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Greenwashing in the Circular Economy: Impact on Consumer Trust

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Summary

1.

Chapter 1 – The theoretical context and the importance of sustainability

In recent years, attention to environmental, social, and economic sustainability has grown exponentially, involving not only institutions and legislators, but also the business world. Driven by increasingly stringent regulatory pressure and growing collective awareness, companies have begun to integrate sustainability practices into their business models, focusing on strategies related to the circular economy, improving environmental performance, and ESG reporting. At the same time, consumers have also made their voices heard, demonstrating with increasing clarity that they prefer brands that are ethical, transparent, and authentically responsible, not only in their intentions but above all in their actions, as noted by Todaro and Torelli (Todaro, From greenwashing to ESG-washing, 2024) in their recent study on the circular economy and the communicative drifts that the instrumental use of sustainability can lead to. However, this growing enthusiasm has also brought to light some rather significant issues. In particular, one of the most obvious risks is that of a gap, sometimes even a marked one, between what companies say and what they actually do. It is precisely in this space that the phenomenon of greenwashing fits in, a concept that took shape in the 1980s thanks to the observations of Jay Westerveld, but which has become widespread in recent years, as highlighted by recent studies (Burbano, 2011). Greenwashing refers to all those communication practices through which companies seek to build a falsely sustainable image, using marketing campaigns that emphasize environmental initiatives not supported by concrete data, or that merely provide partial and unverifiable information about their activities. Other studies confirm that the phenomenon has now taken on a global scale, spreading in various forms, from emphatic statements without evidence to outright abuse of opaque environmental labeling, ultimately generating confusion among consumers and undermining trust in sustainable strategies ((Zioło, Decoding sustainability claims:, 2024). Greenwashing, in fact, has a direct impact on consumer trust, as numerous studies show. Schäfer et al. point out that when consumers notice a discrepancy between a company's sustainability claims and its actual behavior, a strong mechanism of disappointment is triggered, resulting in a significant decline in trust in the brand (Schäfer, The moral disillusionment of consumers, 2024) . This effect can also be explained by the Expectation Disconfirmation Theory, according to which disappointment resulting from betrayed expectations has a stronger psychological impact than situations where nothing is expected from the outset. Similarly, Bernini and La Rosa emphasize how the consumer's perception of inconsistency can quickly erode a company's reputational capital, demonstrating that consistency between communication and concrete actions is no longer an option but an essential requirement (Bernini, Sustainability reporting and the erosion of trust, 2024). If we focus on the field of the circular economy, the risk of greenwashing becomes even more relevant. Many companies claim to have adopted circular models, but in reality they limit themselves to minimal interventions, such as using a percentage of recycled materials or promoting superficial initiatives, without ever embarking on a real path of systemic transformation. Todaro talks about ESG-washing, a new form of greenwashing in which ESG labels are used opportunistically to enhance corporate reputation without actually adhering to sustainability principles. This is exacerbated by the fragmentation of reporting standards and the multiplicity of approaches used by companies, as also noted by Ben Mahjoub , who denounces a lack of consistency and transparency in ESG criteria at the global level. These considerations are the starting point for my interest in the topic. I have often wondered, even in my daily experience as a consumer, how much 'green' communication strategies actually influence my trust in a company, and how solid or fragile this trust is in the face of any communication slip-ups. It is surprising to note how quickly a brand can be hailed as virtuous and, in a short space of time, be overwhelmed by accusations of greenwashing due to ambiguous or opaque campaigns. This personal observation prompted me to analyze in depth how consumers perceive greenwashing and whether, and to what extent, this perception has a concrete impact on trust in brands. Through a quantitative survey, based on a structured questionnaire, empirical data was collected to explore these questions and compare them with evidence from the scientific literature. This study lies at the intersection of corporate communication, ethical marketing, consumer psychology, and sustainability, and aims to offer a useful contribution not only to the academic debate but also to companies that wish to communicate their sustainability in an authentic and effective way. The ultimate goal is for this work to serve as a concrete starting point to help companies better understand the value of transparency and consistency, so as to establish a solid and lasting relationship of trust with consumers. This introductory chapter will therefore outline the theoretical and motivational framework that guided this research. We will start from the context of the growing focus on sustainability in business contexts, before exploring the role of Corporate Social Responsibility (CSR), ESG standards, and circular economy models, in order to understand how greenwashing fits in as an ambiguous strategic response to these pressures. The second part of the chapter will clarify the objectives of the research, the operational hypotheses, and the scientific and personal relevance of the topic addressed.

1.1 Context and rationale for the study

Sustainability has gradually become a central theme in corporate, institutional, and academic debates, taking on a leading role in the strategies of companies facing growing public attention and pressure from increasingly stringent regulations. Companies are now called upon not only to improve their environmental efficiency but also to demonstrate concrete commitments in the social and governance spheres, thus responding to the expectations of increasingly aware and informed consumers. In this context, tools such as Corporate Social Responsibility (CSR), the circular economy, and ESG reporting have established themselves as key benchmarks for building corporate reputation and strengthening legitimacy, as noted by Zioło. These tools enable companies to present themselves as responsible actors, committed to a path of integrated sustainability, capable of generating economic and social value at the same time.

Yet, this growing emphasis on sustainability has paved the way for new forms of communicative opportunism. Some companies, despite not having made significant changes to their operating practices, adopt appealing and reassuring language to convey a more sustainable image of themselves to the public than is actually the case. This is where the phenomenon of greenwashing comes in, i.e., the strategy whereby companies emphasize alleged environmental commitments, often minimal or non-existent, in order to gain consensus and social legitimacy. (Burbano) clearly describe this phenomenon, explaining how it manifests itself when there is a clear discrepancy between poor environmental performance and particularly intense and positive green communication. In essence, companies communicate well but do little, generating a sustainable narrative that is not backed up by concrete actions. The risk of greenwashing appears even more significant when viewed through the lens of the circular economy. This model, which theoretically aims to reduce waste, extend the useful life of products, and promote the recycling and reuse of materials, is increasingly referenced in corporate messages as proof of a commitment to sustainability. However, circularity claims often remain vague, fragmented, or unsupported by concrete data, fueling a dynamic known as ESG-washing, in which sustainability is evoked more as a marketing tool than as a real strategic orientation. This ambiguity not only empties the concept of the circular economy of meaning, but also makes it difficult for consumers to distinguish between companies that are truly committed and those that merely pay lip service.

It is precisely this difficulty that prompted me to explore the issue further. Looking closely at how many companies manage to build a reputation for sustainability almost exclusively through communication, I have often wondered how much consumers are able to perceive the difference between genuine commitment and opportunistic strategy, and further, how they react when this difference becomes apparent. We are at a historic moment in which trust is a fundamental pillar in the relationship between brands and consumers: trust that, if betrayed, can have serious consequences in terms of reputation, social consensus, and market results. These reflections are the motivation behind this thesis, which aims to explore the relationship between the perception of greenwashing and consumer trust, focusing in particular on the circular economy. The aim is to offer a deeper understanding of the dynamics that are triggered when sustainability is used as a communication lever, in order to understand if and how consumers are able to recognize inconsistencies between companies' statements and their actual actions. Through this study, I intend to make a useful contribution not only to enriching the academic debate, but also to offering practical insights to companies that wish to build transparent communication strategies, avoiding the risk of falling into greenwashing and strengthening the trust of their stakeholders.

1.2 Research questions and hypotheses

Continuing the reasoning developed in the previous paragraph and drawing on the most recent academic contributions on the subject, it is clear that there is a need not only to confirm the widespread existence of greenwashing, but also and above all to understand how this phenomenon is perceived by consumers and what consequences it has on the trust placed in companies that communicate their commitment to sustainability. It is not enough, in fact, to detect the presence of ambiguous communication strategies: it is necessary to explore the consumer's perceptual and subjective dimension, since this is where a decisive part of the relationship between business and the public is played out. Have very effectively highlighted how intense environmental communication, if not supported by concrete results, can generate a sort of ‘perceived disconnect’, a discrepancy that consumers feel between what is promised and what is actually achieved by the company. When recognized, this gap risks deeply eroding the credibility of the company.

This dynamic is also confirmed by the study by (Schäfer, The moral disillusionment of consumers, 2024) according to which the discovery by consumers of greenwashing behavior triggers even more pronounced reactions of disillusionment and mistrust than in situations where the company has never publicly claimed a commitment to the environment. This phenomenon is understandable if we consider the natural psychological mechanism whereby the violation of a positive expectation generates a stronger emotional impact than initial neutrality. (Bernini, Sustainability reporting and the erosion of trust, 2024)further contribute to this reflection, emphasizing that greenwashing not only jeopardizes trust in individual brands, but also ends up weakening collective trust in the entire sustainable communication system. What emerges strongly is that it is not so much the objective reality of corporate practices that influences consumer trust, but rather the subjective perception of consistency or inconsistency between communication and behavior.

The fundamental question underlying this study can therefore be summarized as follows: how does the perception of greenwashing affect consumer trust in companies that promote sustainability initiatives, with particular reference to those related to the circular economy? To answer this question, I chose to adopt a quantitative research approach, using a structured questionnaire designed to collect empirical data on three key dimensions: the first concerns the level of consumer exposure to and awareness of greenwashing practices; the second focuses on the perception of consistency between corporate communication and the actual behavior of the company; finally, the third dimension aims to measure the degree of trust that consumers place in companies that communicate sustainability commitments.

Based on this theoretical and methodological framework, a number of working hypotheses have been formulated to guide the analysis of the data collected. The first hypothesis (H1) argues that a greater perception of greenwashing is associated with lower consumer trust in the brand, a hypothesis consistent with the findings of the current literature .

The second hypothesis (H2) posits that consumers who are more sensitive to environmental issues are also more likely to identify greenwashing behaviors and react with greater mistrust. This perspective is confirmed by the studies of Todaro and Torelli (2024), who emphasize that consumers' growing environmental literacy makes them more attentive and critical of corporate communications. The third hypothesis (H3) focuses on the circular economy, assuming that trust is more compromised in cases where greenwashing is linked to the communication of circular practices, such as the use of recycled materials or the promotion of sustainable packaging. Finally, the fourth hypothesis (H4) predicts that perceived transparency in corporate communication may mediate the relationship between greenwashing and trust, partially mitigating the negative impact of perceived inconsistency.

These hypotheses will be tested through statistical analysis of the data collected, with the aim of understanding whether the relationship between the perception of greenwashing and consumer trust is significant, and how it is influenced by individual variables, such as age, level of education, or personal interest in sustainability, as well as communication variables such as transparency or the presence of recognized environmental certifications. Through this investigation, the thesis aims to provide a clear and detailed picture of how today's consumers relate to the phenomenon of greenwashing and what are the most effective levers for building authentic and credible sustainable communication.

Chapter 2 – Greenwashing and the Circular Economy: Real Sustainability or Greenwashing?

This chapter explores the concept of greenwashing and its link to the paradigm of sustainability and, in particular, to circular economy practices. Starting from the historical and cultural origins of the term, it outlines the main definitions proposed in the literature, the most recent variants such as ESG-washing and greenhushing, and the mechanisms that lead companies to resort to these strategies. The second part of the chapter focuses on the communication risks associated with declared sustainability, analyzing the consistency between message and behavior, the role of transparency, and the function of ESG criteria. Finally, the effect of greenwashing on consumer trust is examined, laying the foundations for the empirical analysis conducted in the following chapters.

