainable Development started converting these three pillars, economic, social, and environmental, into quantifiable goals and political initiatives (Gbolarumi et al., 2021; Ghimire, 2023; Purvis et al., 2019).

Following this broad examination of the sustainability pillars, their more in-depth research also proves quite helpful in analysing the roots and history of sustainability.

3.1.1 Environmental

The concept has historically received the greatest attention among the three pillars, particularly in industries with high manufacturing costs, such as textiles. The environmental impact of the textile industry is substantial, involving high energy and water consumption, extensive chemical use, and significant waste and emissions at every stage of the value chain, from raw material extraction to end-of-life disposal, as seen earlier in this thesis (Gbolarumi et al., 2021; Pandit et al., 2019).

More specifically, this pillar is covered by several goals in the textile narrative, such as emphasizing the use of non-renewable resources, limiting greenhouse gas emissions and chemical and hazardous product emissions, promoting sustainable and circular agricultural practices in the production of fibre and organic cotton, and encouraging circular practices through recycling, reuse, and the design of sustainable products together (Gbolarumi et al., 2021; Pandit et al., 2019).

Naturally, all of this culminates in a product or end goal that focuses on designing products that respect the planet's carrying capacity, while also considering biodegradability and product longevity. In simple terms, if the objectives of each pillar are recognised in a business, in this example a sustainable and authentic reality, then the internal analysis of each pillar enables us to understand that all of them, as members of the external environment, also work together (Gbolarumi et al., 2021; Pandit et al., 2019).

However, because of the way many businesses handle the environment and essentially fail to pay for the harm they produce, the environmental pillar is the most contentious and vulnerable to criticism, as this thesis has shown. For instance, when a facility releases large amounts of CO_2 into the atmosphere or pollutes a river, it is the people who live nearby and the environment that suffer, not the business (Gbolarumi et al., 2021).

This externalisation of environmental costs to the planet and society makes it abundantly evident that acting morally and sustainably in the environment involves more than just abiding by the laws and regulations currently in place, it also entails planning and attempting to prevent environmental issues before they arise. Acting properly, in these cases, entails going above and above the law, even in the absence of any regulations requiring it (Gbolarumi et al., 2021).

3.1.2 Social

The ethical domain in the textile story is the social pillar of sustainability, which reflects concern for human well-being as well as an understanding of the connection of social justice, labour dignity, and community cohesiveness. In contrast to environmental measurements, which are frequently quantified in terms of emissions or resource consumption, the social component takes the form of more subtle but no less pressing issues like respect for cultural identity, the advancement of fairness, and the right to safe and humane working conditions (Gbolarumi et al., 2021; Pandit et al., 2019).

This pillar requires actively monitoring multinational production in the textile industry, especially since subcontracting in countries with weak regulations can hide systemic injustices and labour violations. The social pillar represents a need for a significant reorganisation of power dynamics throughout the value chain, encouraging workplaces that not only preserve lives but also enhance wellbeing. It is then an essential component of any genuinely sustainable shift since it puts people at the centre of business choices (Gbolarumi et al., 2021; Pandit et al., 2019).

In addition to the environmental pillar, the social pillar is linked to its sustainability objectives, emphasizing upholding labour rights and denouncing and criminalizing child labour, ensuring safe and respectable working conditions, ensuring that workers and communities have access to healthcare, education, and social services, and cheering diversity, gender equality, and inclusion across the value chain (Gbolarumi et al., 2021; Pandit et al., 2019).

3.1.3 Economic and Governance

Although commonly described as the economic pillar, this dimension also includes governance mechanisms, such as transparency, accountability and regulatory compliance, which ensure that sustainability goals are not only stated but also executed. Governance lists the procedures, guidelines, and standards that are intended to guarantee that sustainability goals are then carried out. This pillar is crucial in deciding how social and environmental issues are integrated into governmental policies and commercial models. It encompasses elements of accountability, transparency, stakeholder involvement,

ethical corporate practices, and regulatory framework compliance (Clune & Zehnder, 2018; Islam et al., 2022).

The foundation of good governance is the idea that sustainability should be viewed as a measurable, concrete concept composed of established rules rather than as an ideal. This might be interpreted in the textile scenario as the inclusion of environmental, social, and governance (ESG) reporting frameworks, a dedication to anti-corruption measures, or the assurance of inclusive decision-making procedures that incorporate the perspectives of impacted communities (Islam et al., 2022). As already discussed in Chapter I, the institutionalisation of ESG standards aims to systematise sustainability, but it also creates opportunities for greenwashing when reporting replaces substantive change (Zervoudi et al., 2025).

Like the previous two pillars, the following one is composed of specific objectives. These involve creating transparent sustainability reports and third-party certifications. They also include conducting due diligence and ethical sourcing throughout the supply chain, adhering to voluntary codes of conduct and regulations in the textile industry, and incorporating sustainability into business strategy and leadership accountability (Islam et al., 2022).

3.1.4 Connecting the Pillars

The way success is judged in the textile narrative and in all other sectors has been effectively transformed by the analysis of this model and the interdependence between the three pillars: economic (including governance), social, and environmental. This has resulted in a more inclusive analysis.

- The Triple Bottom Line (TBL) concept, which may be summed up as “people, planet, and profit”, is a framework for sustainability.
- Demands businesses to account for their social impact concurrently.
- Environmental stewardship.
- And financial success.

Profitability alone is no longer an acceptable measure (Gbolarumi et al., 2021; Purvis et al., 2019).

The circular economy embodies this integrative view, ensuring resource efficiency, waste reduction, and ongoing material reuse. This integrative view is represented in the textile industry by practices such as upcycling and designing for durability. Showing that advancements in one area support rather than weaken the others. By implementing the advantages of TBL into their operations, businesses can look beyond phenomena like greenwashing and create robust business models that can handle them, where society and the environment coexist with steady economic growth (Purvis et al., 2019).

3.2 From Polluter to Circular Solutions

To comprehend the textile industry's influence on this dynamic, it is crucial to place the industry within the larger hierarchy of global greenhouse gas (GHG) emitters after analysing the sustainability pillars in the textile narrative. When considering all energy usage across all sectors, the energy sector, which includes the generation of heat and electricity from fossil fuels, is the greatest source of emissions globally, accounting for roughly 73.2% of total greenhouse gas emissions. This dominance demonstrates how the sector can occasionally serve as a foundation for others and highlights the systemic aspect of energy dependency in all other sectors (Ritchie, 2020).

Figure 5 illustrates the global hierarchy of greenhouse gas emissions by sector, showing electricity and heat stand out as the largest contributors, followed by transport, and then manufacturing and construction, which includes textiles. The figure visually highlights the comparative emissions figures between sectors and the actual disparities between them (Ritchie et al., 2020).

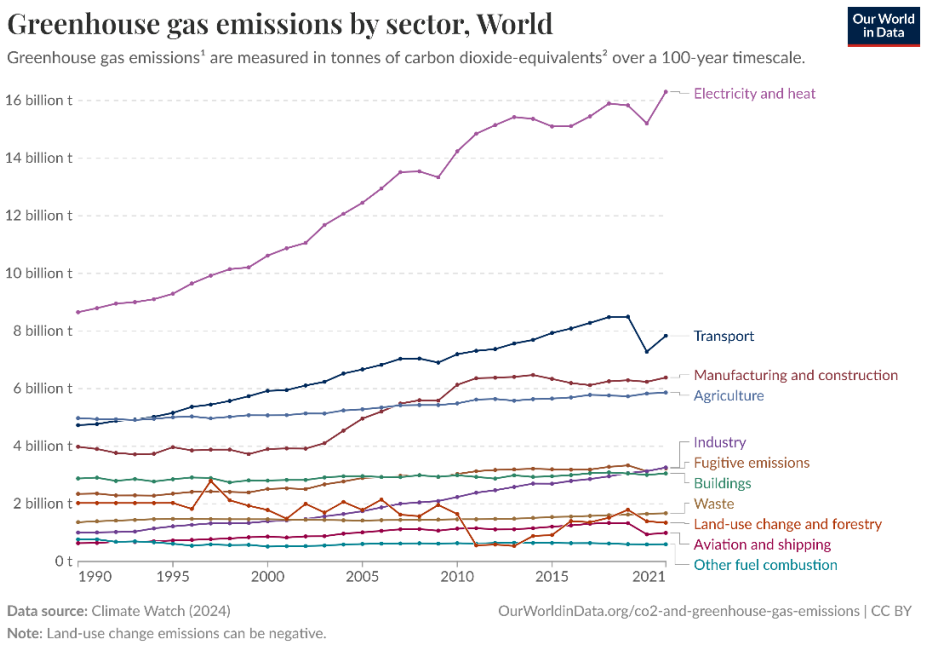

Figure 5. *Greenhouse gas emissions by sector, World*.

Source: Ritchie, 2020.

From a global standpoint and when examined more closely within the European Union, the manufacturing sector and the supply of gas, electricity, steam, and air conditioning each emit about 745 million tonnes of CO_2 equivalents, accounting for 21% of the EU's overall emissions. The remaining 20% of this equation, or 718 million tons of CO_2-eq., is contributed by households, primarily through heating and transportation (Eurostat, 2023).

This data underscores a paradigm shift: the industry is increasingly viewed not merely as a source of impact, but as a potential driver of solutions. Within this broader industrial context, the textile sector plays a key role, as its transformation through circular practices illustrates how production systems can evolve towards lower emissions and greater sustainability. This made it feasible to discuss and highlight methodical ways throughout the process, particularly in the textile industry.

When compared with the major industries that contribute to the EU's greenhouse gas emissions, such as energy, manufacturing and transportation, the textiles industry has a smaller ecological footprint. However, this does not diminish its significance, since the sector generates unique environmental challenges. The emissions from textile production are projected to rise by 60% by 2030 if no mitigation actions are implemented (Purvis et al., 2019; United Nations, 2018).

These trends highlight the industry's potential and the urgent need for systemic changes, such as adopting circular economy approaches, sustainable technologies, and cross-sector collaboration, to cut emissions and meet climate targets. Rather than shrinking the sector, the focus should be on redirecting it toward circular, low-carbon, and socially equitable models, investing in innovation, promoting sustainability frameworks, and fostering collaboration across the value chain (Eurostat, 2023; Ritchie, 2020).

Among its environmental impacts, the fashion industry is the world's second-largest consumer of water, and the textile dyeing industry ranks as the second-largest water polluter globally, releasing untreated wastewater into rivers and streams and contributing heavily to the sector's massive water footprint (Maiti, 2025).

Understanding the environmental pillar and recognising that concerns about resource scarcity and ecological limits are not new, but have only recently gained mainstream relevance, is especially rewarding in this thesis. These ideas were not created recently, even though society is currently dealing with them, as already realised with greenwashing, the circular economy, and sustainability in general (Subathra & Vijayalakshmi, 2022).

Zero-waste methods have always been an essential component of global fashion customs. Historical, ancient and traditional clothing like the Roman toga, the Greek peplos, the Indian sari, and the Japanese kimono were made to employ entire pieces of fabric, reducing or even eliminating waste. The adoption of environmentally conscious, sustainable fashion techniques is essentially a projection of past behaviour (Subathra & Vijayalakshmi, 2022).

However, in contemporary contexts, the concept of "zero-waste" is not always applied with the same authenticity. While it remains rooted in practices of efficiency and material respect, some brands have strategically adopted the label as part of advertising discourse, occasionally detaching it from substantive structural change. This illustrates how, over time, commercial narratives can appropriate sustainability concepts in ways that risk reducing them to symbolic campaigns rather than systemic commitments.