2.1 Origin and context of greenwashing

The term greenwashing has its roots in the 1980s, at a time when environmental awareness was beginning to gain ground in public debate and corporate communications. The activist Jay Westerveld coined the expression in 1986, inspired by a practice widespread at the time in hotel chains: inviting customers to reuse towels under the pretext of protecting the environment, when in reality the real intention was mainly economic. This seemingly simple example, however, highlighted a much broader dynamic: the strategic use of environmental messages by companies, not so much out of a genuine commitment to sustainability, but rather to improve their image and strengthen their reputation without actually changing their behavior. With growing environmental awareness among consumers and increasing media attention on sustainability issues, greenwashing has rapidly evolved from an isolated phenomenon to a structured communication strategy. Delmas and Burbano, in their now classic 2011 paper, described this phenomenon as the result of a strong discrepancy between poor actual environmental performance and positive and intense environmental communication, capable of misleading consumers and leading them to believe in a commitment that is either non-existent or greatly overestimated. This imbalance between “saying” and “doing,” initially confined to the environmental sphere, has gradually spread to other areas of sustainability, giving rise to the broader concept of ESG-washing, which also encompasses social and governance dimensions and further amplifies the risk of perception manipulation.

At the same time, the literature has begun to explore the economic, social, and reputational consequences of greenwashing in greater depth, highlighting that it is a systemic phenomenon and not an isolated one. (Montgomery, 2024) , in particular, have helped to clarify this aspect by introducing the concept of symbolic legitimacy, according to which companies resort to greenwashing not only to promote a positive image of themselves, but also to obtain public recognition of legitimacy without implementing substantial changes in their processes or governance. This mechanism allows companies to reap reputational benefits in the short term, while remaining anchored to conventional practices that often conflict with their stated sustainability principles. This approach risks fueling widespread mistrust, weakening the overall credibility of corporate sustainability strategies and making it increasingly difficult for consumers to distinguish between genuine commitment and opportunistic storytelling.

Greenwashing is now widely recognized, even at the institutional level. The European Union, aware of the risks associated with misleading green claims, is gradually strengthening the regulatory framework aimed at combating environmental claims that are not supported by concrete evidence. However, the lack of globally shared standards and independent verification mechanisms continues to leave room for abuse, making the field of sustainability particularly vulnerable to window dressing. The complexity of the situation is exacerbated by growing competitive pressure among companies, which are driven to communicate their green credentials more aggressively in order to maintain or improve their market position, even when these commitments prove to be superficial or unverifiable.

In this context, greenwashing is no longer simply a misleading communication strategy, but a real form of symbolic legitimization, capable of profoundly influencing public perception and consumer choices, fueling a vicious cycle of broken promises and compromised trust.

2.1.1 Cultural pressure and sustainability as a narrative lever

Over the last two decades, sustainability has gradually taken center stage in contemporary society, transforming itself from a niche issue to one of the dominant values in public discourse, consumer behavior, and corporate strategy. This evolution has been accompanied by growing cultural pressure to adopt ethical and responsible practices, involving not only citizens but also, increasingly, businesses. In this context, sustainability is no longer perceived as a simple strategic choice, but as an essential requirement for social legitimacy. It has become a kind of 'moral passport', necessary for recognition as a reliable player in an economic and social landscape that is increasingly attentive to environmental and social issues. In light of this transformation, many companies have begun to integrate the language of sustainability into their advertising messages, sustainability reports, and the values stated in their codes of ethics. However, these narratives are not always matched by concrete and structural interventions. Sustainability, despite being evoked with emphasis in corporate communications, risks being reduced to a narrative lever, used strategically to create empathy with the public and position companies as responsible actors, without any real support in operational practices. Ben Mahjoub warns against this risk, observing that sustainability, when used as a mere rhetorical accessory, can become meaningless and turn into an empty shell, incapable of producing real value for society (Ben Mahjoub H. , 2025). This attitude is reflected in the concept of symbolic conformity mentioned above, according to which companies adapt to prevailing values in society not so much out of deep conviction, but rather to appear in line with dominant cultural expectations. This creates a carefully constructed representation designed to "be seen" as sustainable, rather than to "be" sustainable in an authentic and substantial way. This phenomenon is accompanied by that of purpose-washing, i.e., the instrumental use of environmental and social causes as marketing and positioning tools, regardless of their actual consistency with the actions taken by the company. In a market where "green" is now the norm and where the pressure to appear sustainable sometimes exceeds that to actually be sustainable, the risk of constructing narratives that are not supported by facts is particularly high.

The media and social networks play an amplifying role in this dynamic, making sustainability a lever that is as powerful as it is fragile. While communicating environmental commitment allows companies to gain public attention and appreciation, any inconsistency or lack of transparency is quickly exposed, turning the promise of sustainability into its opposite, i.e., greenwashing. It is precisely in this context, deeply influenced by social and cultural pressures that push companies to appear more sustainable than they really are, that greenwashing finds extremely fertile ground to proliferate.

2.2 Key definitions and relevance of the phenomenon

After introducing the concept of greenwashing and the socio-cultural context in which it developed, this section explores its theoretical meaning and practical applications. It analyzes the definitions proposed in the literature, the different types of the phenomenon, its effects on corporate credibility, and the reasons that drive companies to adopt misleading communication practices. The aim is to provide a comprehensive and systematic overview of greenwashing, which can serve as a conceptual basis for the empirical analysis proposed in the following chapters. Although greenwashing is now a widely used concept in both everyday language and academia, there is still no fully agreed definition. The plurality of interpretations reflects the complex and multidimensional nature of this phenomenon, which involves aspects of strategic communication, business ethics, environmental marketing, sustainable finance, and even regulatory law. It is precisely this complexity that has led many scholars to propose complementary approaches capable of capturing the different facets of the phenomenon and highlighting its pervasiveness in corporate and social contexts.

One of the most widely cited definitions remains that proposed by Baum (2012), according to which greenwashing consists of disseminating misleading information about the environmental benefits of a product, service, or business practice. This perspective emphasizes the misleading nature of communication, drawing attention to the instrumental use of environmental messages to build a green reputation that, in reality, is based on fragile or non-existent foundations. Baum's definition is particularly useful because it highlights the responsibility that companies have in the proper management of environmental information, in a context where the average consumer often struggles to distinguish between genuine initiatives and superficial narratives.

Other authors, such as Seele (Seele, 2015) introduce an even more nuanced interpretation, highlighting that greenwashing is not always and necessarily the result of malicious intent. It can also arise from ambiguous terminology, a lack of internal awareness, or the absence of effective verification and control systems. In many cases, companies find themselves communicating in an approximate or inconsistent manner because there are no universal standards that clearly define what it means to be “carbon neutral” or “zero emissions,” for example. This lack of harmonization between sustainability metrics contributes to creating gray areas in communication that facilitate the proliferation of greenwashing.

With increasing pressure from consumers, investors, and institutional stakeholders for greater transparency, the relevance of greenwashing has grown significantly. When a company communicates an environmental commitment that is not supported by concrete data, or emphasizes marginal aspects of its operations to appear more sustainable than it is, the reputational impact can be devastating. The perception of inconsistency between statements and behavior generates strong disappointment among consumers, who perceive sustainability as being exploited and react with a drastic decline in trust. No less significant is the reputational contamination effect that greenwashing has on the entire sustainability ecosystem. The spread of misleading messages makes it increasingly difficult to distinguish truly virtuous companies from those that merely pay lip service to sustainability. This side effect contributes to reinforcing a cynical and disillusioned view of environmental strategies, leading some consumers to adopt attitudes of general skepticism toward all green communications, regardless of their veracity.

The consequences of greenwashing, however, do not stop at reputation or perception. There are also concrete repercussions on the functioning of financial markets and sustainable investment instruments. Lagasio (Lagasio, 2024) , for example, highlights how unreliable ESG information can distort capital flows, unduly rewarding companies that merely make unverified environmental claims and penalizing those that genuinely invest in sustainable practices. This phenomenon not only distorts competition, but also compromises the very effectiveness of ESG ratings as reward mechanisms, undermining the credibility of the green financial system and discouraging virtuous behavior.

In light of these considerations, it is clear that greenwashing is much more than just a misleading communication issue. It is a phenomenon with systemic consequences, capable of profoundly influencing consumer behavior, altering the competitive dynamics between companies, and calling into question the very foundations of the global discourse on sustainability. Fully understanding these dynamics is essential for anyone who wants to promote a truly sustainable economy and help restore trust between businesses, consumers, and society as a whole.

2.2.1 Types and variants: greenwashing, ESG-washing, greenhushing

Although greenwashing is often treated as a single phenomenon, it actually manifests itself in very different forms and intensities, reflecting the growing complexity of corporate sustainability strategies. Over time, the literature has attempted to map these different facets, proposing classifications that are useful for better understanding the dynamics underlying this phenomenon. Among the most established distinctions is that between product-level and company-level greenwashing. In the former case, the focus is on individual goods or services promoted as sustainable, even though they have no real basis; in the latter, on the other hand, the entire corporate identity is built around values that are green only in appearance, in an attempt to present itself as a “responsible company” without corresponding substance in its operational choices. Greenwashing therefore operates on several levels, from the micro level of product communication to the macro level of corporate storytelling. Alongside these two macro-categories, a series of emerging variants have emerged, reflecting the evolution of the phenomenon in response to growing market pressures and social expectations. Among these, one of the most discussed is ESG-washing, which describes the increasingly widespread practice of selectively emphasizing environmental, social, or governance performance in corporate reports, while omitting or downplaying problematic or difficult-to-measure aspects. Todaro and Torelli highlight how this dynamic is particularly relevant in the context of circular economy communication, where many companies resort to vague or partial statements to strengthen their green image without making structural improvements. Furthermore, the fragmentation of ESG standards offers companies ample scope to highlight their strengths while concealing weaknesses or critical issues behind partial positive results, legitimizing narratives that risk misleading stakeholders. Mahjoub further explores the issue, talking about reporting noise, i.e., the tendency to highlight positive results while concealing weaknesses or critical issues behind partial positive results, legitimizing narratives that risk misleading stakeholders. conceal weaknesses or critical issues behind partial positive results, legitimizing narratives that risk misleading stakeholders. Mahjoub further explores this issue, referring to reporting noise, i.e., the excess of deliberately unclear information that complicates stakeholders' ability to distinguish between genuine data and mere communication strategies. In this context, Lagasio contributes with its ESG Severity Index (ESGSI), an indicator capable of measuring the misalignment between ESG rhetoric and concrete actions, confirming how widespread the tendency is to build apparent performance through selective and opaque metrics. ESG washing fits perfectly into this scenario, becoming an increasingly used tactic to gain reputational and financial advantages, without necessarily reflecting a real commitment to sustainability. Another increasingly relevant variant is greenhushing, a term that refers to companies' intentional silence about their sustainable initiatives. In a context where sustainability is now at the center of public attention, some companies prefer to avoid explicit statements for fear of being accused of inconsistency or exposing themselves to criticism if discrepancies emerge between their promises and actual results. This cautious choice is, in reality, the mirror image of greenwashing: while the latter is based on the hypervisibility of sustainability, greenhushing aims instead at strategically removing the issue from public discourse in order to carefully manage one's reputation. Although opposite in form, both strategies respond to the same underlying tension: growing reputational pressure and the difficulty companies face in balancing transparency and communication risk management. Further contributions, such as that by Guo et al. (Guo, 2018) , propose distinguishing between intentional and unintentional greenwashing. In the former case, the deception is deliberate and carefully orchestrated to maximize reputational benefits; in the latter, however, it stems from gaps in internal management, poor technical knowledge, or excessive reliance on external consultants, which can lead to ambiguous or untruthful communications. Although the motivations differ, the perceived effect on the public remains surprisingly similar: loss of trust and disillusionment with the company and, more generally, with sustainable communication.

The distinction between operational greenwashing and communicative greenwashing also deserves attention. The former occurs when a company's operational choices contradict its stated environmental commitments: unsustainable procurement policies, environmental dumping practices, or high-impact logistics management are just a few examples. The latter, on the other hand, manifests itself mainly through the use of ambiguous claims, evocative visual symbols, or appealing language that suggests superficial sustainability. Dorfleitner and Utz (Dorfleitner, 2024) They observe how these two levels are not independent but, on the contrary, feed off each other, creating a narrative that is only apparently coherent but in reality deeply disconnected from the facts. A concrete example of this dual dynamic can be found in the Volkswagen case, where a strongly sustainability-oriented communication was contradicted by fraudulent operating practices, with serious reputational and legal repercussions. These multiple nuances demonstrate how greenwashing is an extremely multifaceted phenomenon, capable of creeping into every level of corporate communication and management. Recognizing its various manifestations is therefore the first fundamental step in addressing it in an informed and effective manner, protecting not only consumers but also companies that are genuinely committed to the transition to truly sustainable business models.

2.2.2 The "seven sins" of greenwashing

One of the most influential classifications and still a benchmark for analyzing greenwashing is that proposed by TerraChoice. (Inc., 2009), updated two years later, which identifies seven recurring practices through which companies build a misleading perception of their environmental commitment. Known as the "seven sins of greenwashing" theory, this taxonomy has had the merit of turning a complex concept into a practical and easily applicable tool, still used in academia, institutions, and by numerous NGOs to expose unfair practices in corporate communication.

• The first of these sins is **lack of evidence**, i.e., the use of environmental claims without verifiable support. Claims such as "100% natural" or "eco-friendly" are common, but often not accompanied by independent certification or concrete data. The lack of external verification and the self-referential nature of the data reported by companies are one of the main critical issues in sustainability communication.

• Next is the **sin of vagueness**, characterized by the use of generic and ambiguous terms that leave ample room for subjective interpretation. Vague expressions are often particularly effective in capturing the consumer's attention, while remaining evasive about the real scope of the actions taken by the company.

• The third sin, that of **irrelevance,** concerns the emphasis on environmental aspects that are now outdated or marginal, such as specifying the absence of CFCs in products for which these chemicals have been banned for years. Analyzing the role of environmental disclosure, it can be seen how certain information is strategically emphasized despite having little relevance in the current regulatory and environmental context.

• The **hidden trade-off** is the fourth sin identified by TerraChoice: here, companies highlight a single green quality of the product, while omitting other environmental issues. For example, recycled packaging produced using energy-intensive industrial processes. These partial narratives pose a serious risk to transparency, as they confuse consumers about the true overall sustainability of the product.

• The fifth sin, **falsehood,** concerns openly untrue statements, such as the attribution of certifications that have never been obtained or the use of falsified logos and symbols to evoke sustainability standards. This type of deception, although rarer than other more subtle forms of greenwashing, has very serious reputational consequences, as emblematically demonstrated by the Volkswagen case, where the discrepancy between communication and operational reality led to a global scandal.

• The **cult of false labels** is the sixth sin: this occurs when companies create graphic symbols or trademarks that evoke environmental certifications without any official recognition. This practice exploits the visual trust of consumers, who tend to automatically associate the presence of a logo with a guarantee of environmental quality, even in the absence of formal verification.

• Finally, the seventh sin is that of the **lesser evil**, which consists of presenting a product as the "least harmful choice" within a category that is still highly environmentally impactful. "Organic cigarettes" and 'green' SUVs are emblematic examples of this practice. This sin represents a "comparative illusion" generated by a consumer context where even slightly less harmful options are perceived as virtuous choices.

This classification has the advantage of providing an effective interpretative framework, capable of breaking down a complex phenomenon into recognizable and concrete categories. Seele and Lock have proposed updating this framework in light of new digital dynamics, including algorithmic greenwashing and predictive marketing, which amplify the effect of ambiguous messages through personalized communication. Although in an evolved context, the structure of the "seven sins" remains a valid starting point for analyzing the gap between strategic narrative and reality. Ultimately, recognizing these "sins" is not only useful for informed consumers, but also essential for those, such as regulators and financial analysts, who are called upon to assess the consistency of sustainability claims. Only through a critical reading of these dynamics will it be possible to unmask misleading narratives and promote a culture of transparency, restoring authenticity to the concept of sustainability in the contemporary business landscape.

2.2.3 Drivers: external pressures, reputational benefits, lack of standards

To fully understand the roots of greenwashing, it is not enough to limit oneself to analyzing corporate communication per se; it is essential to investigate the structural motivations that drive companies to resort to it. The most recent literature converges in identifying a variety of drivers, both internal and external, that operate simultaneously and often interdependently. These are forces that, even in the absence of deliberate intent, can

push organizations to construct misleading or at least misleading environmental narratives, fueling a gap between sustainability promises and the reality of the actions taken.
One of the main factors is social and cultural pressure. Consumers, particularly younger and more aware generations, are paying increasing attention to environmental and social issues, demanding not only quality and innovation from companies, but also responsibility and transparency. This scenario has profoundly transformed collective expectations, creating an environment in which silence or neutrality on sustainability risks being perceived as a lack of commitment. Contemporary consumers no longer limit themselves to rewarding those who communicate green initiatives, but penalize those who are absent or reticent on these issues. This strong pressure can lead companies to communicate their sustainability intentions in advance, even when the necessary operational changes have not yet been completed. Companies often communicate sustainability at a faster pace than their actual ability to implement it in their production and management processes.
A second fundamental driver is reputation. In increasingly saturated and competitive markets, sustainability is now perceived as a strategic lever for differentiation and attraction, capable of generating tangible benefits in terms of image, access to capital, purchasing preferences, and investor confidence. In this context, many companies are driven to selectively emphasize the most favorable aspects of their environmental performance, hiding the less convenient ones in order to gain consensus and improve their competitive position. In other words, when sustainability is rewarded by the markets, the temptation to simulate it, even if only partially, through carefully constructed communication strategies grows in parallel. A third crucial element is imperfect regulation. The lack of internationally agreed standards, uniform criteria for ESG reporting, and rigorous third-party controls has left companies with considerable leeway in defining what it means to be "sustainable." Sustainability reports are often written according to narrative rather than strictly metric logic, making it difficult for external stakeholders to verify the veracity of corporate statements. Furthermore, the lack of harmonization in ESG measurement criteria contributes to creating a fragmented picture, in which companies can select and present favorable data while concealing critical elements. In this regulatory vacuum, the risk of greenwashing is amplified, finding fertile ground in the ambiguities of the system.
Internal organizational drivers are no less important. Fragmented business units, poor integration between marketing and operations, a lack of specific sustainability expertise, or excessive reliance on external consultants who do not fully share the company's values can lead to inconsistencies between communication and operational practices. In many cases,

greenwashing is not the result of a conscious and premeditated plan, but rather stems from a weak sustainability culture, in which communication advances more quickly than the implementation of concrete and structural strategies.

Finally, the amplifying role of the media and social networks cannot be overlooked. On the one hand, they help to spread sustainability messages quickly, but on the other, they can also exacerbate the pressure to communicate immediate results, thus fueling prematurely optimistic narratives. In a highly competitive media environment, companies may be tempted to emphasize partial progress or pilot projects that are not yet established in order to maintain a constant presence in the public discourse on sustainability.

In short, greenwashing is not simply the result of isolated opportunistic intentions, but is the expression of a complex system of incentives, pressures, and structural deficiencies. Fully understanding its drivers is essential to building regulatory and educational tools that can prevent it, promoting a corporate culture geared toward transparency and authentic, verifiable sustainability.

2.3 Sustainable communication and misalignment risks

Growing public attention to sustainability has prompted companies to develop communication strategies increasingly focused on highlighting their environmental and social commitments. However, the effectiveness of such strategies depends largely on consistency between what is communicated and actual business practices. This section explores the main risks associated with sustainable communication, focusing in particular on the misalignment between statements and operations. It also analyzes the role of transparency, the use of ESG criteria in corporate reporting, and the proliferation of environmental symbols that are not always reliable. These elements represent critical areas which, if poorly managed, can fuel perceptions of greenwashing and undermine stakeholder trust.

2.3.1 Consistency between statements and operations

One of the main critical issues in sustainable communication lies in the real risk of misalignment between public statements and the operations actually implemented by the company. This inconsistency, which is often not immediately apparent from the outside, can stem from a deliberate strategy or from organizational shortcomings, such as fragmented decision-making processes or a lack of coordination between business functions. In both

cases, it poses a serious threat to the company's credibility and stakeholder trust, undermining the reputation it has worked hard to build over time.
In many companies, market pressure and growing attention to ESG issues are pushing sustainability management almost exclusively into the hands of communications or marketing departments. This approach, if not accompanied by real involvement of operational and production functions, risks creating an ambitious narrative that is strongly disconnected from the reality of day-to-day activities. Authentic sustainable communication requires deep organizational integration: you cannot talk about what you are not willing to put into practice. This disconnect between storytelling and real actions is one of the most insidious mistakes, as it generates high expectations that, if betrayed, quickly turn into widespread mistrust.
Consumers are now increasingly attentive to these discrepancies, and their perception plays a decisive role in judging the authenticity of a brand. Cases where inconsistencies emerge—such as companies adopting recyclable packaging while operating factories with a high environmental impact or using untraceable supply chains—are quickly amplified by digital media and become real case studies of loss of trust in businesses.The inherent complexity of sustainability further complicates the maintenance of internal consistency. Truly integrating sustainability principles requires a systemic, multidisciplinary, and long-term approach. Bernini and La Rosa refer to this as the "reputational trap," describing a situation in which companies, in search of communication shortcuts, expose themselves to the risk of greenwashing even when there is no deliberate intention to deceive. Under these conditions, the narrative risks outpacing reality, with the effect of exposing cracks in perceived consistency.
Furthermore, although ESG reports are essential tools for communicating sustainability, they often end up becoming overly narrative documents, where data selection and rhetoric take precedence over transparency.
This self-referential drift in sustainability reports contributes to reinforcing the misalignment between public statements and concrete actions, weakening the credibility of companies in the eyes of increasingly demanding and informed stakeholders.
To avoid these risks, it is essential that companies adopt an integrated management model that involves sustainability across the board, from governance to production, to supplier selection and logistics. Only a holistic approach can transform communication from a rhetorical exercise into an authentic reflection of corporate choices. The challenge, as several studies highlight, is not so much to determine what to communicate, but to ensure that what

is stated is firmly anchored in concrete and verifiable practices. It is precisely in this subtle balance between words and deeds that the fundamental distinction between a truly sustainable company and one that merely claims to be sustainable lies.

2.3.2 The role of transparency

In the current context, characterized by growing public attention to sustainability, transparency emerges as an essential condition for ensuring the authenticity and credibility of corporate communication. If consistency between actions and statements is the first barrier against greenwashing, transparency is the tool through which this consistency becomes visible, accessible, and verifiable by all stakeholders. It is not simply a matter of publishing environmental data, but of adopting an attitude of openness, accepting external control and offering a complete representation of even the least favorable aspects of the company's activities.