In line with the current goals of waste reduction and circularity, these traditional practices demonstrate how resource efficiency and respect for material boundaries have been integrated into cultural norms. Recognising and acknowledging that zero-waste design is not a novel idea but rather a resuscitation of ancient knowledge is necessary to integrate

these historical insights into current sustainability efforts. However, industry norms, legislative incentives, transparent educational initiatives, and a focus on local manufacturing are all necessary for the stability of such processes. By implanting these practices into contemporary governance frameworks, it becomes clear that sustainability is a quantifiable, reachable reality rather than an advertising slogan. Once commonplace, waste-free apparel is making a comeback to counteract fast fashion's waste and emissions (Subathra & Vijayalakshmi, 2022).

Despite being viewed as a significant polluter, the textile industry is the key to scalable, cross-sector sustainability thanks to its link with circular economy models, investment in technical innovation, and resurgence of low-waste, sustainable practices. Society must rethink the sector and invest in it as a catalyst for a sustainable future, connecting the lessons learned from the past to the ideas of the future, rather than leaving it. The textile industry has the potential to transform society by providing a platform for innovation, circular practices, and cultural revitalisation, even though it is often regarded as one of the most polluting industries. It ought to be rethought as a force for sustainable development rather than a hazard.

While the three pillars offer a conceptual foundation for sustainability, their full potential is realised when inserted in cultural practices that shape public perception and behaviour. These abstract ideas gain visibility and emotional resonance through artistic and cultural engagement, which catalyse broader social awareness and transformation. In this sense, cultural and artistic practices not only communicate sustainability, but they also challenge, reshape, and reimagine it in tangible, participatory ways.

3.3 Cultural and Artistic Activism as Drivers of Sustainability Awareness

Activism has become a key intervention for sustainability and circularity, as well as for combating greenwashing, and for larger social debate. Art that engages with sustainability often uses layered visual tactics that both express and complicate their narratives, in contrast to works that present themes in a more direct and easily understood way. Rather than providing obvious pedagogical clarity, these works often invite deeper reflection by embodying contradictions that defy easy interpretation (Harper, 2022).

3.3.1 Calder Kamin

As an example, but not the only one, Calder Kamin, a visual artist from Texas, focuses on trash in general and the sustainable layer rather than textiles specifically. She mocks animal sculptures made of plastic bags in her piece "Plastic Planet", as illustrated in Figure 6 (Wagner-Lawlor, 2016).

In the exhibition she organises, around 90% of the materials used are recycled, the structural pieces Calder buys on eBay, and the rest are donated or collected by the artist. The idea behind the works in ‘Plastic World’ is centred on a clear message: plastic will remain in our lives for a long time, thousands of years, millions of years, it breaks down into tiny particles and is possibly ingested by every living thing in a system (Kamin, 2016).

Figure 6. *Plastic World.*

Source: Kamin (2015).

A strong message about ecological vulnerability and human excess is reinforced by Plastic Planet's emphasis on creating "taxidermized animals" out of waste plastic. In addition to being artistically and environmentally significant, Calder Kamin's ability to turn waste into complex and emotionally stirring structures is a powerful example of circularity and how materials can be creatively reused to re-enter the system.

But, like the works of other artists who focus on sustainability, hers might also contain a paradox. The fact that these pieces are marketed as expensive art raises serious concerns about the function or meaning that art might play in the struggle for sustainability, and

the message may become muddled or obscured in the process (Kamin, 2018). This paradox prompts reflection on issues such as:

- Does waste-based pricing art question or support inequitable systems?
- Does turning waste into things that are exclusive and expensive align with the very capitalist systems it objects to critique?
- If access is restricted by cost, do these pieces still function as effective tools for widespread environmental awareness or for expressing a commitment to sustainability?

These tensions suggest a wider drift from action to rhetoric. They are not limited to businesses, brands, and advertising, even in cases where the endeavours may be sincere. With the help of this example, it is possible to align everything learnt about sustainability, circularity, and greenwashing and see how they appear in a wide range of contexts, including the business, the arts, and our daily lives as consumers and repeat buyers.

3.3.2 Guerra de la Paz

In keeping with this, it is also possible to examine the intriguing work created by the Cuban American artists Guerra de la Paz, which is composed of Alain Guerra and Neraldo de la Paz, while examining activist art as a tool for education and introspection. Their enormous sculptures, which are constructed from used clothing, convey a succinct and obvious message: waste, consumerism, and environmental damage (Christie's, 2007; Vernissage, 2011)

These highly valuable pieces for edifying sustainability are typically exhibited in internationally renowned institutions like the Art Museum of the Americas in Washington, DC, the Miami Art Museum, and the Saatchi Gallery in London. The pieces, such as *Nine*, depicted in Figure 7 and included in Abstract America: New Painting and Sculpture, directly address issues of mass manufacturing and concern over excessive consumerism. Even if their practical message is vital, these installations have also been shown in solo exhibits, further increasing their visibility (Christie's, 2007; Vernissage, 2011).

Figure 7. *Nine.*

Source: Christie's (2007).

In their art, Guerra de la Paz celebrate creative circularity and visually confront the logic of waste; however, their placement in affluent settings raises concerns about whether art that challenges environmental exploitation can truly operate outside the economic structures that support it. What happens if only a select few are exposed to sustainability narratives that call for collective action?

The message itself can become just as exclusive when the cost of these pieces is neither realistic nor accessible. Activists must work to reach a broader, global significance when confined to prestigious or geographically limited locations. The discussion of sustainability through art must be democratised, expanded across platforms, languages, and audiences, to spark large-scale change. Without this, even sincere actions risks being absorbed by the same exclusionary systems it seeks to challenge. These examples reveal how the circular economy's complexities and the threat of greenwashing go beyond

fashion and industry, surrounding themselves in systems of access, visibility, and cultural capital that shape how sustainability is understood.

3.3.3 Trash Talker

Trash Talker is an activist figure who uses the accessibility and immediacy of social media to promote sustainability. Trash Talker works in a democratised digital space, where critique, sarcasm, and humour collide with fashion commentary, as opposed to depending on the exclusivity of galleries or even being connected to high-value pieces. Her interventions target excessive consumption and greenwashing by reusing the imagery and strategies of fast fashion, memes, and social media, shifting the focus from ownership to participation (Castellano, 2021; Sheldon, 2023; Yang, 2024).

The activist content spreads freely and internationally, in contrast to upscale art markets, establishing a kind of cultural activism in the everyday online existence. By encouraging universal reflection rather than exclusivity, it reinforces that activist sustainability narratives can, and should, exist across multiple platforms and economic structures (Castellano, 2021; Sheldon, 2023; Yang, 2024).

Along with its online presence, Trash Talker has made a real difference in urban waste awareness and policy through its digital activism. Through daily “trash walks” across New York City, it exposes the scale of discarded usable items, including food, hygiene products, and textiles, to a broad audience. Can the message be conveyed by this mass communication method? This visual approach supports the circular economy's larger goals, which are covered throughout this thesis, by highlighting how urgent it is to reduce systemic waste (Sheldon, 2023).

Beyond being visible, Trash Talker also actively advocates for legislation. As the chair of Manhattan's Solid Waste Advisory Board and a co-founder of the #SaveOurCompost coalition, it has supported laws like the "Donate, Don't Dump" bill, which encourages people to donate rather than throw away necessities. Her work has influenced public policy discussions on waste reduction and reuse as well as experimental programs (Sheldon, 2023).

In addition to pushing for better infrastructure to make donations easier, she actively supports doable reforms like expanded producer responsibility laws, deposit-based bottle

returns programs, and expanded compost and recycling collection. Trash Talker illustrates how sustainability activism, when combined with digital influence and civic action, can transcend mere representation and function as a powerful tool for structural change. Rather than focusing solely on the object or action, the impact lies in how art and culture shape narratives, influence public perception, and drive consumer awareness toward a more ethical, sustainable, and socially conscious mindset (Sheldon, 2023).

3.3.4 Fulu Act / Colin Delfosse

The work captured by Brussels photographer Colin Delfosse in Fulu Act provides a powerful illustration of performative environmental criticism woven into the urban reality of Kinshasa, the capital of the Democratic Republic of Congo, further broadening the scope of sustainability-focused artistic activism. Known for his long-standing interest in Central African sociopolitical issues, Delfosse works with a group of Congolese artists who create intricate, wearable sculptures that serve as both costumes and statements out of trash, such as wires, plastic syringes, and urban waste. These pieces of art are displayed on the streets rather than in upscale gallery spaces. The artists turn public space into a place to highlight and resist environmental harm, social neglect, and post-colonial inequality (Encontros da Imagem, 2023; Kinszasy, 2021; Oluchi, 2024).

The portrayal of Kinshasa, a city with over 13 million residents, where seven tonnes of rubbish are produced daily and large swathes lack even basic infrastructure, further highlights Delfosse's work. The planned performances blend technology and materialism in a way that transcends environmental concern. In addition to tackling issues like pollution, deforestation, and limited access to healthcare in an increasingly unstable urban ecosystem, the costumes, referencing traditional ceremonial masks, become representations of Kinshasa's current difficulties and carry ancestral memories (Kinszasy, 2021).

This artist focuses on a different and unusual vision of implementing circularity, recovering materials while also recovering narratives, histories, and cultures. The work is rooted in the community for the community and uses symbolism to deliver a cultural message. Fulu Act shows how the aesthetics of reuse can address deeper structural issues by turning waste into a tool for communication while preserving its social and historical context. What stands out in this piece is that it resists the urge to simply make waste look

appealing to create impact, choosing instead to raise civic and cultural awareness and, even more, to celebrate communities. By doing this, it differs clearly from design approaches that focus mainly on objects, expanding the possibilities of sustainable art and the audiences it can reach (Kinszasy, 2021).

These diverse examples, from Delfosse's Street Portraits and Trash Talker's digital satire to the sculptural works of Guerra de la Paz and Calder Kamin, demonstrate how artistic and cultural activism engage with sustainability in multifaceted ways. They mobilise creativity to challenge overconsumption, reimagine discarded materials, and expose contradictions in dominant narratives, including those shaped by greenwashing.

While their impact varies by audience and context, such interventions foster critical reflection and emotional engagement, helping to make abstract environmental issues more tangible. By doing so, they contribute to a cultural shift that supports deeper structural change.

This groundwork is essential to expanding public understanding and readiness for transformation. It establishes the cognitive and cultural environment that allows for the adoption of more systemic and technological methods, like those used in the textile industry. The operationalisation of these sustainability principles in one of the most significant international sectors is examined in the next section.

3.4 Sustainability in Textile Industry

One of the largest industrial sectors in the world, the textile sector has a great opportunity to use innovation, circularity, and ethical practices, as demonstrated by this thesis. Given its employment of over 300 million people across the value chain and its immense global economic value, this transformation is crucial. The current system, however, represents only a small slice of the global economy and our well-being. In the planetary context, human consumption is already beyond the Earth's capacity, and we are living as if we had 1.7 planets, as highlighted by the *Sustainable Practices in Textile Industry*, the *Living Planet Report*, and the Global Footprint Network (Global Footprint Network, n.d.; Sabina, 2021).

Fibres are broadly divided into three categories: natural (plant- or animal-based, e.g. cotton, wool, silk), artificial (regenerated from natural polymers, e.g. viscose, lyocell),

and synthetic (mostly fossil-based, e.g. polyester, nylon). Textile production begins at the fibre level, which constitutes the fundamental structural unit of any textile material. In simple terms, a textile fibre is any long, thin, flexible filament (or a flexible strip or tube with a width ≤ 5 mm) that can be spun or woven (European Union, n.d.-b).

Yarns and fabrics are often intermediate textile products used in the "CMT" (Cut, Make, Trim) process to produce final goods. Any product containing ≥80% by weight of textile fibres is legally considered a textile product, which includes clothing, accessories, home textiles and technical textiles (European Union, n.d.-b).

The EU textile industry creates value and promotes innovation but faces major environmental challenges. Attracting investment to accelerate sustainability and circularity is now a key priority for competitiveness (European Union, n.d.-b).