Transparency is not just a formal requirement, but a real mechanism for building trust, capable of reducing information asymmetries and strengthening the perception of authenticity of corporate commitment. To be effective, it must be based on a principle of accountability that goes beyond appearances and implies a willingness to expose oneself to public scrutiny. Zeng et al. (Fanlong Zeng, 2025) By exploring the role of transparency in ESG systems, they emphasize how the availability of clear and verifiable data helps prevent greenwashing practices, improving the quality of information available to investors and consumers. Unfortunately, the reality is often quite different. Many companies tend to strategically select the information they disclose, favoring positive results and obscuring critical issues. The result is sustainability reports that, instead of offering a balanced and truthful picture, end up resembling marketing tools disguised as informational documents. This attitude not only undermines readers' trust, but also contributes to cynicism towards green communication, drastically reducing its effectiveness. In the field of the circular economy, this lack of transparency in communication is particularly harmful, as it generates disillusionment with models that are theoretically virtuous but often misinterpreted or communicated in a partial manner. A further obstacle to full transparency lies in the language used for sustainable communication. Too often, companies resort to technical terms or deliberately vague wording, making it difficult for consumers and non-specialist stakeholders to truly understand the impact of their activities. This highlights how clarity and intelligibility of data are essential conditions for the credibility of any ESG statement.

Data must not only be available, but also understandable, comparable, and contextualized in a transparent manner.
To improve the quality and effectiveness of transparency, many companies have begun to adopt international reporting standards, such as the Global Reporting Initiative (GRI) guidelines, which propose common indicators and promote a more objective assessment of environmental and social performance. However, the uptake of these standards is still uneven, and in many cases there are no binding regulatory requirements to ensure their universal adoption. The lack of mandatory requirements and independent controls contributes to maintaining scope for opaque communication practices, fueling the risk of greenwashing. In addition to the technical dimension of transparency, it is also essential to consider its relational value. Transparency does not end with the disclosure of data, but extends to a company's ability to establish an open and ongoing dialogue with its stakeholders. Involving customers, employees, local communities, and investors in the journey towards sustainability not only improves the quality of the information shared, but also strengthens the legitimacy of corporate decisions. The importance of this relational openness, which only inclusive and participatory communication can truly build trust and prevent accusations of greenwashing.
Ultimately, transparency is not just an ethical obligation or a technical element of reporting, but a genuine relationship strategy. It enables companies to manage stakeholder expectations, build a credible narrative and, above all, restore meaning to sustainable communication in an increasingly demanding and aware market. Being transparent means not being afraid to show imperfections, transforming every communication into an opportunity for growth and authentic dialogue with society.

2.3.3 ESG criteria and the instrumentalization of reporting

In recent years, ESG (Environmental, Social, Governance) criteria have gradually established themselves as one of the main tools for assessing corporate sustainability. Created with the aim of providing measurable and comparable indicators over time, these parameters are now used by a wide range of actors, from institutional investors to market analysts, rating agencies, and companies themselves, as fundamental benchmarks for assessing an organization's commitment to three key dimensions: environmental, social, and governance.
However, while the widespread adoption of ESG criteria has helped to raise awareness of sustainability, it has also highlighted a number of significant issues. Firstly, the

fragmentation of calculation methods has led to widely divergent assessments: the same company can obtain significantly different scores depending on the agency carrying out the analysis, thus confusing external stakeholders and complicating comparisons between companies. As Christensen, Hail, and Leuz point out (Christensen, 2022), The lack of uniformity in ESG ratings undermines the credibility of the entire system, leaving room for opaque and selective reporting practices. This scenario of heterogeneity has paved the way for the exploitation of ESG reporting.

Many companies tend to carefully select the data they make public, emphasizing the most favorable indicators and omitting the less flattering ones. Even more insidious is the choice to rely on ESG data providers that use methodologies that are not very transparent or, in some cases, proprietary, making it virtually impossible for stakeholders to verify the consistency and reliability of the assessments. The complexity and opacity of these assessment algorithms create a significant gap between the operational reality of companies and the image they are able to project through their ESG reports.

Further complicating the picture is the persistent absence in many countries of stringent regulatory requirements for ESG reporting. In this regulatory vacuum, companies enjoy broad discretion in interpreting sustainability criteria, often adopting narrative rather than metric approaches. Ben Mahjoub refers to this as “reporting noise,” referring to the excess of self-referential information that ends up obscuring transparency and hindering objective assessment by stakeholders. In recent years, this context has fostered the emergence of a new form of greenwashing, known as ESG-washing. This is an increasingly sophisticated practice, in which companies use ESG parameters as a tool for building their reputation, rather than as a genuine guide for their strategies. ESG-washing is a real evolution of traditional greenwashing, in which ESG reporting is transformed from an informative tool into a storytelling tool, aimed at maintaining a positive reputation even in the absence of substantial commitment. This sophistication of greenwashing often goes unnoticed, as it is masked behind numbers and graphs that, while appearing technically credible, do not always reflect the operational reality.

To counter these trends, the European Union has taken significant steps by introducing the Corporate Sustainability Reporting Directive (CSRD). This legislation, aimed at large companies, requires the publication of standardized and verifiable information on ESG performance, with the stated aim of increasing data comparability, ensuring greater transparency, and making companies more accountable to investors and civil society.

The CSRD represents an important turning point, capable of reducing communication ambiguities and strengthening the credibility of the information provided by companies. Ultimately, although ESG criteria represent a concrete opportunity to promote more sustainable and responsible business practices, they require rigorous and transparent use.

Without effective integration into operational strategies and adequate controls, they risk becoming mere marketing tools, emptying the commitment to sustainability of meaning. Only authentic and verifiable management of these parameters can ensure that ESG reporting establishes itself as an effective lever in the transition to more ethical and conscious business models.

2.3.4 Eco-labeling and symbolic proliferation

In an attempt to simplify environmental communication and make information more accessible to consumers, many companies use environmental labels or eco-labels: symbols, marks, or certifications that are supposed to indicate that a product or service complies with certain sustainability standards. In theory, these tools are designed to support consumer decision-making by reducing information asymmetry between companies and the public and helping to strengthen trust in sustainable products. However, in practice, the unregulated spread of eco-labels has led to a veritable proliferation of symbols, which, rather than facilitating informed choice, often generates confusion and skepticism.

According to a recent survey by the Ecolabel Index (Index, 2024) Today, there are over 450 green labels worldwide, issued by public bodies, private organizations, trade associations or, in some cases, directly by the companies themselves. This impressive number has created a veritable symbolic overcrowding, in which the multitude of logos and marks makes it difficult for consumers to distinguish between reliable certifications and purely decorative symbols. As highlighted by Parguel et al. (Parguel, 2025) Too many labels and the absence of a shared standard create a “communication jungle” that risks emptying environmental symbols of meaning and undermining public trust.

One of the most insidious practices in this context is self-certification: companies that create their own environmental labels, graphically similar to the official ones, but without any independent verification mechanism. This phenomenon, described as the “cult of false labels,” is one of the most difficult forms of greenwashing for the average consumer to identify, as it relies on the immediate visual recognition of green symbols. This dynamic shows how the proliferation of unregulated visual symbols contributes to fueling an illusion

of sustainability, which is based more on graphic form than on the substance of business processes.
Even where eco-labels are genuine, their meaning is often unclear to the general public. Few consumers are aware of the differences between public certifications, such as the EU Ecolabel, private certifications, such as FSC or Rainforest Alliance, and sector-specific certifications. Furthermore, not all labels follow comparable assessment criteria or regularly update their standards. Some certifications end up becoming obsolete or overly permissive, losing their ability to reward truly virtuous companies. This lack of transparency and updating weakens the signaling value of labels, leaving consumers confused and, at times, distrustful of environmental communication.
To restore credibility to eco-labels, it is essential to strengthen the governance of these tools, both by improving the transparency of the criteria adopted and by strengthening supervision by independent bodies. The European proposal on "green claims" is a step in this direction, aiming to ban vague or misleading environmental claims by requiring that all claims be based on verifiable and comparable evidence. The use of advanced technologies for verification and certification can play a crucial role in restoring stakeholder confidence and preventing the instrumental use of environmental symbols.
It should also be emphasized that the problem does not only concern labels themselves, but also the way in which they are integrated into corporate narratives. Increasingly, companies are adopting visual communication that is heavily focused on green symbols, stylized leaves, or natural color palettes, without accompanying these graphic elements with concrete data or scientifically based indicators. This is referred to as "informative decoration," i.e., aesthetic elements that create a perception of sustainability but are not supported by verifiable content, fueling empty and misleading green branding.
Ultimately, eco-labels are a potentially powerful tool for promoting transparency and strengthening public confidence in sustainable products. However, in order for them to fulfill this role effectively, they must be managed rigorously and responsibly. Otherwise, they risk becoming mere communication embellishments, serving marketing purposes rather than a true culture of sustainability.

2.4 Effects of greenwashing on trust

One of the most significant and dangerous impacts of greenwashing concerns the trust that consumers place in brands and, more generally, in corporate communications on sustainability. This section explores the psychological dynamics that are triggered when a consumer perceives a discrepancy between what a company claims in terms of environmental performance and what it actually achieves. The effects of disillusionment, cynicism, and rejection are analyzed, as well as the systemic reputational consequences that ensue. Particular attention is paid to the role of the media and active consumers in spreading mistrust, transforming individual incidents into reputational waves capable of affecting entire sectors.

2.4.1 Psychological dynamics and moral expectations

Trust is one of the most delicate and fundamental elements in the relationship between consumers and businesses. It is a relational asset that is not built overnight, but is established over time through consistency between the values declared by the company, its actual behavior, and the tangible results perceived by consumers. When this consistency is lacking, as is often the case with greenwashing, the relationship of trust is deeply damaged, giving rise to a series of negative reactions that can permanently compromise not only the company's image, but also the emotional and value-based relationship it had built with its audience.

In the context of sustainability, the breakdown of trust takes on an even more critical dimension. This is because companies' green communications leverage socially shared values such as environmental responsibility, social equity, and commitment to future generations. These appeals go far beyond the mere commercial dimension, touching on the ethical and moral sphere of consumers. When a company is perceived as inconsistent with these values, the damage is not only reputational: it is a real sense of moral betrayal. The discovery of greenwashing practices triggers an intense emotional reaction in consumers, fueling feelings of anger and disappointment that go far beyond simple commercial dissatisfaction. As De Jong, Huluba, and Beldad (De Jong, 2020) Consumer reactions to greenwashing are not purely rational, but deeply emotional. The disillusionment generated by greenwashing produces a sense of moral betrayal that can turn into mistrust, cynicism, and rejection of the brand. This mechanism fits perfectly into the Expectation Disconfirmation Theory, according to which consumer satisfaction or dissatisfaction depends largely on the gap between their initial expectations and their actual experience. When a company builds a narrative of sustainability and then its actions are found to contradict that narrative, there is a strong disconfirmation that not only negates the benefits of the initial positive communication, but also amplifies the negative effect on brand perception.

Numerous studies indicate that the reputational damage resulting from greenwashing is even greater than that which occurs in the absence of any communication on sustainability. In other words, a company that does not claim to be sustainable, even if it is not actively engaged in these areas, is still perceived more favorably than one that makes misleading environmental claims. This dynamic highlights how the public tends to reward authenticity and strongly punish perceived hypocrisy in communication. Even cautious but transparent communications can maintain an acceptable level of trust, while overly optimistic statements, if contradicted by facts, generate immediate frustration and mistrust.

The risk, however, is not limited to individual brands; the effect of greenwashing extends far beyond the company that practices it, contaminating the general perception of sustainability and undermining trust in the system as a whole. When consumers feel repeatedly betrayed, they tend to develop a general attitude of skepticism, distrusting even companies that are genuinely committed to the green transition.