The sharp rise in fibre production from 1975 to 2022, as illustrated in Figure 8, is indicative of the textile industry's explosive expansion. Of the 23.94 billion fibres produced globally in 1975, 10.64 billion were synthetic or chemically derived. This number quadrupled to 113.8 billion fibres by 2022, with 87.6 billion of those fibres having a chemical origin (Statista, 2024a). This illustrates the urgent need for transitioning to circular and sustainable models to avoid escalating dependency on synthetic and chemical outcomes.

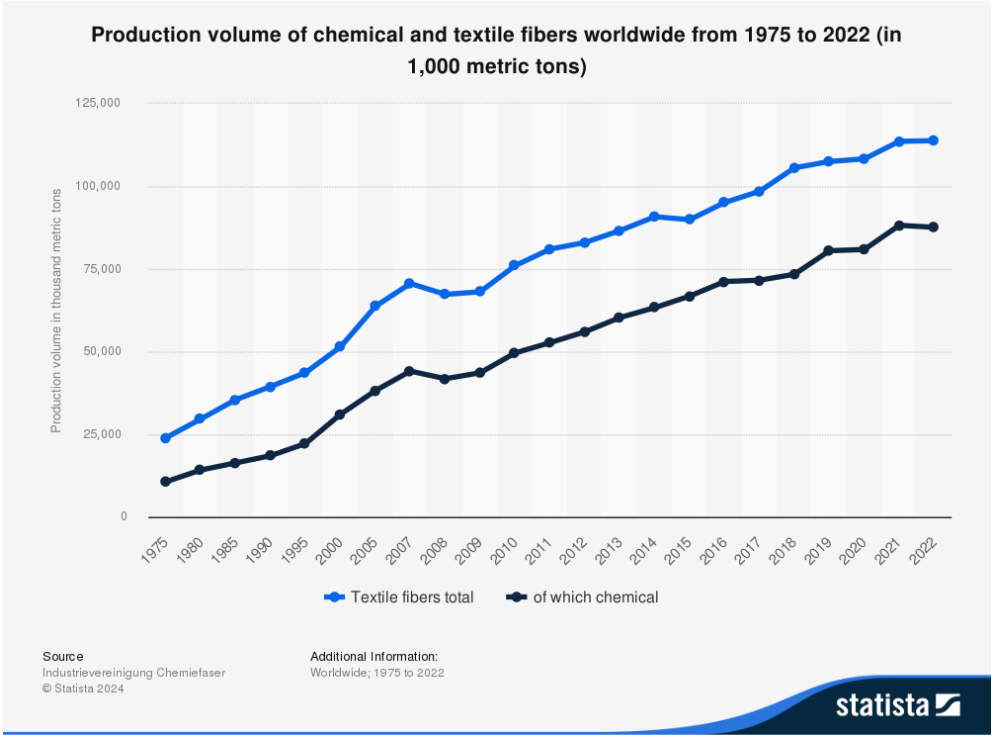

Figure 8. *Production volume of chemical and textile fibres worldwide from 1975 to 2022.*

Source: Statista (2024b).

The textile industry is increasingly moving toward an unsustainable trajectory. Currently, nearly 60% of the fibres consumed annually are synthetic, meaning that most garments contain plastic, which contributes to microplastic pollution when washed (Birch, 2023; Buzzo & Abreu, 2018). What happens when all fibres are chemically produced? In a market dominated by unsustainable sources, how can awareness be raised among consumers and key stakeholders? Chemical fibres then account for most textile fibres produced worldwide. The production of fibre is predicted to rise significantly from 2022 to 2030, reaching 149 million metric tons. This corresponds to 17.5 kg of output per person (Statista, 2024b).

According to data from 2022, China is the world's largest producer of chemical fibres, accounting for 72% of global production. As the pandemic has already demonstrated, the great concentration of chemical fibre production in one country indicates a substantial global dependency on China, which translates into logistical and geopolitical risk. In addition to perpetuating a linear model, the textile industry is a centralised, unsustainable model where China's international policies have the greatest impact. It is also challenging to oversee and regulate sustainable practices (Statista, 2024a).

Europe, which accounts for only 2% of the global economy, is investing in recycling and partially implementing the circular economy. This involves several key strategies:

- Controlling primary manufacturing more effectively.
- Making significant investments in supply chain diversification and production zone distribution.
- Strengthening the textile industry's resilience by decentralising production and reducing reliance on hazardous chemical fibres.
- Investing further in the development of circular fibres to reduce dependency on synthetic materials (Statista, 2024a).

These concerted efforts show that the textile industry needs to undergo structural change to recognise the reality of global supply networks and make sustainability a core practice.

A clear and concerning prediction of future limitations on material and energy resources may be made if "business as usual" methods continue, as illustrated in Figure 9, "Global Supply and Demand for Constrained Material and Energy Resources, 1960-2050". By comparing the solid black line, representing predicted demand, with the dashed grey line, indicating projected supply, it becomes apparent that a significant and widening supply–demand gap begins to emerge around 2020–2025. A potential resource shortage crisis is hinted at by this "Excess Demand" scenario, which is predicted to worsen dramatically between 2030 and 2050 (Lacy & Rutqvist, 2015).

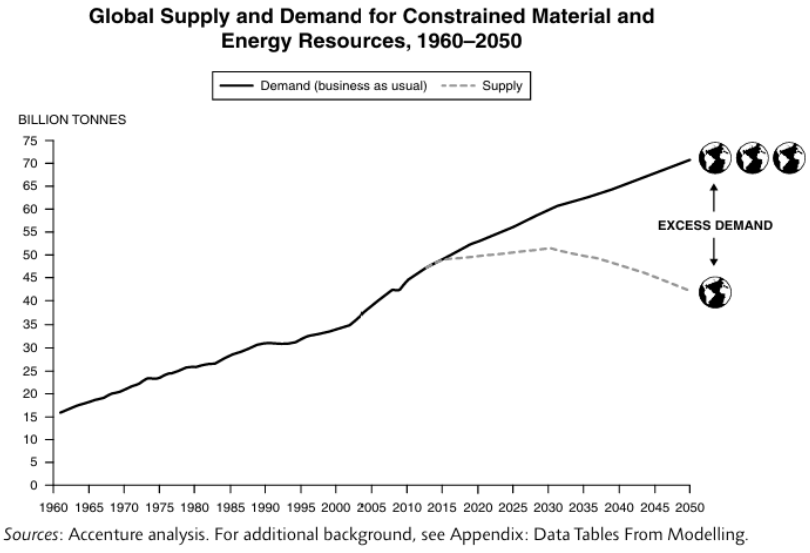

Figure 9. *Global Supply and Demand for Constrained Material and Energy Resources, 1960-2050.*

Source: Lacy & Rutqvist (2015).

This supply-demand discrepancy is directly related to the difficulties raised in this thesis regarding textile sustainability. The textile sector, with its reliance on raw materials and energy-intensive procedures, reflects the larger trend of increased global resource consumption. The imbalance between supply and demand emphasises the importance of rejecting "business as usual" approaches. If more sustainable and efficient procedures are not implemented, the textile industry will face operational and financial challenges, as well as declining consumer confidence. Sustainability is therefore not just desirable but necessary to maintain the industry's viability within planetary boundaries (Lacy & Rutqvist, 2015).

Each year, the textile industry consumes over 70 billion cubic meters of water, 30 billion litres of oil, and 40 million tonnes of chemicals, while also generating significant waste and greenhouse gas emissions (European Parliament, 2020; Sabina, 2021). Around 25% of the dangerous chemicals used in textile production end up in water bodies, severely impacting biodiversity and human health, especially in vulnerable regions (European Parliament, 2020).

The workforce that supports this industry also faces significant challenges:

- Over 180 million workers are in precarious conditions.
- More than 14 million people earn less than $3 per day.
- Often in countries where labour rights and environmental protections are still developing (European Parliament, 2020; Sabina, 2021).

The average lifespan of a garment has dropped by 36% in the last 15 years, a clear sign of a disposable consumption culture. Each discarded garment represents a substantial loss of water, energy, labour, and raw materials, underlining the need for circular design and extended product lifecycles (European Parliament, 2020; Sabina, 2021).

The EU strategy for sustainable and circular textiles set an ambitious goal for 2030: all textile products placed on the European market must be long-lasting, repairable, recyclable, and primarily made from recycled fibres, free of hazardous substances, and produced with full respect for social rights and environmental standards (European Commission, n.d.-a, 2022a). It also calls for:

- Digital product passports and improved traceability, as already analysed.

- Standardised sustainability indicators in accordance with the European Union and its institutions, to combat greenwashing.
- Decentralised, diversified supply chains that foster innovation and transparency (Am et al., 2023; European Commission, n.d.-a, 2022a).

A textile industry that actively seeks accreditation places a high priority on sustainability. The need to integrate sustainable practices across the value chain is reinforced by certification, measuring and validating efforts. Organisations like Textile Exchange highlight the importance of certifications such as Global Organic Textile Standard (GOTS) and the Global Recycled Standard (GRS), which ensure traceability and social and environmental accountability in textile supply chains. Furthermore, recognised certifications such as GOTS, GRS and OEKO-TEX Standard 100 ensure that textile products are traceable, free from harmful substances, and socially and environmentally accountable, enhancing consumer confidence and business reputation (Global Organic Textile Standard, n.d.; Textile Exchange, n.d.-c).

The textile industry, although not the largest polluter in absolute terms, is notable for its global reach, dependence on synthetic materials, and severe social impact on millions of workers. These characteristics show that sustainability can be pursued legitimately, but also deliberately distorted. The next chapter focuses on the connection between genuine innovation and reputational influence. By examining the sustainability strategies and communication practices of four companies (Zara, H&M, Valérius, and Salsa Jeans), the analytical study will show how greenwashing might operate in practice, and how it coexists with efforts toward circularity and social responsibility. This applied dimension of the thesis not only grounds the conceptual debates of the previous chapters but also reveals the opportunities and contradictions shaping the future of the textile industry. It allows for a discussion on how companies continue to develop and promote their environmental initiatives, and how these efforts might depict or describe the current state of the textile industry.

4 Greenwashing, Circular Economy and Sustainability in Practice

This chapter presents an analytical study of four textile companies: Inditex/Zara, H&M, Salsa Jeans, and Valérius, applying the conceptual frameworks developed in Chapters I to III. The objective is to investigate how these companies position themselves in relation to sustainability, the circular economy, and greenwashing, and to assess whether their strategies align with or diverge from theoretical structures explored. An analytical study design is adopted, defined as a research method that quantifies the relationship between different characteristics, aiming to answer questions of why and how, to test the relationship between different viewpoints and describe strategic behaviour (AJE, 2022).

The study therefore explores how each company positions itself, based on theoretical models, and assesses where their strategies converge or diverge. The analysis is based on publicly available data, corporate reports and communication materials, and aims to identify recurring patterns and gaps between discourse and practice.

In doing so, the chapter takes an intercultural and communicational approach, viewing sustainability claims as cultural narratives that circulate across audiences and markets. This perspective understands sustainability as an intercultural code, formed by different values, languages, and expectations of transparency, and analyses how companies build legitimacy and reputation in global transnational contexts.

It is important to clarify that this study does not make any accusation, endorsement or moral judgement. On the contrary, it seeks to apply the theories previously discussed in the thesis to critically interpret each company's approach within the broader conceptual framework developed in the previous Chapters I–III.

4.1 Analytical Study Design Methodology

This chapter applies an analytical research methodology, concentrating on the operations of four chosen textile industry businesses. The objective is to investigate the relationship between their sustainability practices and the theoretical ideas of the circular economy and greenwashing that were constructed in earlier chapters. By examining correlations between variables, putting theories to the test, and spotting trends in strategic behaviour, analytical investigations aim to uncover the patterns that explain corporate decisions (AJE, 2022).

The method is primarily qualitative, centred on documentary analysis of both primary sources (annual and sustainability reports, institutional statements, investor communications) and secondary sources (journalistic investigations, NGO reports, sector-specific databases, and international indices).