Excessive environmental claims that are not backed up by verifiable data contribute to a phenomenon known as "claim fatigue," where consumers, bombarded by green messages, end up ignoring them or considering them unreliable regardless. Ultimately, greenwashing not only harms the companies that practice it, but also fuels a vicious cycle that undermines the credibility of the entire sustainability ecosystem.

The psychological dynamics triggered in consumers—from personal disappointment to systemic mistrust—are a serious obstacle to the transition to more responsible consumption patterns. For this reason, fully understanding the effects of greenwashing on trust is essential not only for businesses, but also for legislators and all those who, in various capacities, promote sustainability as a shared value and priority objective.

2.4.2 Erosion of trust and systemic perception

When greenwashing is discovered or even just perceived, the consequences are not limited to the relationship between the consumer and the individual brand. In fact, a mechanism of negative generalization is triggered that goes beyond the specific case, undermining trust in the entire sustainable communication system. This process of systemic erosion of trust is particularly insidious because, once triggered, it is extremely difficult to reverse. Greenwashing not only compromises the reputation of the company directly involved, but also has collateral reputational effects, damaging even those companies that operate with genuine transparency and commitment. In a market increasingly crowded with green claims and eco-oriented symbols, consumers struggle to distinguish between those who are authentic and those who are adopting an opportunistic communication strategy.

This phenomenon, which the literature defines as symbolic contamination, is one of the main obstacles to the spread of trust in the sustainability market. The proliferation of unverifiable environmental messages generates widespread skepticism, compromising even the reputation of truly virtuous companies. The difficulty lies in the fact that, when communication noise is high and narratives multiply without adequate verification mechanisms, even authentic signals lose their effectiveness. Dorfleitner and Utz

(Dorfleitner, Symbolic sustainability: How visual cues distort consumer perception , 2024) They speak of a real "loss of signal," in which the credibility of green symbols dissolves into the indistinct mass of promotional messages.

In other words, the effect of greenwashing is not only individual, but systemic. The repetition of negative or ambiguous experiences leads consumers to construct a cynical image of the market: sustainability claims are increasingly perceived not as evidence of a real commitment, but as a disguised marketing strategy. Overexposure to green messages, if not backed up by concrete data, ends up feeding the so-called "algorithm of suspicion," in which consumers become hypercritical and tend to distrust any environmental claim a priori.

Once internalized, this mistrust not only penalizes individual companies that lack transparency, but extends to the very concept of sustainability. Repeated disillusionment generates a "negative spillover" effect, undermining trust not only in brands but also in reporting tools and environmental policies more generally. The result is growing resistance to adopting responsible consumption behaviors and rewarding companies that are genuinely committed to the ecological transition.

One sector where this dynamic is particularly evident is fashion, where the extensive use of green claims, often without verifiable basis, has generated growing mistrust of eco-friendly labels. But the same phenomenon can also be observed in the food, automotive, and energy industries, where the widespread presence of environmental symbols and claims has lost much of its distinctive power. Faced with this scenario, investors and institutional stakeholders are also beginning to show signs of concern, calling with increasing urgency for stricter standards, independent verification, and radical transparency in ESG communication.

In short, greenwashing not only damages a company's image: it undermines the very foundations of the ecological transition, turning what should be a collective opportunity into fertile ground for suspicion and widespread mistrust. Rebuilding trust will not be an easy task: it will require time, consistency, and a profound change in communication and reporting mechanisms, but above all, the willingness to restore authenticity and verifiability to every sustainability claim.

2.4.3 The role of the media and active consumers

In a context of growing attention to sustainability, traditional media and, above all, digital media play a decisive role in shaping public perception of companies and their environmental strategies. When greenwashing is identified or even suspected, it can spread virally, amplified by newspaper articles, television reports, social media posts, and digital activism campaigns. This phenomenon has transformed green communication from a simple strategic resource into a highly exposed and risky terrain, where any inconsistency can be immediately exposed and shared globally.

Digital platforms, in particular, have given voice to a new generation of active, more critical, informed, and interconnected consumers. These users no longer passively receive promotional messages, but analyze, discuss, and often publicly deconstruct them. The speed and breadth of dissemination guaranteed by social media amplify the impact of greenwashing reports, transforming consumers into true global "reputation agents." Gone are the days when green narratives could go unnoticed: today, they are subject to widespread social control, sometimes even more severe and timely than that exercised by official institutions.

Contemporary consumers are no longer passive recipients, but actors capable of influencing, challenging, and exposing corporate narratives. This growing environmental literacy is reflected in the success of initiatives such as boycotts of brands accused of inconsistency, the sharing of investigative content, and the emergence of communities dedicated to verifying and fact-checking environmental claims. Guo et al. refer to this as 'reputational activism', a phenomenon whereby public opinion takes an active role in the social regulation of corporate credibility, exerting increasing pressure for transparency and authenticity in communication.

However, while this social control is a fundamental lever for encouraging more transparent and consistent corporate practices, it can also have paradoxical effects. The fear of being unfairly accused of inconsistency or misunderstood by an increasingly demanding public can lead some companies to engage in so-called greenhushing, i.e., choosing not to communicate their sustainable initiatives at all in order to avoid reputational risks. This strategic silence, while reducing the risk of exposure, ultimately penalizes the visibility of

truly virtuous efforts, fueling a climate of generalized suspicion that benefits neither serious companies nor the spread of a culture of sustainability.
Traditional media also continue to play an important role in this scenario. Although they have a more institutional impact than social networks, they remain one of the main channels of accountability, particularly through journalistic investigations that bring to light improper business practices. Traditional media coverage, when supported by verifiable data and in-depth investigations, plays a key role in keeping public attention focused on the quality of environmental communication and strengthening the pressure for greater transparency.
In short, the media and active consumers are now true guardians of sustainability, capable not only of rewarding virtuous companies but also of quickly and effectively exposing inconsistencies. Their presence requires a fundamental paradigm shift for companies: transparency is no longer just a strategic choice, but a necessary condition for survival in a market that is increasingly sensitive to environmental reputation. In this scenario, every green statement must not only be correct but also documented, credible, and easily accessible, because the risk of being exposed is now higher than ever.

2.4.4 Reputational impacts and risk of social backlash

In addition to undermining systemic trust and fueling widespread cynicism about sustainability, greenwashing exposes companies to an immediate and concrete reputational risk, amplified by the speed with which information is disseminated and commented on today. The phenomenon is no longer limited to a simple loss of credibility with consumers, but increasingly translates into a real social backlash: a collective and sometimes viral reaction in which public opinion actively mobilizes to denounce, criticize, or boycott companies perceived as inconsistent.
In highly environmentally sensitive contexts, the discovery of greenwashing triggers polarization processes, accentuating the contrasts between companies and consumers. Betrayed trust does not only translate into individual disappointment, but fuels a hostile public narrative in which companies are stigmatized as symbols of hypocrisy and manipulation. The risk in these cases is that sustainable communication, created to strengthen reputation, backfires on the company, accelerating the deterioration of its public image. This gives rise to the concept of “reputational escalation,” which observes how reactions to greenwashing are no longer limited to isolated episodes of outrage but tend to turn into coordinated campaigns, amplified by social media and active consumer networks. These dynamics can trigger a domino effect, in which initial criticism quickly spreads to

multiple levels, involving business partners, investors, and regulators. Poor management of these crises can further aggravate the situation, consolidating negative perceptions and prolonging reputational damage over time.

Furthermore, the perception of risk is exacerbated by the ambiguity inherent in many green claims. In the absence of clear and verifiable messages, consumers tend to interpret corporate communications with suspicion, amplifying sensitivity to any inconsistencies. Even a small gap between the message and perceived reality can be enough to generate a strong negative reaction, especially in a context where public opinion is particularly attentive to environmental issues.

The Volkswagen case is a prime example of how greenwashing can trigger a global reputational backlash. Following the discovery of emissions data manipulation, the company suffered not only serious economic damage but also a profound erosion of its reputation, losing the trust of millions of consumers around the world. This case has unequivocally highlighted how broken environmental promises can have disastrous effects, overwhelming even the most sincere initiatives and overshadowing any subsequent remediation efforts.

Finally, these social backlash dynamics confirm the need to investigate, through empirical analysis, how consumers perceive the reputational risk associated with greenwashing and to what extent their reactions are influenced by the communication methods adopted by companies. It is crucial to investigate the real perceptions of the public in order to fully understand their expectations and the breaking points of trust. The survey proposed in this research aims to do just that: to collect concrete data on consumer reactions to greenwashing in order to provide a clearer, evidence-based view of the reputational consequences of these practices.

2.5 Conclusion: from theoretical context to empirical analysis

This chapter has clearly shown that greenwashing is a complex, multifaceted, and constantly evolving phenomenon. Initially conceived as an ambiguous communication strategy designed to respond to growing pressure towards sustainability, it has gradually transformed into a systemic dynamic capable of undermining trust not only in individual companies but also in the entire public and institutional discourse on sustainability. Greenwashing has long since transcended the boundaries of a simple opportunistic communication practice, becoming a structural element of global markets, with profound and pervasive consequences.

We have seen how cultural and social pressure towards environmental commitment has prompted many companies to quickly adopt green language, often anticipating the real organizational change needed to make their communication consistent with the facts. This disconnect between words and actions has fostered the proliferation of numerous variants of greenwashing—from the product level to more sophisticated forms such as ESG-washing—accompanied by symbols, certifications, and narratives that, too often, are not reflected in concrete operational choices. The lack of shared standards and weak transparency governance contribute to this discrepancy, leaving ample room for maneuver for companies and increasing the risk of misleading practices.

At the same time, we analyzed the structural factors that make greenwashing so widespread and resilient: from the obvious reputational benefits to the fragmentation of reporting systems and the lack of independent and rigorous controls. This combination of factors translates into a growing risk to the overall credibility of the sustainability ecosystem. The proliferation of environmental claims, not always supported by verifiable data, makes it difficult for consumers to navigate and distinguish between genuine commitment and mere rhetoric.

But the most sensitive issue, and the one that is central to this research, concerns the relational consequences of greenwashing. In particular, the disruptive effect that these practices can have on consumer confidence, as consumers increasingly find themselves in the difficult position of having to decipher messages that are ambiguous or contradictory. The disappointment that comes from discovering greenwashing is not just simple dissatisfaction, but a real sense of moral betrayal, capable of deeply damaging the relationship with the brand. These negative experiences can lead consumers to adopt a defensive and cynical attitude towards sustainability itself, fueling widespread skepticism.

It is precisely this awareness that forms the starting point for the empirical phase of the thesis. Through a survey aimed directly at consumers, the objective will be to investigate how greenwashing is perceived in everyday life, which signals are recognized as implausible and, above all, how these perceptions influence trust in companies that declare their environmental commitment. Contemporary consumers are increasingly called upon to decipher communication that is often overloaded with environmental messages, which is why the research aims to accurately capture the dynamics of public interpretation and reaction.

The transition from theory to research therefore has a dual function: on the one hand, to empirically explore a dynamic that is still largely unexplored in real consumer behavior; on the other, to offer a concrete contribution to understanding the relationship between environmental communication and trust, with significant implications not only for companies that want to communicate ethically and transparently, but also for policymakers committed to effectively regulating the sustainability market.