- Inditex/Zara: Sources include annual and sustainability reports, investor communications, and transparency indices, supported by independent analysis from Fashion Revolution, Statista, and Euronews Green.
- H&M: The study draws on the 2024 Annual and Sustainability Report, NGO reports (e.g., Changing Markets Foundation), specialised journalism, and statistical data from transparency indices (Fashion Revolution, 2023; Statista, 2024a).
- Salsa Jeans: Analysis is grounded in corporate reports, sustainability certifications, and professional/sectoral publications from Portuguese industry networks.
- Valérius: Focuses on primary documentation from the company and Valérius 360, complemented by trade sources.

In all cases, analysis also includes digital communication (websites, social media, sustainability platforms), given the growing importance of online media in shaping ESG narratives.

To ensure analytical consistency and comparability across the analytical studies, the companies selected for this study were chosen based on the availability of structured, verifiable sustainability data and clearly communicated environmental and social strategies. While other major actors in the global textile market, such as Shein, could have been included due to their significant market share and influence, they were excluded from this analysis due to the limited reliability and transparency of disclosed data. Unlike the companies analysed in this study, Shein provides only limited and inconsistently verified environmental performance indicators, making it difficult to evaluate its practices using the same analytical framework. Moreover, the abundance of conflicting sources regarding Shein's operations would compromise the clarity, balance, and methodological consistency of the evaluation undertaken in this thesis.

Overall, the methodology enables a structured evaluation of how fashion companies navigate sustainability challenges, balancing public expectations, stakeholder pressures, and the tension between meaningful change and marketing rhetoric.

4.2 Analytical Study Design: Zara, H&M, Salsa Jeans and Valérius

This section applies the analytical framework to four companies representing diverse positions within the textile sector. The selection criteria included:

- Strategic and geographic reach.
- Business model variation (e.g., fast fashion vs. circular innovation).
- Relevance in debates on sustainability and greenwashing.

Each subsection includes:

- Company overview and strategic commitments
- Critical assessment: aligning discourse with practice
- Strategic patterns and evaluative reflections.

The objective is not to rank or compare companies, but to critically understand how each navigates the tension between sustainability discourse and operational implementation, highlighting where symbolic gestures may obscure or delay substantive transformation. The four companies selected have different reasons for being in the textile industry, focusing on other values and objectives. Still, the analytical study of their sustainable discourse and effective operation, when considered together, allows us to understand the themes explored throughout this thesis comprehensively and practically.

4.2.1 Zara

4.2.1.1 Company overview and strategic commitments

This section provides an analytical assessment of Zara, the flagship brand of Inditex, through the lens of the theoretical frameworks outlined in previous chapters. Zara, founded in 1975 by Amancio Ortega and Rosalía Mera in A Coruña, has been part of the Inditex group since 1985. According to a study conducted in September of last year, Inditex was identified as the largest estimated consumer of synthetic textiles derived from

fossil fuels among 50 global fashion companies. The figures, based on third-party analysis rather than Inditex's own disclosures, were calculated from production and material data to address the absence of publicly available fibre volumes. While the group had previously committed to reducing its reliance on synthetic fibres, data show an estimated 20% increase in their use since 2022. This estimation highlights not only the scale of Inditex's production but also the transparency gap that persists in the sector regarding the disclosure of fibre composition (Inditex, n.d.; Roche, 2024b).

These criticisms contrast with Inditex's publicly declared sustainability objectives. Zara operates within one of the largest fashion conglomerates in the world, with a presence in over 40 countries and more than 3 million people involved in its extended supply chain. With an ambitious sustainability plan, Inditex is positioning itself as an agent of change in the textile/fashion industry. The company aligns its vision with the United Nations Sustainable Development Goals, aiming to achieve significant environmental and social milestones by 2025, 2030 and 2040. Key commitments include:

- Achieving net-zero emissions by 2040
- Using only recycled or low-impact fibres by 2030
- Operating with 100% renewable energy across all facilities, already achieved in 2022 (Inditex, 2025).

Inditex's strategy combines quantified emission targets and material innovation, with potentially symbolic overstatements. These types of ambitious long-term targets often lack clearly defined short-term goals and measurable intermediate milestones, which limits their effectiveness and makes full implementation across a vast global supply chain more uncertain.

Inditex extends its sustainability standards to all direct and indirect suppliers, requiring full compliance with environmental and social criteria across the supply chain (Inditex, 2024). According to the Zero Discharge of Hazardous Chemicals (ZDHC) standards, the Green to Wear program, for instance, is closely related to environmental management in high-impact activities like dyeing and washing, resource monitoring, emissions, and wastewater discharge. In addition to recommending that its suppliers follow the Supplier to Zero program and conducting audits and remedial actions through its Supply Chain Environmental Transformation Plan 2024-2027, Inditex is an active participant in the ZDHC Gateway platform (Inditex, 2023).

Inditex has aimed to conform to the circular economy's tenets, one of the ways to do that is by prioritising life cycle assessment (LCA), regenerative practices, traceability, and the rejection of materials associated with deforestation. In 2023, 68% of the raw materials used were classified as ‘preferred’, including 96% of cotton and 85% of cellulose fibres. Even while these numbers show progress, there is still ambiguity regarding scalability because 25% of the materials intended for future targets are still in the development stage (Inditex, 2022, 2023).

By ensuring that clothing, materials, and additives (such as buttons, zippers, and fillings) meet international standards and don't pose any physical or chemical hazards, especially when it comes to children's products, the Safe to Wear and Clear to Wear standards aim to reduce risks from the design phase to final production (Inditex, 2023).

The transformational aspects of the circular economy, such as regenerative design, remanufacturing, and prolonging the useful life cycle, remain in the background. Despite the technological sophistication and robust control infrastructure of these initiatives, they primarily function within a linear risk management logic without significantly altering the foundations of Zara's fast fashion model. Therefore, the internal policies and programs of Inditex, such as the security and environmental control protocols, reflect a commitment to operational and legal excellence. Still, they do not necessarily require a systemic transition to circularity (Inditex, 2023).

Despite Inditex's strong sustainability discourse and internal compliance mechanisms, recent financial filings highlight the group’s continued economic strength, with a reported net profit of €5.88 billion and a gross margin of 57.8% in 2024 (Inditex, 2024; Reid, 2025). While such results reflect a resilient and profitable business model, they do not in themselves indicate whether the environmental and social pillars of sustainability are being equally prioritised. Profitability alone is not the issue. What matters is whether this financial strength is being used to support concrete, balanced efforts across the environmental, social and governance pillars of sustainability.

4.2.1.2 Critical assessment: aligning discourse with practice

Zara debuted their limited-edition "Capsule Collection" in June 2022, which featured a new polyester that was partially manufactured from carbon emissions that were captured.

One of the primary ingredients of polyester, monoethylene glycol (MEG), is made from industrial waste gases, specifically carbon monoxide, in this LanzaTech-developed fibre. This breakthrough aimed to lessen the climatic effect of the textile industry by proving that carbon emissions, rather than virgin fossil fuels, could be used to create textiles (Leach, 2022).

Although the collection was hailed as an example of innovation and a window into the fashion industry's potential for carbon capture technologies, criticism soon surfaced. According to Leach (2022), the initiative raised several concerns:

- It was launched during a period of record profits for Inditex, suggesting a possible reputation management motive.
- The volume of production was extremely limited, representing only a symbolic fraction of Zara's total output.
- The core business model, based on fast production cycles, overproduction, and a disposable fashion culture, remained unchanged.
- The company provided no transparent life cycle data to support the environmental benefit of the capsule, making it difficult to assess whether it delivered meaningful climate gains.

Considering the "sins" identified by Terrachoice (2010), Zara's carbon capture capsule exemplifies at least two sins:

- Inaccuracy / No proof: Marketing the line as a climate solution without disclosing life cycle impacts or absolute production volumes.
- The lesser of two evils: Promoting an improvement in a niche material while most of the production in fast fashion is still of virgin polyester.

Therefore, this initiative aligns Zara with what Delmas & Burbano (2011) describe as a greenwashing company: one that engages in highly visible environmental communication without matching operational transformation. The imbalance between symbolic investments and substantive change reveals Zara's preference for image over impact, a position reinforced by its high brand status, which, as Bowen (2014, p. 80-81) argues, can enhance legitimacy even when material effects are minimal.

Recent data further exposes the gap between Zara's sustainability discourse and its material practices. The increased reliance on cheap synthetics, particularly virgin

polyester, reinforces the brand's fast turnover strategy while severely limiting opportunities for recyclability or circular integration. Despite claiming environmental progress, Zara continues to depend on fibres that release microplastics and are rarely recycled at scale (Roche, 2024b).

Inditex reported the largest volume of synthetic fibres used worldwide in 2023, with 212,886 tonnes, a 20% rise over 2022 levels (178,030 tonnes). This pattern stands in sharp contrast to Inditex's professed goal of lowering its dependency on fossil fuels. With polyester accounting for 75.7% of its fibre mix, Shein continues to be the largest user in relative terms, even if Inditex leads in absolute volume. Such data highlights a structural obstacle to circularity driven by economies of scale and speed. (Trunk et al., 2024).

When viewed through the framework of Terrachoice (2010), greenwashing "sins", Zara's growing polyester usage exemplifies:

- No Proof / Vagueness: The company provides limited data on the life cycle or environmental impact of its synthetic volumes.
- Hidden Trade-off: While spotlighting niche initiatives using recycled or carbon-capture fibres, the brand continues to scale its fossil-based production.

As part of the textile and fashion industry, Zara focuses on mass production, which is based on the "take-make-discard" linear economy principle, as defined by Kumar & Saravanan (2019), and the "Cradle to Grave" concept mentioned by Braungart & McDonough, (2002). A major barrier to the shift to the circular economy is the brand's structural reliance on non-circular materials with low recyclability, which is confirmed by the increasing use of polyester and other petroleum-based fibres (Roche, 2024b).

Applying Pandit et al.'s (2019) three Pillars of Sustainability: social, environmental, and governance/economic, to the case of Zara reveals deep structural imbalances, as reinforced by Roche (2024b):

- Governance / Economic pillar is in charge; a fast turnover model keeps prices low, and margins high, synthetic fibres allow for this cost structure, and efforts to influence EU regulation help protect this advantage.
- The environmental pillar is ranked low because there are no clear reduction goals for virgin or recycled polyester, and microplastic leakage is getting worse. The

lack of robust measures highlights the marginalisation of ecological concerns in its strategy.

- The social pillar is also problematic. The logic of fast fashion imposes significant pressure on production chains. Furthermore, encouraging fast consumption reinforces unsustainable behaviour among consumers.

The imbalance Purvis et al. (2019) discovered in their analysis of the Triple Bottom Line is the result of allowing the economic / governance pillar to take precedence over environmental and social considerations: profit is pursued above people and the earth, producing an atmosphere that is conducive to greenwashing (Roche, 2024b).

According to Roche (2024a), Inditex was among the companies that rejected most legislative proposals aimed at tackling plastic pollution, supporting only limited aspects related to environmental footprint calculations.

Zara's 2022 "Used Platform" introduced resale and repair services as a new dimension of the company's circularity strategy. As Murphy (2022) noted, the program was introduced in sharp contrast to Zara's primary business model, which involves mass producing over 500 new models every week. This shows a certain contradiction between the stated environmental goals, conflicting operational realities, and, ultimately, this specific initiative. Given the "sins" of Terrachoice (2010), it is conceivable to draw attention to still another sin in the analysis: "the lesser of two evils", where the comprehensive production model is essentially unsustainable while a limited resale platform is promoted (Hardcastle, 2022).

Applying Bowen (2014), this represents a case of symbolic disclosure, where a highly visible green initiative is used to hide deeper inconsistencies in environmental performance (Hardcastle, 2022). Zara's economic decision might be a logical short-term tactic for a high-status brand looking to improve its reputation through symbolic gestures. However, when symbolic efforts lack tangible consequences, as Bowen (2014) points out, this balance runs the danger of producing long-term reputational harm. This dynamic is demonstrated by the unfavourable media response that followed the announcement (Hardcastle, 2022).

Furthermore, based on marketing methods and brand positioning as outlined by Bowen (2014), Zara's environmental behaviour may indicate that the project is neither legally mandated nor altruistic. Zara may be categorised as a compelled egoist since it appears to

be structured to maximise reputational advantage in the face of generational and regulatory criticism. Thus, the difference between a company's environmental declarations and its actual environmental performance might be seen as a symbolic gap, in the context of symbolic corporate environmentalism (Hardcastle, 2022).

In line with Kumar & Saravanan's (2019) idea of the circular economy as a set of "value retention circuits" that prioritise remanufacturing, repair and reuse over end-of-cycle recycling, Zara's pre-owned 2022 platform is supposed to promote circularity by extending the useful life of clothing and preserving materials in circulation. The initiative's limitations, however, become evident when Bowen (2014) analyses symbolic environmentalism. To put it another way, even though the platform is conceptually consistent with the circular retention of value outlined by Kumar & Saravanan (2019), its effects may only be surface level if, as Bowen (2014) argues, the company's symbolic actions take the place of real progress, perpetuating a cycle of distorted consumer trust and, eventually, greenwashing.

Inditex's sustainability strategy for 2024, particularly in relation to Zara, reveals a series of incremental commitments to integrate circular economy principles into its business operations. Notable developments include:

- Prioritisation of single-material textiles and recyclable fibres, such as Infinna and Cycora, which simplify the recycling process by maintaining material purity.
- Investment in bioengineered alternatives, including lab-grown Galy cotton, reflecting an effort to reduce dependency on conventional agricultural inputs.
- Emphasis on design for disassembly and material purity, aligning with the principles set out in Cradle to Cradle by Braungart & McDonough (2002).
- Adoption of modular and mono-material design strategies, which facilitate:
    - easier recycling,
    - improved repairability and reuse,
    - reduced environmental impact at the product's end-of-life stage.

These practices show that circularity and sustainability must begin at the design phase of product development (Inditex, 2024).

In accordance with the application of the circular economy across various societal and governance levels, as stated by Kirchherr et al. (2017), these levels form an integrated strategy for the circular economy's expansion. Zara's focus on innovative fibres

corresponds with the micro level of circular economy intervention, where companies implement circular strategies by innovating in material use and prolonging product lifespans. However, as Stahel & MacArthur (2019) and Knight (2023) warn, such efforts, if not accompanied by deeper systemic changes to production volumes and business models, risk becoming a form of reputational safeguarding rather than a transformative solution. This concern is compounded by Zara's continual overproduction, launching hundreds of new designs in short time spans (Inditex, 2024).

Inditex's Supply Chain Environmental Transformation Plan (2024-2027) embodies a more systemic intervention at the meso level, reflecting Lacy & Rutqvist's (2015) vision of collaborative transformation in industrial ecosystems. The plan aims to enhance sustainability performance among textile and garment suppliers through the following measures:

- Annual reduction targets for water use, carbon emissions, and hazardous chemical risks.
- Mandatory implementation of Best Available Techniques (BAT) in high-impact stages such as dyeing, finishing, and washing.
- Support for supplier transition to clean technologies, including technical guidance and audit mechanisms.
- Promotion of circular practices across Zara's extended supply chain (Inditex, 2024).

Although the initiative's scope is notable, if it does not include every supply chain tier, it runs the risk of falling short of full systemic circularity. As Rahman (2022) and Kirchherr et al. (2017) point out, the early stages of the supply chain, such as fibre production and dyeing, often cause major environmental and social harm but remain hidden and poorly regulated. Specifically, Tier-2 and Tier-3 suppliers, who are accountable for raw materials, dyeing, or fibre production (Inditex, 2024).

At the macro level, Inditex establishes itself as a leader by committing to a complete transition to low-impact fibres by 2030 and achieving net-zero emissions by 2040. While these ambitions can help establish industry targets, their credibility depends on enforcement tools such as Extended Producer Responsibility (EPR), independent verification, and downstream impact reporting. Otherwise, macro-level alignment risks remaining purely aspirational (Inditex, 2024).

In addition, the ecological and social costs tied to high-speed production cycles are not fully addressed by Zara's sustainability discourse. As stated by Stahel & MacArthur (2019), achieving circularity goes beyond technical substitution or recycling; it necessitates the slowing of material flows, extension of product lifespans, and reduction of virgin resource extraction. In this sense, Zara's current strategy may end up being symbolic, using sustainability language without changing the business model that encourages waste and short product lifespans.

4.2.1.3 Strategic patterns and evaluative reflections

Continuing from the critical insights above, this section shifts from evaluating specific initiatives to identifying broader strategic patterns and interpretive trends within Zara's sustainability narrative. This trend is documented by two leading transparency indices that evaluate corporate sustainability disclosures. The Fashion Revolution (2023), which ranked Inditex/Zara at the intermediate level (41 to 50 per cent) among the 250 companies evaluated, supports this trend with a transparency score of 46%. Although the brand outperforms many other companies, its scores remain lower than those of rivals like H&M, Adidas, or Puma. Zara's weaker performance in governance transparency and internal oversight, key components of the index, indicates persistent gaps in both implementation and the reporting of critical sustainability indicators.

The Statista (2024d) transparency index, which evaluated Zara in five key areas, provides further evidence of fragmentation and imbalance in its sustainability strategy. The scores were as follows:

- Just transition and advocacy: 57%, the highest score, reflects efforts to mitigate negative social impacts on employees, local communities, and stakeholders.
- Funding decarbonization: 47%
- Energy procurement: 40%
- Decarbonization: 38%
- Accountability: 10%, notably the lowest score.

Zara's overall transparency score was 41%, which supports the interpretation that its sustainability plan remains fragmented (Statista, 2024b).

Zara's reported production volume of 565,027 tonnes of clothing, equivalent to approximately one billion items in a single year, raises critical doubts about the compatibility between its scale of operation and the foundational principles of the circular economy. This tension persists despite the company's investments in recycling technologies and take-back schemes (Fashion Revolution, 2023).

Taken together, these findings suggest that Zara's sustainability policy, while ambitious, leans more toward symbolic gestures than toward systemic, structural transformation. The company's efforts seem to prioritise brand image and reputation management, with limited investment in practical solutions that would support long-term environmental or social improvement. In this light, Zara does not stand as an outlier but as a representative example of how major players in the fashion industry navigate the ambiguous space between innovation, branding, and sustainability rhetoric.

4.2.2 H&M

4.2.2.1 Company overview and strategic commitments

H&M Hennes & Mauritz AB, one of the biggest fashion retailers in the world, was founded in Sweden in 1947. As of February 2025, the company had 4,213 stores worldwide and is focusing more on online sales, which now make up about 30% of its total sales (H&M, 2025).

H&M has made efforts to position itself as a sustainability pioneer within the fast fashion industry. Significant advancements in the company's social and environmental strategy are detailed in its 2024 Annual and Sustainability Report. Among these milestones are:

- 89% of materials used are now classified as recycled or "sustainably sourced", achieving the group's 2025 target ahead of schedule. Of this total, 29.5% specifically consists of recycled fibres.
- Compared to the 2019 baseline, H&M has reported a 24% reduction in Scope 3 emissions and a 41% reduction in Scope 1 and 2 greenhouse gas emissions.
- Freshwater usage in the supply chain has decreased by 9.5%, particularly among clothing suppliers.

- The company has also significantly expanded its second-hand initiatives, now operating in 26 markets through 38 selected shops and the Sellpy platform (H&M, 2025).

H&M Group operates in 79 markets around the world through a mix of company-owned stores and franchise partnerships. As of early 2025, the brand is present in 78 of these markets, and the company has launched online sales platforms in 60 countries (H&M, 2024). The Group's physical retail network includes approximately 4,250 stores, strategically distributed across key global regions: 2,449 in Europe, 759 in North and South America, and 1,045 in Asia, Oceania, and Africa (H&M, 2024).

The corporation, which employs over 140,000 people, uses its size and human resources to carry out sustainability and digital transformation initiatives. A varied business strategy is reflected in the H&M Group's brand portfolio, which includes both core fast fashion and speciality products (H&M, 2024).

4.2.2.2 Critical assessment: aligning discourse with practice

The H&M Group's 2024 Sustainability Progress Report presents a coherent narrative that positions sustainability as a core principle integrated into all aspects of decision-making, from design and sourcing to distribution and circularity. However, when analysed through theoretical frameworks such as those of Bowen (2014) and Delmas & Burbano (2011), this discourse invites a more critical perspective. It raises the question of whether these efforts reflect a genuine structural transformation or symbolic environmentalism and greenwashing practices.

According to Kumar & Saravanan (2019), the H&M textiles collection effort, which goes by the motto "*Let's close the loop*", is consistent with the circular economy concept and business strategies that use circular value chains. By collecting discarded clothing in-store for recycling or reuse, this 2013 shift to sustainable and regenerative methods in the textile industry sought to reduce textile waste. But Aftonbladet's 2023 study casts doubt on the program's legitimacy and efficacy, bringing up significant issues with greenwashing and symbolic sustainability (Sophia, 2023).

H&M has not disclosed the percentage of textiles that are genuinely recycled, despite the company's 2020 textile collection claims of 18,800 tons (equivalent to 94 million T-

shirts). This lack of verifiable data aligns with Terrachoice's (2010) "sin of no proof" and supports Bowen's (2014) analysis that some sustainability claims prioritise image over actual impact (Sophia, 2023). Taken together, these elements raise the possibility that H&M's initiatives, although framed as circular, may reflect symbolic environmentalism.

In 2024, however, the H&M Group announced a seemingly bolder and more transparent approach through the launch of Syre, a joint venture with climate-focused investor Vargas. According to Segal (2024), writing for the sustainability news outlet *ESG Today*, H&M and Vargas launched the initiative to develop large-scale textile-to-textile recycling infrastructure.

The goal of this initiative is to industrialise textile-to-textile recycling on a large scale, starting with polyester, one of the most polluting materials in the fashion industry. Syre appears to signal a shift from symbolic initiatives to more systemic infrastructure. With a $600 million purchase deal, a new production plant in North Carolina, and a stated objective of generating 3 million tons of recycled polyester over ten years (Sophia, 2023). These figures show promised targets, not proven results, which again highlights the reliance on projections rather than actual data.

Drawing on Bowen's (2014) framework, it is crucial to determine whether the introduction of Syre is a significant investment that improves environmental performance. This viewpoint holds that businesses frequently strike a balance between audience-seeking (symbolic) and performance-enhancing (substantive) operations. Still, there is a chance that self-promotion could call into question the veracity of their environmental claims (Segal, 2024).

While Syre signals a potentially systemic move toward circularity, its ultimate impact will depend on measurable outcomes and full integration into H&M's core operations. The ongoing gap between H&M's textile collection rhetoric and its unverified results further exemplifies the fragility of voluntary efforts. This underscores the urgent need for binding regulatory frameworks to ensure that circular fashion delivers on its promises.

In July 2023, the Changing Markets Foundation revealed that garments donated to H&M's recycling program, "Take-back Trickery", were being dumped or incinerated instead of being repurposed or recycled, as advertised. For instance, an olive-green skirt that was dropped off at H&M's store in London travelled 24,800 kilometres over five months before reaching Bamako, Mali. H&M's claims of circularity were further undermined

when it was discovered that the clothing had been traced to an empty lot, raising serious questions about whether it had been properly recycled or just thrown away (Changing Markets, 2023b).

According to Bowen's (2014) symbolic CSR framework and Delmas & Burbano's (2011) typology, H&M's take-back initiative serves as a clear example of symbolic environmentalism. Despite being marketed as a circular and sustainable solution, independent investigations have shown that 76% of traceable garments collected through the program were either incinerated, lost in convoluted supply channels, or transferred to markets where their environmental fate is unknown. According to Suchman (1995), as referenced in Bowen (2014), these findings indicate a notable symbolic gap, the difference between a company's environmental rhetoric and its actual practices (Delmas & Burbano, 2011).