CONCETTO CHIAVE	RIFERIMENTI PRINCIPALI	APPLICAZIONE NELLA TESI
Origin and definition of greenwashing	Delmas e Burbano (2011), Baum (2012), Seele-Gatti (2017)	Describes the theoretical foundations of the phenomenon and its relevance in contemporary business communication.
Types of greenwashing	TerraChoiche (2009), Guo et al. (2018), Seele-Lock (2015)	Highlights different forms of greenwashing, including ESG-washing and greenhushing, useful for codifying perceptions
Impact on confidence	Janz et al. (2024), De Jong et al. (2024)	Emphasizes the link between greenwashing and the crisis of trust, which is central to the relationship analyzed in the empirical section.
The role of transparency	Seele & Lock (2015), Todaro & Torelli (2024)	He points to transparency as a moderating factor, key to testing hypothesis H4.
Sustainable communication and reputational risks	Lyon & Montgomery (2015), Zioło et al. (2024)	Contextualize CSR and environmental communication as potential vectors of inconsistency between image and behavior.
Circular economy and ESG washing	Todaro & Torelli (2024), Zioło et al. (2024)	Defines the narrative context in which greenwashing occurs in the circular economy.

Table - RECAP CHAPTER 2

Chapter 3 - Research Methodology

After outlining the theoretical and conceptual framework underlying the phenomenon of greenwashing, this chapter illustrates the methodological approach adopted to verify its effects on consumer trust. First, the reasons behind the choice of a quantitative approach are described, followed by a presentation of the structure of the questionnaire and the measurement tools used. Next, the key variables that make up the analysis model are identified, with particular attention to the operationalization of theoretical concepts into measurable empirical indicators. This is followed by the identification of sub-indicators and proxies used to enrich the analysis and, finally, the rationale for the statistical approach is described, with a focus on the choice of multiple linear regression. The chapter concludes with a review of emblematic business cases, which are useful for contextualizing the subject under study and strengthening the link between theory and empirical investigation.

3.1 Questionnaire structure and survey objectives

In the context of this research, a quantitative approach was adopted, as it was considered the most suitable for the knowledge objectives set. The main objective is to analyze the relationship between consumers' perception of greenwashing and their level of trust in sustainable brands. In order to be investigated rigorously and generalizable, this type of relationship requires structured, numerical data that can be statistically analyzed. The quantitative approach allows complex phenomena to be measured using standardized tools, facilitating data comparability and the identification of correlations, associations, and influences between different variables. In particular, the structured survey method, administered to a heterogeneous sample, allows information to be collected from a large number of participants, thus ensuring a sufficiently broad database for the application of inferential techniques.

Compared to a possible qualitative approach, which could have offered a more in-depth but less generalizable investigation, the quantitative choice proved to be more consistent with the aim of testing specific hypotheses, verifying statistically significant relationships, and providing a replicable empirical contribution to the existing literature on greenwashing.

The use of an online questionnaire also made it possible to reach a large and diverse population, reducing the time needed to administer the survey and ensuring anonymity, a condition that encourages honest responses, especially on value-based issues such as trust and sustainability.

In summary, the quantitative approach adopted proved to be the most appropriate for transforming the abstract and multifaceted phenomenon of greenwashing into observable variables that can be analyzed using established statistical models, with the aim of providing clear, measurable, and meaningful results from an academic and practical point of view.

3.1.1 Structure and sections of the questionnaire:

The questionnaire used for data collection was structured into three main sections, each designed to gather specific information useful for answering the research question. The modular organization of the questionnaire was designed to guide respondents progressively from general to specific questions, maintaining their attention and reducing the risk of response bias. The first section is dedicated to collecting socio-demographic and attitudinal data. It includes questions on the age, gender, and educational level of participants, which allow us to describe the profile of the sample. In addition, there are questions on perceived environmental awareness and the influence of sustainability on consumer choices. The latter are not merely a description of the sample, but constitute actual control variables that can be used in statistical analysis to neutralize any external effects on the main relationship between the perception of greenwashing and trust.

The second section focuses on the perception of greenwashing. Questions have been included that explore different aspects of this phenomenon: from the perception of its prevalence within the corporate landscape, to the frequency with which consumers suspect exaggeration in sustainability communication, to the level of annoyance felt towards deceptive practices. Particular attention has also been paid to the perceived ability to distinguish between authentic communication and greenwashing practices, which is fundamental to understanding the degree of consumer awareness.

The third section is dedicated to trust in sustainable brands. This part of the questionnaire analyzes consumers' general trust in companies' green claims, their emotional and behavioral reactions to discovering unfair practices, and the importance they attach to corporate transparency. Questions were also included to investigate the possibility of regaining trust in a brand that, after committing greenwashing, embarks on a genuine path of change. Each section has been designed to be consistent and fluid for the participant, avoiding logical leaps or changes in communication style that could confuse or tire the respondent. This has improved the overall quality of the data collected, reducing the risk of errors or random responses.

The logical progression from personal data to perceptions to behavioral assessments also allows us to build a coherent analytical framework, which is essential for the subsequent development of the multiple linear regression model used for statistical analysis.

3.1.2 Construction of questions and measurement scales:

The questions in the questionnaire were constructed based on rigorous methodological criteria, with the aim of ensuring maximum clarity, simplicity, and validity of the measurements. To this end, explicit reference was made to the principles outlined by Hinkin (1998) and Dolnicar (2013) on the development and validation of survey instruments. In particular, Hinkin emphasizes that when designing questionnaires, it is essential to avoid ambiguous wording, double questions, overly long or technical statements that could confuse respondents or unconsciously influence their answers. In line with these guidelines, each item was written in simple, direct, and non-technical language, maintaining a single central idea per question and avoiding emotionally charged terms that could influence the participant's perception.

Dolnicar (2013), on the other hand, insists on the importance of constructing questions that closely adhere to the construct being measured, minimizing the risk of subjective interpretations or distortions due to context. Following this approach, we chose to use neutral wording, without suggesting value judgments or ideological positions, especially in the section on the perception of greenwashing.

To measure opinions, perceptions, and stated behaviors, 7-point Likert scales were used. This choice was motivated by several factors:

7-point scales offer a good compromise between sensitivity and simplicity, allowing respondents to express nuances in their opinions without complicating the response process. Compared to shorter scales (e.g., 5-point scales), 7-point scales increase the variability of responses, improving the ability of statistical analyses to detect significant effects. Likert scales are widely recognized in the literature as suitable for measuring latent attitudes and perceptions, and are perfectly compatible with the application of linear regression, treating responses as continuous quantitative variables. The scale anchors were formulated in a clear and symmetrical manner, for example ranging from “Not at all” to “Very much” or from ‘Never’ to “Always,” depending on the content of the question. The use of similar scales throughout the questionnaire also helped reduce the cognitive load on respondents, improving the quality and consistency of the responses collected. In summary, the questions were constructed following a careful and methodologically sound process aimed at ensuring the reliability, validity, and transparency of the measurement tools, in line with internationally recognized academic best practices.

3.1.3 Survey objectives and link to the research question

The survey design was closely guided by the desire to answer the main research question of this thesis: how does the perception of greenwashing influence consumer trust in sustainable brands?

The entire questionnaire, from the structure of the sections to the choice of variables analyzed, was designed to build a data set that would allow for a precise and rigorous investigation of this relationship.

The first operational objective of the survey was to gather detailed information on consumers' perceptions of greenwashing. We did not limit ourselves to measuring the existence of a superficial awareness of the phenomenon, but sought to explore different dimensions of perception:

- How widespread greenwashing is considered to be,
- How frequently excessive sustainability claims are suspected,
- How much emotional distress the discovery of unfair practices generates,
- To what extent consumers consider themselves capable of distinguishing between authentic and misleading communications.

The second fundamental objective was to assess the level of trust in brands that communicate sustainability initiatives and to understand how this trust is influenced by the perception of greenwashing. In particular, the following was found:

- The degree of general trust in green communications;
- The reaction to the discovery of greenwashing practices (reduced trust, change in consumption habits);
- The importance attributed to transparency as a key element in maintaining trust.

Alongside these two main blocks of questions, the survey collected socio-demographic and attitudinal variables, which serve as control variables in the statistical analysis. By including age, gender, educational attainment, environmental awareness, and the influence of sustainability on purchasing decisions, we sought to verify whether and to what extent these individual characteristics can moderate or reinforce the relationship between the perception of greenwashing and trust, as well as whether the importance attributed to sustainability in consumer choices can be a significant predictor of the tendency to suspect greenwashing practices. The logic behind the survey was therefore not merely descriptive, but explicitly explanatory: to collect data to test a hypothetical model, which predicts a direct and negative impact of the perception of greenwashing on trust in brands, controlling for any external factors. By applying multiple linear regression to the data collected, it was possible to empirically verify the existence and strength of this relationship, thereby contributing to the academic debate on the implications of greenwashing in corporate communication strategies and in building consumer trust.

3.2 Analysis indicators to identify greenwashing

The phase following the construction of the questionnaire involved identifying and operationalizing indicators useful for empirically measuring the relationship between the perception of greenwashing and trust in sustainable brands.

The focus was on precisely defining the main variables to be analyzed, ensuring that they were consistent with the research question and suitable for the application of the chosen statistical techniques.

The definition of clear and measurable variables is a fundamental step in ensuring the internal validity of the study. In particular, emphasis was placed on distinguishing between independent, dependent, and control variables, and on using appropriate measurement scales to detect perceptions, attitudes, and behaviors related to sustainability and greenwashing.

The following paragraphs detail the variables considered, how they are measured, and the analytical logic that will guide the statistical processing of the data.

3.2.1 Definition of variables

The analytical structure of the research is based on a clear distinction between independent, dependent, and control variables, in order to isolate the specific effect of the perception of greenwashing on brand trust.

Independent variable – Perception of greenwashing:

The perception of greenwashing was investigated through a set of items that explore different dimensions of the phenomenon:

• Perception of the prevalence of greenwashing in the business world;

• The frequency with which consumers suspect exaggeration in sustainability communication;

• The level of emotional distress caused by the discovery of greenwashing;

• Perception of sustainability as a mere marketing strategy;

• The ability to distinguish between authentic and misleading communication.

These aspects were treated separately in order to analyze the specific effect of each dimension on trust.

Dependent variable – Trust in sustainable brands:

Trust in brands was measured by asking participants to rate their level of trust in companies' sustainability communications.

Behavioral reactions related to the discovery of greenwashing incidents, such as reduced trust or changes in purchasing habits, were also recorded.

Control variables:

To strengthen the reliability of the analysis, control variables relating to socio-demographic characteristics (age, gender, educational attainment) and attitudes (environmental awareness and influence of sustainability on consumption choices) were introduced.

The inclusion of these variables makes it possible to rule out that the differences observed are due to external factors not directly related to the perception of greenwashing.

Through this analytical approach, we aim to provide as accurate and detailed a representation as possible of the psychological and behavioral dynamics underlying the relationship between perceived sustainability and consumer trust.

3.2.2 Operationalization of variables

After defining the main variables of the research, it was necessary to operationalize them in a clear and consistent manner in order to make the abstract concepts under investigation measurable. The operationalization concerned both the data collection methods and the coding of the responses, so that they would be compatible with the quantitative analysis techniques adopted. All the main variables were measured using 7-point Likert scales, a methodological choice supported by the literature (Hinkin, 1998; Dolnicar, 2013) for the measurement of attitudes, perceptions, and subjective evaluations.

Likert scales allow the gradation of opinion or sentiment expressed by respondents to be captured, offering a good balance between simplicity of response and analytical sensitivity.

In particular, the 7-point scale was preferred over shorter scales to increase the variability of responses and facilitate the application of parametric techniques such as linear regression.

With regard to the independent variable relating to the perception of greenwashing, the different aspects of the phenomenon were treated as separate indicators:

• Perceived prevalence,

• Suspicion of greenwashing,

• Emotional annoyance,

• Perception of sustainability as marketing,

• Ability to distinguish between authentic and misleading communications.