Delmas & Burbano (2011) claim that the model demonstrates how companies like H&M leverage environmental messaging to appeal to consumer demand without implementing meaningful operational changes. The company's symbolic actions, such as the introduction of ecological collections and the commercialisation of selective sustainability initiatives, mainly serve to maintain a sustainable brand image, with slight or even harmful environmental effects (Roche, 2024b).

This dynamic also reflects the distinction between symbolic and substantive sustainability efforts as analysed by Bowen (2014). According to their model, H&M spends more money on symbolic investments like sustainability messaging and green campaigns than on practical ones that could result in actual environmental benefits. The company maintains its legitimacy by boosting stakeholder acceptance through marketing, while avoiding the higher costs and systemic changes necessary for genuine environmental progress. This strategic approach prioritises reputation management over measurable environmental outcomes (Roche, 2024b).

Thus, H&M's actions align with what Bowen (2014) describes as symbolic corporate environmentalism, where the appearance of sustainability is carefully curated for public consumption but remains disconnected from the company's actual environmental footprint. Therefore, the company's public-facing environmentalism is performative, advancing reputational and brand objectives while masking the absence of quantifiable environmental impact.

The case of H&M's ‘Conscious Choice’ collection is a further emblematic example of this symbolic logic. Concerning inconsistencies have been exposed by independent investigations and legal action, notwithstanding marketing claims of environmental progress through the usage of recycled polyester. There are serious concerns over the true environmental impact of sustainable clothing because it has a higher percentage of synthetic fibres (72%) than H&M's traditional lines (61%). Furthermore, polyester fibres are weakened by mechanical recycling, making them eventually non-recyclable and contributing to their buildup in landfills, thereby undermining sustainability claims (Monteiro, 2022).

This contrast is a prime example of what Delmas & Burbano (2011) refer to as “greenwashing” businesses, which deliberately promote eco-friendly narratives while continuing to use unsustainable business methods. But as this thesis demonstrates, the problem goes beyond operational inconsistencies. These symbolic activities, as Miller & Maxwell (2017) highlight, are part of a culturally constructed environmental discourse supported by institutions, influencers, and the media. The end effect is an advanced form of reputational environmentalism based on a chosen narrative rather than comprehensive change.

This dynamic is further criticised by Yildirim (2023), who argues that greenwashing not only misleads consumers but also shifts the responsibility onto them by implying that systemic environmental problems can be solved through ‘right’ purchasing choices. Rather than promoting circular innovation, H&M's choice to price its "Conscious Choice" products higher, despite their increased synthetic fibre content, commodifies environmental concern as a branding strategy and turns sustainability into a moralised luxury item (Monteiro, 2022).

Lyon & Montgomery (2013) describe digitally challenged sustainability narratives, where companies’ sustainability claims are increasingly scrutinised by consumers and independent organisations using real-time data, highlighting this growing disconnect. H&M's response to false water reduction claims, which resulted in a public pledge to Dutch authorities to either rectify or cease all sustainability-related communications, is a prime illustration of this reactive approach to legitimacy (Monteiro, 2022).

Together, these cases highlight the importance of analysing H&M’s sustainability narrative not just through environmental metrics, but also as part of a broader branding

and reputation strategy that reflects symbolic actions and greenwashing dynamics. Additionally, they support the notion that the fashion industry's green identity building is more about narrative coherence with changing customer expectations than it is about ecological results.

4.2.2.3 Strategic patterns and evaluative reflections

The analysis of H&M's sustainability practices in this section is based on the same critical framework used in the previous analytical study. It does not focus on a complete inventory of initiatives but rather on selected episodes that reveal underlying tensions between communication and implementation regarding circularity and sustainability matters. Rather than offering an intensive overview, the case highlights specific examples, such as the “Close the Loop” campaign and the partnership with Syre, that analysed the gap between H&M's sustainability narrative and its operational reality. These initiatives were chosen for their symbolic visibility and strategic relevance, illustrating recurring patterns in the way the brand approaches circularity, sustainability and greenwashing.

Based on the frameworks of Delmas & Burbano (2011) and Bowen (2014), the analysis demonstrates how, despite presenting sustainability as a key element of its economic model, H&M typically operates within a framework of reputational environmentalism. This performative strategy, as covered in Chapter I, prioritises narrative control and brand image preservation, frequently tangible, quantifiable environmental advancement. Furthermore, the company's position as a global leader in fast fashion underscores the need to research these dynamics at scale, as its actions influence industry standards and consumer expectations.

In the Fashion Transparency Index, the Fashion Revolution (2023), ranked H&M among the highest-scoring brands, with a transparency score of 68%, significantly ahead of competitors like Zara (46%). While this suggests a greater degree of disclosure, especially in areas such as supply chain transparency, environmental governance, and human rights commitments, it also illustrates a broader issue explored in this thesis: high transparency does not necessarily correlate with transformative impact. H&M’s analytical study can demonstrate how high levels of disclosure can mask superficial practices, revealing a disconnect between transparency and actual structural change.

Statista's 2024 transparency index provides even more detail. It assessed H&M in five significant areas: decarbonization financing (100%), accountability (85%), just transition and advocacy (73%), energy procurement (44%), and decarbonization (40%). The company received an overall transparency score of 61% (Statista, 2024c).

The results show that H&M performs well in areas such as financing and governance but remains weak in core aspects linked to real environmental impact. The fact that it is among the 20 most 'transparent' fashion brands according to Statista's 2024 ranking reinforces its public image as a leader in sustainability. However, these transparency ratings can function more as a way of validating the company's reputation than as proof of real change. In practice, they help maintain the illusion of progress, without questioning the fast fashion business model, which, as analysed in Chapters I and II, seems to be structurally incompatible with true long-term environmental sustainability (Statista, 2024a, 2024c).

When combined, these results imply that H&M's sustainability structure still shows a fragmented use of circular approaches and superficial sustainability, even though it is institutionally recognised and seen as somewhat solid. In line with the theoretical arguments presented in the previous chapters, the organisation seems to vacillate between innovative projects and reputational risk management. Although Syre suggests a slightly stronger dedication to fibre-to-fibre recycling, this remains the exception rather than the rule of the H&M business model. Like Zara, H&M's strategic positioning shows that the fundamental problems of fast fashion can't be solved simply with more visibility or transparency.

In the following section, the analysis shifts focus to other players in the fashion industry, including companies such as Salsa Jeans and Valérius. This transition from global fast fashion giants to smaller yet strategically positioned firms enables a broader perspective on how sustainability discourses and practices unfold across different organisational scales and strategic models.

4.2.3 Salsa Jeans

4.2.3.1 Company overview and strategic commitments

Founded in Portugal in 1994 and currently part of the Sonae Fashion Group, Salsa Jeans has become a relevant player in the Portuguese textile industry, with a strong emphasis on denim innovation and quality. Unlike global fast fashion players such as Inditex or H&M, Salsa operates on a medium scale with a more targeted market scope. The company's sustainability communication is structured around three fundamental areas: water consumption, packaging and carbon emissions. (Salsa Jeans, 2021; Sonae, 2024).

The Betterwash process, introduced in 2021, employs certified methods such as ozone, laser, and e-flow washing technologies. The e-flow technology uses nanobubbles to transfer chemicals to the fabric with minimal water consumption, potentially reducing water use by up to 98% compared to traditional methods, while producing zero pollutant discharge. These techniques seek to lessen the negative effects of denim washing operations on the environment by removing or drastically lowering the use of water, chemicals, and energy (Islam et al., 2022; Salsa Jeans, 2021; Sonae, 2024).

According to a study supported by Control Union, Salsa achieved an average 42% reduction in water consumption per garment between 2013 and 2021. The company attributes this improvement to supplier cooperation, investments in factory upgrades, and technological innovation (Salsa Jeans, 2021).

In terms of packaging and logistics, Salsa has signed the Portuguese Plastics Pact and reports that packaging accounts for only 0.1% of the total weight of sold items. This is in line with the firm's overarching objective of removing plastic from its denim supply chain, which includes logistics from suppliers to retailers. The goal of eliminating more than 1.1 million plastic bags a year by 2023 indicates measurable progress toward plastic-free innovation (Salsa Jeans, 2021).

Based on scientific standards, Salsa has advanced its target of achieving carbon neutrality from 2050 to 2040, with an interim goal of reducing Scope 1 and 2 emissions by 50.4% by 2030. To do this, the business has made investments in renewable energy sources, such as installing photovoltaic panels. It has also started measuring its Scope 3 emissions, setting the stage for future decarbonization goals (Salsa Jeans, 2021).

4.2.3.2 Critical assessment: aligning discourse with practice

Salsa Jeans' sustainability strategy, articulated through its 'Become' programme, aims to bridge the gap between environmental discourse and practical implementation more effectively than typical fast fashion models, including a 10% decrease in energy use, a 23% reduction in scope one emissions, and a 10% rise in the use of self-generated renewable energy from 2022 to 2023 (Salsa Jeans, 2023).

According to Bowen (2014), performance-enhancing investments, such as those that reduce emissions or improve energy efficiency, represent genuine efforts toward environmental sustainability. Brennan and Pettit's (2004) framework further explains that corporate sustainability actions exist on a spectrum between symbolic and substantive behaviours (Salsa Jeans, 2023).

Furthermore, Salsa seems to fit with the model of strategic corporate environmentalism in line with Bowen (2014, p. 80-81) understanding sustainability as a tool for competitive advantage through efficiency and innovation rather than as a purely altruistic motivation or a reaction to regulation (Salsa Jeans, 2023). Although the organisation maintains long-term objectives, such as achieving carbon neutrality by 2040, its verifiable short-term progress demonstrates performance-oriented pragmatism (Salsa Jeans, 2023).

For example, Salsa's laundry unit has set a goal for 30% of its water consumption to come from reused sources by 2030. In 2022, no water was reused, making this target a significant shift toward operational circularity (Sonae, 2024). By aligning this initiative with the Sonae Group's broader environmental strategy, Salsa illustrates an effort to coordinate environmental goals across companies within the same corporate group.

Salsa Jeans occupies an intermediate position in the fashion market, more visible than niche sustainable brands but less exposed than global fast fashion conglomerates. This level of visibility may afford the company greater flexibility to pursue performance-oriented change without the reputational pressures that often drive symbolic environmental claims Bowen (2014).

Although Salsa participates in collective initiatives such as the Ellen MacArthur Foundation's Jeans Redesign, this participation alone does not distinguish the company, since several large fast fashion brands (e.g., H&M, Zara) are also involved. What might set Salsa apart, in this situation, is not mere membership in sustainability programmes,

but the tangible, internal progress it demonstrates through verified performance metrics, such as its adoption of local sourcing practices, with 53% of tier 1 suppliers located nearby and 55% being long-term partners, which reinforces supply chain resilience, an increasingly discussed element of circular economy present in sustainable fashion (Salsa Jeans, 2023).

Beyond the quantifiable progress in sustainability metrics, Salsa Jeans also demonstrates a distinctive approach to supplier engagement and financial responsibility. The company offers advance payments or financing solutions to suppliers in financial distress, often under more favourable conditions than those suppliers could secure independently, thus reinforcing supply chain stability and ethical resilience. Furthermore, Salsa maintains a 100% traceability rate in its tier 1 and 2 suppliers and has set the goal of extending this to tiers 3 and 4. These practices align with broader transparency goals and circularity frameworks that require deep visibility into the full life cycle of materials and labour (Salsa Jeans, n.d.-b).

Salsa has committed to ensuring 100% certification of all forest-derived raw materials by 2027. This commitment has been operationalised through pilot collections using unique materials that improve recyclability and reinforce the credibility of the company's circular design efforts. This proactive step reflects a growing recognition within the industry that circularity must begin at the design stage, with attention to the composition and traceability of materials (Salsa Jeans, n.d.-a).

Salsa Jeans' collaboration with the Portuguese textile company IVN Industria and the deadstock materials marketplace Recovo, which attempts to recycle excess denim and keep it out of landfills, is another unique aspect of their sustainability strategy (Singsit, 2025).

The Infinity programme further evidences operational circularity, achieving remarkable results in 2024: over 2,500 clothing repairs and 703 items collected for donation or recycling, of which 78% were successfully reused (Paiva, 2025; Rocha, 2025).

These figures demonstrate the company's active involvement in extending product life cycles, consistent with Kirchherr et al. 's (2017) concept of meso-level circularity, where interventions focus on organisational-level cycles rather than solely on end-of-life recycling. The effort is further reinforced by a materials strategy that prioritises recyclability: 57% of the company's 2024 collection consisted of single-material

garments, and 58% of the inputs used were of natural origin. These figures indicate material decisions designed for circular recovery, as analysed from Petrie (2023) and Rathinamoorthy (2019), meeting fundamental criteria such as modularity and disassembly (Paiva, 2025; Rocha, 2025).

4.2.3.3 Strategic patterns and evaluative reflections

Salsa Jeans exhibits a distinctive strategic profile that diverges from large-scale fast fashion models by integrating sustainability as a core element of value creation, driven by tangible performance outcomes. This approach is reflected across the company's operational decisions and governance structure.

Salsa's sustainability narrative is firmly rooted in product innovation and resource efficiency, as demonstrated by the company's circular design efforts, including the Betterwash method and commitment to single-material clothing. Rather than relying on downstream solutions like recycling, Salsa invests in upstream interventions inserted at the design stage. The use of tools like the Circularity Toolkit and the implementation of initiatives such as the Infinity programme reflect this proactive stance.

Moreover, the company's approach to supplier relations, including long-term partnerships, co-financing schemes, and governance mechanisms, indicates a collaborative sustainability model. Its medium-sized organisation enables a more flexible and integrated sustainability model, linking circular design, social co-responsibility, and operational traceability in ways that suggest a growing commitment to structural transformation, even if it is developing compared to global players.

Although Salsa's results can be verified and show progress in operations, the company's overall impact is still limited because it operates on a medium scale. Its practices do not yet have the same capacity for expansion as large fast fashion brands, and full supply chain traceability is still under development.

4.2.4 Valérius

4.2.4.1 Company overview and strategic commitments

Founded in Portugal, Valérius, whose name derives from the Latin "Valerio", meaning "to be strong", has established itself as a high-capacity textile manufacturer focused on quality, innovation, and customer responsiveness. The business can accommodate medium- and large-scale orders with flexibility and operating efficiency thanks to its 3,500 m² production facility, which can produce 25,000 pieces a day. A streamlined production and logistics system is reflected in lead times, which range from six weeks for new orders to as little as four weeks for replenishments (Nunes, 2018; Valérius, n.d.).

The company's commercial strategy is centred on proximity and adaptability to diverse client needs, with a client-focused production model. Valérius maintains an internal RDD (Research, Development and Design) division with the ability to develop 100 prototype garments per week. This team includes a Pattern Making Department composed of six specialists, who oversee the entire process from initial moulding to final fitting. The company integrates creative development and production in the same facilities, enabling shorter cycles between design and commercialisation (Nunes, 2018; Valérius, n.d.).

In terms of sustainability and quality governance, Valérius demonstrates adherence through a wide range of internationally recognised certifications. These include:

- GOTS (Global Organic Textile Standard)
- GRS (Global Recycled Standard)
- RCS (Recycled Claim Standard)
- OCS (Organic Content Standard)
- ISO 9001 (Quality Management System)
- ISO 14001 (Environmental Management System)
- Sedex (Supplier Ethical Data Exchange).

These certifications cover both internal operations and supply chain compliance, ensuring traceability and alignment with international sustainability standards (Nunes, 2018; Valérius, n.d.).

Valérius positions itself as a manufacturing partner that integrates sustainability and product innovation. This positioning is reflected in its investments in research, prototyping, and design, as well as in its commitment to responsible production practices

and supply chain transparency. Such strategic choices reflect the company's ambition to align product development with sustainability principles, setting the stage for a more detailed examination of its practices in the following section (Nunes, 2018; Valérius, n.d.).

4.2.4.2 Critical assessment: aligning discourse with practice

The case of Valérius and its Valérius 360 initiative illustrates efforts toward transitioning from a linear 'take-make-discard' model to a circular production system, in line with the fundamental principles of the circular economy outlined by McDonough and Braungart (2002) and Kumar and Saravanan (2019). As presented during the EURATEX General Assembly in 2018, Valérius' ten-year '360 Project' illustrates a shift from incremental environmental improvements to the structural rethinking of production-consumption systems, reflecting what is addressed in the circular economy section as the 'Rethink Now' moment (Nunes, 2018). By integrating fibre recovery, post-consumer and production waste recycling and the reintegration of materials into new textile production, the company operationalises fundamental circular principles such as waste as nutrient, resource recovery and designing for recyclability (Braungart & McDonough, 2002; Gardetti, 2019).

Valérius' investment in infrastructure and material innovation, blending recycled fibres with lyocell or organic cotton, corresponds to what Knight (2023) and Stahel (2019) describe as essential to achieving circularity at scale: developing material recovery techniques that maintain or exceed the quality of virgin inputs (Valérius, n.d.).

This contrasts with traditional fast fashion structures. In particular, the integration of Extended Producer Responsibility (EPR) and reverse logistics into its core business model represents a strategic alignment with the European Commission's Circular Economy Action Plan (European Commission, 2020).

The Valérius system addresses key challenges in circular implementation, including the need for traceability along globalised supply chains, technological limitations in processing mixed fibres, and the absence of extensive recycling infrastructure (Barnabé, 2024; Valérius, n.d.). Valérius proactively designs its system to keep materials in use through fibre-to-fibre recycling and product responsibility, instead of depending on

reactive waste management strategies (like downcycling or incineration). These strategies fall under the upper levels of the 9R hierarchy, specifically R2 (Reduce), R3 (Reuse), and R4 (Repair/Reform) (Rathinamoorthy, 2019).

The company reportedly produces an average of six tonnes of recycled yarn per day, reaching 180 tonnes per month, and twenty tonnes of recycled cotton paper per day, reinforcing its industrial capacity and material reintegration scale. The process is powered by LED lighting and 360 photovoltaic panels, and includes open-end spinning systems equipped with real-time tracking, designed to increase energy efficiency and traceability (Barnabé, 2024).

Valérius's 10 million euros transformation plan to regenerate unsold stock into new textile products demonstrates a pragmatic response to the accumulation of idle stock in European warehouses. Addressing one of the key challenges identified in the EU Strategy for Sustainable and Circular Textiles (European Commission, 2020; European Union, n.d.-c), this approach not only addresses waste at its source but also accounts for regulatory pressures and future market preferences (Nunes, 2018).

The company's emphasis on operational agility, which can supply small and medium series with high added value, can be understood as an innovative response to the logistical weaknesses of globalised supply chains. Rather than competing on price, Valérius takes advantage of speed, customisation and vertical integration, aligning to some extent with what Stahel & MacArthur (2019) describes as the 'service-based logic' of the circular economy, in which durability, reuse and regeneration replace linear growth paradigms (Nunes, 2018).

By designing products and systems that prioritise material reuse, Valérius aims to maintain the quality of materials through a closed-loop model, in contrast to traditional recycling practices (Kumar & Saravanan, 2019). By situating the production and reintegration processes in Portugal, Valérius not only enhances traceability but also satisfies the larger demand for decentralised and diversified supply chains (Nunes, 2018).

Valérius reinforces transparency by assigning each product a unique reference code that records its material composition and transformation steps, thus enabling third-party verification and fostering consumer trust (Valérius, n.d.).

The European Union's approaching DPP framework under the Eco-design for Sustainable Products Regulation (ESPR), which will become mandatory for textiles, is closely reflected in Valérius' traceability approach, even though the company may not specifically call its system a Digital Product Passport (European Union, 2024a; Gieß & Möller, 2025; Stretton & Buzeti, 2024). The system facilitates the methodical gathering and dissemination of product-specific information throughout the supply chain. Valérius's system anticipates the core requirements.

Furthermore, Valérius demonstrates its commitment to credible sustainability by seeking internationally recognised certifications such as GOTS, GRS, and ISO 14001, and is reportedly also aligned with OEKO-TEX standards. In this sense, Valérius offers an advanced and practical model of circularity, not only through technical processes and material loops but also through the integration of environmental responsibility, economic resilience, and transparent governance.

Valérius 360 can be interpreted as an example of substantive corporate environmentalism in the textile industry, where vertical integration, technological investment, and environmental stewardship are structurally rooted in the company's operational business model and identity. According to company statements and trade press, Valérius reports reductions of over 50% in raw material usage, 85% in water, 98.5% in chemicals, and 83% in energy consumption (Barnabé, 2024; Mais magazine, 2022). These indicator figures suggest measurable improvements and respond to the "No Proof" and "Vagueness" sins of greenwashing (Terrachoice, 2010). For greater clarity, independent verification by third parties is crucial to confirm its full scope.

Rather than deploying circularity as a symbolic gesture, Valérius appears to integrate it into its business model. This positioning aligns the company with Bowen (2014), who describes substantive investments, such as supply chain redesign and regenerative production practices, as more valuable than symbolic investments like eco-labelling or sustainability campaigns, which are designed primarily to enhance reputation. At the same time, it is important to recognise that, even in contrast to brands that use sustainability to strengthen their reputation, significant challenges remain. The scaling up of practices, transition costs and dependence on broader recycling systems continue to be significant limitations.

Valérius could be classified as a "strategic environmentalist", as it links sustainability with innovation and differentiation, while still delivering concrete environmental gains. This sets the company apart from compelled egoists, those who adopt green practices only for compliance, and from firms that engage in greenwashing for reputational benefits without altering their production systems (Bowen, 2014).

4.2.4.3 Strategic patterns and evaluative reflections

Valérius 360 exemplifies an integrated structural approach to circularity. Rather than positioning sustainability as an add-on, the company's entire business model is built around circular principles, combining process innovation, traceability, and environmental performance.

This approach reflects what Bowen (2014, p. 80-81) defined as substantive performance, where sustainability is not merely communicated but materialised through operational choices. Valérius demonstrates this through its investments in process innovation, material recovery and circular design, ensuring that environmental and social commitments are not isolated initiatives but unified processes. The company's focus on vertical integration and traceability, including a unique traceability code per item, positions Valérius as a model of transparency and accountability.

In terms of circular economy implementation, the company aligns closely with the principles discussed in Chapter II, particularly value retention, closed-loop recycling, and resource regeneration (Kumar & Saravanan, 2019; Stahel & MacArthur, 2019).

The dual recycling flows, textile-to-textile and textile-to-paper, exemplify what Stahel & MacArthur (2019) outline as the expansion of resource cycles beyond their original applications. This reinforces the idea of materials as nutrients, one of the fundamental principles of the circular economy, as outlined by Gardetti (2019). This contrasts with downcycling or symbolic reuse that fail to preserve material value and prolong usability.

Valérius also integrates social sustainability into its circular model, involving local communities in sorting and disassembling activities, promoting social inclusion under dignified working conditions, thus inserting social goals within industrial processes. This practice reflects the Triple Bottom Line (TBL) perspective (Gbolarumi et al., 2021; Purvis et al., 2019).

Rather than through parallel CSR initiatives, these dimensions are integrated into the operational core, a strategic integration within the value chain, an approach rarely observed in textile manufacturing and closely aligned with SDG 8 (Decent Work and Economic Growth) and SDG 12 (Responsible Consumption and Production).

The company places particular emphasis on environmental innovation, and its model suggests a balanced integration of the three Sustainability Pillars —environmental, social, and economic —within its core operations (Purvis et al., 2019). This systemic commitment avoids the risks of imbalance leading to greenwashing, as discussed in Chapter III.