This choice made it possible to analyze not only the overall effect of the perception of greenwashing on trust, but also the specific impact of the different components.
The main dependent variable, i.e., the level of trust in sustainable brands, was measured both through a general question (“How much do you trust brands' sustainability claims?”) and through questions exploring behavior following the discovery of greenwashing (e.g., whether consumers stopped buying products from that brand). In the second model, however, the frequency with which consumers suspect exaggeration in green communication by companies was considered as the dependent variable.

The control variables were treated as follows:

• Age: recoded into an ordinally increasing numerical variable (from 1 = 18–24 to 5 = 55+).

• Gender: recoded numerically (1 = male, 2 = female, 3 = other).

• Educational qualification: recoded numerically (1 = high school, 2 = bachelor's degree, 3 = master's degree).

Environmental awareness and influence of sustainability: continuous variables, measured using 7-point Likert scales. This data structuring made it possible to set up a database suitable for the application of multiple linear regression, meeting the requirements of continuity, independence, and adequate variance of the variables.
Through this careful operationalization, it was possible to construct two distinct analytical models: the first aimed at testing the relationship between the perception of greenwashing and consumer trust (H1, H3, H4), and the second aimed at investigating the association between the influence of sustainability on choices and the tendency to suspect greenwashing practices (H2). This dual approach allowed us to explore the phenomenon from two

complementary perspectives, offering a more detailed and robust picture of the psychological and behavioral mechanisms analyzed

3.2.3 Sub-indicators and proxies

To further enrich the analysis and provide a more detailed view of the psychological dynamics related to trust in sustainable brands and the perception of greenwashing, a number of sub-indicators and proxies have been identified to complement the main variables.

The sub-indicators were designed to capture specific aspects that, while not directly representing the main constructs analyzed in the regression models, significantly influence their construction by consumers. Among these, particular importance was given to the perceived importance of corporate transparency, measured using a 7-point Likert scale: this variable explores how important consumers consider corporate transparency to be in communicating their environmental impact. In the literature, transparency is recognized as a crucial element in maintaining and strengthening trust (Seele & Lock, 2015). Analyzing this aspect allows us to understand whether consumers attribute added value to clear and verifiable communication compared to vague or self-congratulatory statements.

A further sub-indicator is represented by the willingness to regain trust. This variable investigates whether, following the discovery of greenwashing practices, consumers are willing to give the brand a second chance, provided that the company takes concrete action to improve. The answer to this question (Yes/No/Depends) provides valuable insights into the resilience of trust and the strategies that brands can adopt to repair reputational damage.

In addition to these sub-indicators, a number of indirect proxies for sensitivity to greenwashing were used, derived from variables already present in the questionnaire. These include the frequency with which consumers suspect greenwashing, which can be interpreted as a measure of their critical attitude towards corporate communication: a consumer who frequently suspects greenwashing practices may be less inclined to trust brands that communicate sustainability initiatives. Another relevant proxy is the level of annoyance felt when discovering greenwashing: the intensity of the emotional reaction can also be considered an indicator of the centrality attributed to the value of sustainability in the consumer's belief system.

Although not independent variables in the regression models, these secondary indicators have enriched the analysis and deepened our understanding of certain nuances in the relationship between perception, emotion, and behavior that might otherwise escape a purely structural reading. Through the inclusion of these sub-indicators and proxies, the survey gained greater interpretative depth, offering a more complete representation of consumer reactions to the phenomenon of greenwashing.

3.2.4 Rationale for statistical analysis

The choice of multiple linear regression as the main data analysis technique was dictated by a series of methodological considerations, in line with the research objectives and the nature of the variables collected.

Firstly, by treating the responses on 7-point Likert scales as approximately continuous data, it was possible to apply parametric statistical models, which offer greater analytical power than non-parametric techniques. The literature (Norman, 2010; Carifio & Perla, 2008) supports the use of linear regression even on multi-point Likert data, provided that certain conditions of distribution and variance are met.

Multiple linear regression was selected for several reasons: it allows the simultaneous effect of several independent variables (the different dimensions of greenwashing perception and, in a second model, the influence of sustainability on choices) on distinct dependent variables (trust in brands and the tendency to suspect greenwashing) to be assessed. It also allows us to control for the effect of confounding variables (such as age, gender, educational attainment, and environmental sensitivity), which are included as covariates in the model, and provides information not only on the statistical significance of the observed effects, but also on the strength and direction of the relationships, through standardized Beta coefficients.

The model also allows the overall goodness of fit to be measured using the R^2 index, which indicates the percentage of variance explained by the combination of independent variables. The technique also allows any multicollinearity issues between predictors to be diagnosed by analyzing the Variance Inflation Factor (VIF) and Tolerance, thus ensuring the reliability of the estimates.

The adoption of multiple linear regression has therefore made it possible to rigorously address the two key areas of research: on the one hand, the effect of perceptions of greenwashing and transparency on consumer trust; on the other, the link between the influence of sustainability on consumer choices and the tendency to suspect greenwashing. This dual approach made it possible to explore the phenomenon from complementary perspectives, offering a solid and replicable empirical contribution to the academic debate on the effectiveness of sustainable communication.

3.3 Emblematic cases of greenwashing and empirical context

In recent years, the phenomenon of greenwashing has become a central topic in public, academic, and media debates on sustainability. With the rise of environmental and social awareness among consumers, many companies have recognized the opportunity to promote a responsible image by integrating references to sustainable, ethical, and socially committed practices into their communications. However, these statements are not always matched by substantial commitment: greenwashing manifests itself precisely in the discrepancy between “saying” and “doing,” between advertising narrative and operational reality. Numerous recent studies confirm that greenwashing can seriously undermine consumer trust, with significant reputational and economic consequences. When consumers perceive that a brand is using sustainability or ethics as a mere marketing tool, without concrete support in its actions, the reaction is often disillusionment, cynicism, and boycotting. The loss of trust does not only affect the individual brand involved, but risks spreading to the entire sustainability market, making it more difficult even for virtuous companies to communicate their commitment in a credible manner. In the specific context of the circular economy, the risk of greenwashing is amplified: many companies emphasize practices such as recycling, reuse, or the adoption of eco-friendly materials in individual product lines, while continuing to maintain linear and impactful production models in the rest of their activities. This fragmentation between marketing and operations is generating growing skepticism among the most attentive and aware consumers. To fully understand the impact of greenwashing on consumer confidence, it is useful to analyze two emblematic cases, which occurred in different contexts but are united by the breakdown of corporate credibility: the Volkswagen Dieselgate case and the Balocco pandoro case associated with Chiara Ferragni.

Volkswagen's Dieselgate

In 2015, Volkswagen was at the center of one of the biggest industrial scandals related to greenwashing: the so-called Dieselgate. The company had installed software in its diesel vehicles that manipulated emissions tests, making the engines appear more environmentally friendly than they actually were. This technical trick affected around 11 million vehicles worldwide.

The consequences were immediate and devastating:

Volkswagen reported an operating loss of €4.1 billion in 2015, compared to a profit

of €12.7 billion the previous year.
€16.2 billion was allocated for legal fees and compensation.
Global sales fell by 2%, marking the first decline since 2002.
The value of Volkswagen shares plummeted by around 20% in a matter of days, with a loss in market capitalization of over €15 billion.
In addition to the immediate economic damage, the impact on consumer confidence was long-lasting. Volkswagen had to invest heavily in the transition to electric vehicles and in new transparency campaigns in an attempt to rebuild its severely damaged reputation.
Dieselgate is now one of the most studied cases of reputational greenwashing and serves as a warning of how perceived sustainability, if betrayed, can become an existential risk for a brand.

The Balocco and Chiara Ferragni case

Another significant, more recent but equally emblematic case in terms of trust and reputation is that of Balocco's pandoro cake endorsed by Chiara Ferragni. In 2022, the well-known influencer collaborated with Balocco on a Christmas campaign presented as a charity initiative: according to the announcement, part of the proceeds would go to the Regina Margherita hospital in Turin. Subsequently, it emerged that:
The donation had been made before the campaign and was not linked to actual sales of the pandoro cakes.
Chiara Ferragni was fined €1.075 million by the Italian Competition and Market Authority (AGCM), while Balocco received a €420,000 fine.
The economic and reputational consequences were severe:
The revenues of companies linked to Chiara Ferragni plummeted from €14 million in 2022 to around €2 million in 2024, with cumulative losses of €10 million.
Many brands suspended their collaborations with the influencer, fearing reputational damage.
For Balocco, although 2023 saw record profits (€254 million), analysts predict negative effects on the company's image in the medium term.
Once again, the perception of ethical commitment being exploited for commercial purposes triggered a sharp loss of consumer confidence.
The two cases illustrate how greenwashing, in all its forms (environmental or ethical), poses a serious risk to consumer trust. Once broken, trust is difficult to regain and can have significant economic consequences: lost revenue, falling share prices, legal penalties, and

long-term reputational damage. In today's society, characterized by instant access to information and increasingly attentive and aware consumers, transparency and authenticity have become essential conditions for the lasting success of brands. For this reason, this research paper aims to analyze how the perception of greenwashing affects consumer trust through a structured survey that will be presented in the following paragraphs.

Chapter 4 – Analysis of results

This chapter is entirely dedicated to the presentation and analysis of the data collected through the structured questionnaire, administered with the aim of verifying the theoretical hypotheses formulated in the previous chapters. In particular, the survey aims to understand how the perception of greenwashing affects consumer trust in companies that communicate their sustainability, and whether personal orientation towards sustainability is a relevant factor in the formation of this critical perception.

The results are analyzed in a progressive and structured manner. The first part presents the profile of the sample involved in the research, illustrating the main socio-demographic and attitudinal characteristics, so as to frame the context of the responses collected. This descriptive phase provides a preliminary overview of the population surveyed, which is essential for correctly interpreting the subsequent analyses. Next, we go into detail on the statistical analyses conducted, which are based on two multiple linear regression models. The first focuses on the effect of the different dimensions of perceived greenwashing on trust in brands, while the second investigates the relationship between the declared influence of sustainability on consumer choices and the tendency to suspect greenwashing practices.

Particular attention is also paid to the description of the variables used, in order to provide a solid basis for understanding the interpretative models. The ‘Variable Specification’ table in this chapter summarizes and clarifies the analytical function of each indicator used in the research. This analytical phase is not limited to providing numerical results, but forms the basis for broader reflections that will be developed in the next chapter, where the data will be interpreted in light of the existing literature, with the aim of offering theoretical and practical insights useful for understanding the relationship between sustainable communication and trust in contemporary markets

4.1 Consumer perception and impact on corporate trust

After outlining the theoretical framework in the previous chapter and illustrating some emblematic examples of greenwashing at the corporate level, this chapter presents the results of the empirical investigation conducted through the survey. The questionnaire, designed on the basis of validated theoretical models, made it possible to collect a series of quantitative data essential for analyzing consumer behavior and attitudes toward communicated sustainability.

The main objective is to understand how the subjective perception of greenwashing influences consumer trust in brands that adopt green communication strategies. By presenting the data collected, we aim to offer a detailed representation of the psychological and behavioral dynamics that are triggered when sustainability messages are inconsistent or ambiguous.

The chapter is structured in a logical sequence: it begins with a detailed description of the sample, followed by a presentation of the main variables explored, and concludes with the presentation of the two regression models developed to test the hypotheses formulated in the theoretical phase. The aim is to provide a rigorous, transparent, and replicable analysis that allows us to move from a conceptual reflection on greenwashing and trust to an empirical understanding based on data. All this forms the essential basis for the interpretative and critical reflections that will be developed in Chapter 5.