Moreover, its demand-responsive production system and 'made to order' model allow for inventory optimisation and reduction of overproduction, tackling one of the structural causes of waste in fast fashion. This approach aligns with slow fashion principles, establishing Valérius not only as a recycler but also as a waste preventer, resulting in a higher positive impact according to the 9'Rs (Rathinamoorthy, 2019).

From a governance standpoint, the company's systemic integration of certifications reinforces what Bowen (2014) refers to as sustainability-driven differentiation. These certifications are used as tools of internal accountability and operational standardisation.

In conclusion, Valérius 360 might functions as an advanced example of complete sustainability integration, in which environmental objectives are not treated as separate from but rooted in the company's strategic and identity frameworks. However, despite the model's potential, its application across the industry still depends on external factors such as recycling infrastructure, common standards, legal incentives, and more rigorous independent verification of reported results.

This positions the company as a national benchmark and valuable proof of concept for systemic textile circularity, contrasting sharply with the predominantly advertising-oriented sustainability narratives in global fashion.

4.3 Analytical Synthesis: Symbolic vs. Substantive Sustainability in Practice

This chapter applied the conceptual frameworks developed and analysed throughout the first three chapters: greenwashing, circular economy and sustainability, to the analysis of

four different companies in the textile sector: Inditex/Zara, H&M, Salsa Jeans and Valérius. The comparative, but not competitive, approach allowed for a detailed exploration of each company's discourse and practices, revealing strategic patterns often concealed by sustainability advertising narratives.

Throughout the development of these analytical studies, it has been possible to understand and operationalise the tension between symbolic environmentalism and substantive transformation, especially among the fast fashion giants. In the cases of Zara and H&M, sustainability initiatives such as capsule collections, take-back schemes and fibre recycling partnerships are presented as proof of commitment, but often remain peripheral to core business models. These companies continue to operate within linear production cycles, characterised by speed, scale, and disposability —traits fundamentally incompatible with circularity and ecological responsibility. Despite high scores in transparency indices, the analysis shows that these indicators often reflect the visibility of information rather than the depth of systemic change.

By contrast, Salsa Jeans and Valérius represent alternative, performance-oriented pathways more aligned with the conceptual models examined in Chapters II and III. Salsa combines economic logic with credible environmental and social outcomes through a traceable, localised, and circular production logic. Through vertically integrated processes, fibre-to-fibre recycling and traceability systems that support regulatory tools such as the Digital Product Passport, Valérius is taking a further step towards inserting circularity into its business core. These companies demonstrate that, rather than being imposed externally or driven purely by reputational concerns, sustainability can be strategically and systemically rooted in core business operations.

The analysis also confirms that greenwashing is not limited to false claims but often emerges through selective transparency, symbolic actions, and legitimacy-building narratives. Drawing on the frameworks of Delmas & Burbano, TerraChoice, Brennan & Pettit, and Bowen, the analysis demonstrates that symbolic sustainability can coexist with innovation. Yet, the absence of structural change undermines the long-term impact of these initiatives. This is particularly evident in how fast fashion brands manage stakeholder expectations while resisting transformative shifts in production volume, fibre use, or value chain governance.

These findings offer important insights into the current state of sustainability in the textile industry and raise critical questions for future research and industry practice:

- Is the current use of transparency in sustainability reporting contributing to structural change, or is it predominantly a tool for managing perception?
- Is circularity feasible within the structural constraints of fast fashion's speed and scale?
- What is the most effective way for companies to balance reputational legitimacy with meaningful environmental and social accountability?

These reflections not only reinforce the central objectives of this thesis: to evaluate the gap between discourse and structural change. But they also serve as the basis for the final chapter, which will bring together the main theoretical and practical contributions of this thesis and indicate their implications for industry and future research.

Ultimately, this chapter illustrates how sustainability narratives function not only as a strategic tool but also as potential obstacles to structural transformation. While transparency and innovation are often emphasised, the real challenge lies in the willingness of companies to recalibrate and adjust their fundamental business models according to the crucial demands of circularity and sustainability.

As demonstrated throughout this chapter and reinforced in the literature review developed throughout the thesis, symbolic gestures can coexist with meaningful actions. Still, without a deeper change in structure, the impact remains small or insignificant. This reinforces the urgent need for regulatory and consumer literacy frameworks to distinguish genuine progress from strategic performance, as developed throughout these chapters and reinforced in this final Chapter IV.

In conclusion, this chapter's analysis research demonstrates the ongoing disparity between structural change and rhetoric in the textile industry. Despite exhibiting high degrees of symbolic innovation and openness, at its core, big fast fashion corporations continue to rely on linear, high-volume models.

On the other hand, medium-sized businesses like Valérius and Salsa demonstrate that viable routes to circularity and significant sustainability can exist, even while they remain constrained by structural and market forces. The difference between these cases confirms that genuine transformation remains the exception rather than the norm in an industry still

dominated by reputational strategy. The ultimate challenge is to turn sustainability from not only a symbolic narrative but also into a structural practice capable of reshaping the foundations of textile production and consumption.

This thesis aimed to critically explore the intersection and relationship between greenwashing, the circular economy and sustainability in the textile industry. Through a multidisciplinary and integrated analysis and approach, it examined how companies' environmental claims are constructed, communicated and contested in theoretical and practical domains. Through an intercultural approach, the analysis recognises that communication on sustainability operates within global value chains, where cultural norms, choices and ethical interpretations vary to an extent that shapes how sustainability is perceived, negotiated and legitimised.

Chapter I revealed greenwashing not just as a deceptive communication tactic, but as a structural phenomenon that exploits the growing demand for sustainable products while undermining genuine environmental progress. By addressing the cultural, legal, and strategic dimensions, as well as the historical background, the chapter laid the conceptual foundations for understanding how greenwashing functions as a systemic barrier to sustainability and to the circular economy.

It demonstrated how greenwashing operates through symbolic strategies, including the manipulation of legitimacy and reputation, as well as misleading advertising framed within corporate narratives of responsibility. It also exposed the communicative dynamics underlying these narratives, revealing how meaning is strategically constructed and circulated across markets and audiences.

An analysis in the light of regulatory frameworks and legal contexts, including the Unfair Commercial Practices Directive and the under-revision Green Claims Directive, revealed both the legal complexity and the urgency of policy responses to misleading green publicity. Chapter I also questioned whether greenwashing should be treated as a criminal act in all jurisdictions, adding a critical layer to its governance implications.

Chapter II introduced the circular economy as a transformative alternative to the linear economic model, highlighting the regeneration of resources, the longevity of products and the reformulation of the value chain. The analysis demonstrated that circularity, when implemented authentically, has the potential to minimise and combat greenwashing. However, it also exposed how the language of the circular economy can be incorporated for symbolic purposes when disconnected from transparent and accountable practice.

The chapter examined the pillars of the circular economy, including ideas like Cradle-to-Cradle design and Life Cycle Assessment (LCA), and demonstrated how circular

principles are applied in industry. It also traced the historical development of the circular economy, starting with the initial warnings about the shortcomings of the linear economy. The function of traceability tools, such as blockchain technology and Digital Product Passports (DPPs), as instruments to improve accountability was briefly discussed.

To prevent circularity from becoming a new form of greenwashing, the analysis underlined that it must be rooted in business culture, governance, policy, and production systems. The promotion of circular value chain implementation, product and process redesign, and a reconsideration of raw materials and their utilisation through resource-valued closed-loop systems.

This entails confronting the excesses generated by the textile industry and the wider patterns of societal consumption, a problem that affects many other sectors as well. Adhering to the circular economy's principles entails actively challenging what is classified as “waste” and repurposing it as a product with social value, all while working to act justly and sustainably for the earth. Chapter II of the thesis demonstrates that circular models in fashion require more than just recycling. Considering the 9R framework, they demand systemic innovation, inclusive governance, and resistance to the linear economic incentives that still dominate the industry.

Chapter III extends to the debate on sustainability, exploring the environmental, social and economic/governance pillars of the Triple Bottom Line, addressing issues such as emissions and lack of transparency. The chapter also highlights the role of artistic and cultural activism as a critical and educational tool to challenge greenwashing and promote public engagement in these themes.

The examination of creative and cultural practices, such as those of Fulu/Colin Delfosse, Guerra de la Paz, Trash Talker, and Calder Kamin, as acts of resistance that visualise, challenge, and reformulate unsustainable norms is one of its most notable contributions. Through fostering emotional literacy and critical thinking about the cultural frameworks that support greenwashing, this artistic involvement broadens sustainability and the circular economy beyond institutional discourse.

Additionally, in chapter III, it is analysed how social factors like labour exploitation, gender inequality, and precarious work are still overlooked in sustainability claims, even though greenhouse gas emissions, microplastic pollution, and an excessive reliance on synthetic fibres represent pressing environmental concerns. Sustainability necessitates

both internal corporate responsibility and external accountability systems, according to an analysis of the governance pillar conducted via the lenses of certifications, transparency, ethical auditing, and stakeholder engagement.

Finally, Chapter IV operationalised these frameworks through an analytical study of Zara, H&M, Salsa Jeans and Valérius. This analysis revealed contrasting patterns of alignment and dissonance between discourse and practice, highlighting how structural constraints, market pressures and reputational incentives influence companies' behaviour. The results suggest that while certain companies demonstrate genuine transformative progress and appear to pioneer change within the market, others, according to the analysis, continue to exhibit predominantly symbolic performance.

The example of Zara revealed inconsistencies between its sustainability declarations and the continued increase in the use of synthetic fibres, along with moderate transparency scores in the Fashion Transparency Index.

H&M's recycling programmes and 'Conscious' collections raised concerns about greenwashing due to poor traceability and the largely symbolic nature of its take-back schemes. Salsa Jeans emerged as a case of combining circular initiatives with strategic branding. At the same time, Valérius represented the most structurally integrated approach to circularity, with industrial symbiosis, scientific partnerships and traceable fibre and paper recycling processes.

Chapter IV demonstrated how the theoretical models explored along the thesis, including symbolic versus substantive performance, reputational legitimacy, and circular value chains (Kumar & Saravanan, 2019), can be used as effective tools to assess corporate behaviour and sustainability performance.

The analytical studies also align with the theoretical models by Delmas & Burbano (2011) and Bowen (2014), presenting real examples of symbolic versus substantive performance. Furthermore, they illustrated the use of analytical tools like stakeholder communication reports and sustainability rankings to evaluate businesses' actual commitment to transparency and circularity.

This thesis is more than just a comprehensive overview of the literature on the subjects being studied and how they interface with emerging and existing business models in the textile industry. Stronger regulatory frameworks, more cultural awareness of

greenwashing, and education about the circular economy are all demands made in this study.

This work promotes and develops the integrated, circular, and transparent corporate environmentalism representations where social justice and ecological integrity are given equal weight with economic performance. Also, this thesis, based on theoretical and practical principles, emphasises how greenwashing hinders efforts related to sustainability and the circular economy.

The idea of ongoing research and analysis for future studies that can be conducted and developed in the areas of interest, greenwashing, the circular economy, and sustainability in the textile narrative, is also the foundation of this thesis. This present thesis aims to function as a future tool by integrating and compiling a methodological, analytical, and literature study.

Furthermore, it seeks to serve as a basis for the elaboration and development of studies within the companies presented, considering the analysed themes. By focusing on the intersection of greenwashing, circular economy, and sustainability, this work proposes a research model capable of identifying new outcomes, recognising patterns, and unveiling solutions and challenges, not only within the textile industry itself, but across any industry, sector, or company where these current and relevant contexts can be meaningfully applied and translated.

Finally, this study shows that establishing sincere, circular sustainability takes more than just compliance or innovation: it requires intercultural understanding, ethical governance, and alignment between discourse and action. Only through integrated, conscious approaches can the textile industry, and by extension global business, move from symbolic performance to substantive transformation.

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