4.1.1 Sample description

The sample analyzed consists of 100 respondents who completed the online questionnaire.

The main socio-demographic characteristics of the sample are distributed as follows:

VARIABLES	CATEGORY	DISTRIBUTION
GENDER	Female	61%
	Male	38%
	Other	1%
AGE	18-24 y.o	28%
	25-34 y.o	43%
	35-44 y.o	16%
	45-54 y.o	8%
	55 > y.o	5%
EDUCATION LEVEL	High school diploma	35%
	Bachelor’s deegre	41%
	Master’s deegre	24%

Table 2 - SAMPLE DESCRIPTION

The sample is mainly composed of young adults (aged 25–34) and people with a good level of higher education (around 65% have at least a bachelor's degree).

Furthermore, there is a strong female presence, in line with the typical profile of consumers who are more attentive to sustainability issues, as also emerged from previous research. This sample composition appears consistent with the research objective, as it includes a population that is, on average, sensitive and attentive to environmental issues and more exposed to the dynamics of green communication.

4.2 Models and variables analyzed

In order to understand the relationship between the perception of greenwashing and trust in sustainable brands in a structured way, this section presents the statistical models developed and the variables used in the analysis. After describing the construction of the questionnaire and the logic behind its design in Chapter 3, we proceed here to the operational definition of the variables collected, their classification, and the presentation of the regression models developed to test the hypotheses formulated.

In particular, two distinct regression models were implemented: the first aimed at verifying the direct link between perceived greenwashing and trust, also including the moderating role of corporate transparency; the second aimed at exploring the possible influence of the importance attributed to sustainability in consumer choices on the tendency to suspect exaggerated or misleading environmental claims.

The variables used were selected on the basis of the theoretical framework that emerged in the first part of the thesis and were classified according to their analytical function: main independent variables, secondary variables, dependent variables, control variables, moderating variables, or behavioral variables. In the following paragraphs and in the table below, these variables are illustrated in detail, specifying their meaning, measurement scale, and placement in the analytical model. This step is essential to ensure methodological transparency and interpretative consistency of the results that will be discussed in the next section.

4.2.1 Variable specification:

For a clear and structured reading of the analysis model adopted, a summary table is provided below, detailing all the variables used in the research. Each variable has been classified according to its analytical function (dependent, independent, control, moderating, resilience or behavioral), specifying the relevant measurement scale used in the questionnaire. This schematization aims to provide the reader with a concise but comprehensive overview of the empirical tools used to develop the regression models, as well as to facilitate understanding of the logical links between the different dimensions of greenwashing investigated and the responses provided by the participants.

VARIABLE	DESCRIPTION	TYPE	MEASUREMENT SCALE
Age	Age range of respondents	Control variable	Ordered categorical variable
Gender	Respondent gender	Control variable	Nominal variable (Male/Female/Other)
Education level	Respondent's educational qualification	Control variable	Categorical variable
Environmental awareness	Perceived level of sensitivity towards environmental issues	Secondary independent variable	7-point Likert scale
Influence of sustainability on consumer choices	Influence of sustainability on purchasing decisions	Control variable / Moderator	7-point Likert scale
Perception of the prevalence of greenwashing	Perception of greenwashing among companies	Main independent variable	7-point Likert scale
Suspicion of green exaggeration	Frequency of suspected exaggerated green claims	Main independent variable	7-point Likert scale
Aversion to greenwashing	Emotional distress upon discovering greenwashing	Main independent variable	7-point Likert scale
Perception of sustainability as marketing	Perception of sustainability used as a marketing tool	Main independent variable	7-point Likert scale
Ability to distinguish authenticity	Perceived ability to distinguish between authentic communications and greenwashing	Secondary independent variable	7-point Likert scale
Decline in confidence after greenwashing	Intensity of trust reduction after greenwashing	Secondary dependent variable	7-point Likert scale
Change in purchasing behavior	Termination of purchase after suspected greenwashing	Behavioral variable	Dichotomous variable (Yes/No)
Importance of transparency	Importance attributed to corporate transparency	Moderating variable	7-point Likert scale
Restoring trust	Willingness to regain trust after concrete changes	Resilience variable of trust	Categorical variable (Yes/Depends/No)

Table 3 - VARIABLE SPECIFICATIONS

4.2.2 Model 1 – Effects of perceived greenwashing on trust

The first regression model developed in this research aims to investigate how the perception of greenwashing influences consumer trust in brands that communicate sustainability initiatives. The objective is to empirically test three main hypotheses: that an increase in the perception of greenwashing reduces trust in brands (H1), that this dynamic is particularly intense when greenwashing concerns statements about the circular economy (H3), and that perceived corporate transparency can mitigate the negative effect of greenwashing on trust (H4).

To explore these relationships, we chose to use a quantitative approach based on the application of multiple linear regression. This technique has proven particularly suitable for capturing the combined effects of multiple predictors on the dependent variable, while maintaining control over a number of covariates that could influence the results. The ability to simultaneously observe the effect of multiple variables and isolate the specific impact of each factor makes multiple regression an ideal tool for analyzing complex phenomena such as those related to perception and trust.

The variables used in the model were collected through a structured questionnaire, which used 7-point Likert scales to measure attitudes, judgments, and subjective perceptions. Although these scales are formally ordinal, the methodological literature (Norman, 2010; Carifio & Perla, 2008) justifies their treatment as continuous variables, provided there are an adequate number of categories and a sufficiently balanced distribution. This choice allowed us to adopt a parametric approach, ensuring greater statistical sensitivity and clearer interpretability of the results.

The dependent variable of the model is represented by the level of trust expressed by respondents towards brands that communicate sustainable practices. The main predictors, i.e., the independent variables, include six distinct dimensions of perceived greenwashing: the perception of its prevalence among companies, the frequency with which the instrumental use of sustainability is suspected, the emotional distress caused by the discovery of inconsistent behavior, the belief that many companies use green as a marketing strategy, the subjective ability to distinguish between authentic and misleading communications, and finally the level of importance attributed to transparency in corporate communications.

These variables are supplemented by five control variables, selected to take into account individual differences that could influence the relationship under investigation. These are age, gender, level of education, perceived environmental sensitivity, and the extent to which sustainability influences purchasing decisions. The inclusion of these variables allows us to verify the robustness of the results and to isolate more precisely the effect exerted by the dimensions of perceived greenwashing.

Overall, the first model provides a solid analytical framework for understanding how consumer trust is influenced by sustainable communication, not only in terms of message consistency, but also in terms of subjective predisposition to decode its authenticity. The results of the analysis, discussed in the following paragraphs, will allow us to verify the validity of the theoretical hypotheses and reflect on the role of transparency and communicative consistency in building a relationship of trust between brands and the public

4.2.3 Model 2 – Effects of sustainability orientation on sensitivity to greenwashing

The second regression model was developed with the aim of testing hypothesis H2, i.e., to verify whether consumers who attach greater importance to sustainability in their purchasing decisions are also more inclined to suspect greenwashing behavior on the part of companies. In this case, the dependent variable is represented by the frequency with which respondents report having doubts about the authenticity of environmental communications received from brands. The aim is to investigate whether greater individual attention to the environmental and social dimensions of consumption translates into a more critical and vigilant attitude towards sustainable marketing strategies.

The model was initially constructed in a simplified form, including as the only predictor the perceived influence of sustainability on consumption choices. Subsequently, an extended version of the analysis was carried out, in which some control variables were introduced—in particular age and gender—with the aim of assessing any moderating effects or inter-individual differences in the propensity to recognize greenwashing. The inclusion of these controls strengthened the robustness of the model and provided a more nuanced reading of the perceptual dynamics investigated.

Both models were developed using IBM SPSS Statistics software. This tool made it possible to obtain a series of fundamental quantitative indicators, including standardized coefficients (Beta), statistical significance values (p-values), the model goodness index (R^2), and diagnostic tests relating to the assumptions of the linear model. In particular, the normality of the distribution of residuals, the linearity of the relationships, the independence of errors, and the absence of excessive collinearity between predictors were verified. This process ensured the validity and robustness of the results, allowing for a reliable interpretation of the observed relationships.

The adoption of a dual analytical strategy—aimed, on the one hand, at testing complex relationships between greenwashing and trust and, on the other, at exploring the role of pro-sustainability attitudes in the formation of suspicion—has made it possible to outline a detailed picture of contemporary consumer behavior. The combination of perceptual, attitudinal, and demographic variables has enabled a deeper understanding of the interactions between individual values, critical awareness, and trust in environmental claims.

To complete this section, a summary table is provided below containing all the variables analyzed in the two models, with their respective function in the analytical design, operational description, and measurement scale adopted for each. This diagram provides a clear and immediate overview of the methodological structure of the survey.

Chapter 5 - Discussion, implications, and conclusions

After presenting in detail the statistical analyses conducted in the previous chapter, this chapter aims to critically interpret the results obtained, relating them to the theoretical hypotheses formulated in the initial phase of the research and to the relevant scientific literature. The objective is twofold: on the one hand, to assess whether and to what extent the data confirm the expectations outlined; on the other hand, to reflect on the theoretical and practical implications of these results, also in light of the possible methodological limitations of the work carried out.

The discussion is divided into two main sections, corresponding to the two regression models developed. The first model explored the determinants of consumer trust in brands that communicate sustainability initiatives, with a particular focus on the perception of greenwashing, corporate transparency, and certain socio-demographic and attitudinal control variables. The second model, on the other hand, investigated the link between the importance attributed to sustainability in purchasing decisions and the propensity to suspect misleading environmental claims by companies.

For each model, the most statistically significant elements, the variables found to be significant, any critical issues encountered, and the broader significance of the results in the context of the greenwashing debate will be discussed. To complete the analysis, an interpretative summary will be proposed, which aims to clarify the contribution of this research to understanding the dynamics that link sustainable communication to the building of consumer trust.

5.1 Discussion of results and comparison with the literature

After outlining in detail the characteristics of the sample analyzed and describing the methodological structure of the quantitative survey conducted, this chapter is dedicated to the critical interpretation of the results obtained through the application of multiple linear regression models. The objective is to verify the hypotheses formulated in Chapter 1 in light of the data collected through the questionnaire, investigating how the selected theoretical variables affect consumer trust in brands that communicate sustainability initiatives and their ability to recognize or suspect greenwashing practices. The data analysis was divided into two distinct phases, corresponding to two different regression models.

The first model, which is more complex, was constructed to investigate the relationship between consumer trust in companies and a set of variables related to the perception of greenwashing, the transparency of corporate communication, and the perceived consistency between messages and behavior. In this model, the dependent variable is represented by the general level of trust expressed towards sustainable brands, while the independent variables include various aspects of the perception of greenwashing (perceived prevalence, subjective suspicion, emotional discomfort, use of green language as a marketing strategy), the ability to distinguish between authentic and misleading communications, and the importance attributed to corporate transparency. In addition, there are some socio-demographic and attitudinal control variables, such as age, gender, educational level, environmental awareness, and the influence that sustainability has on consumer choices. This first model was designed to test hypotheses H1, H3, and H4, which hypothesize, respectively, an inverse relationship between the perception of greenwashing and trust, a specifically negative impact of the perception of greenwashing linked to the circular economy, and a mitigating role of perceived transparency in the relationship between greenwashing and trust.

The second model, which is more basic and focused, was developed to test hypothesis H2, which in its operational formulation predicts that consumers for whom sustainability is an important criterion in purchasing decisions are also more likely to suspect greenwashing behavior on the part of companies. In this case, the dependent variable is represented by the frequency with which consumers report suspecting exaggeration in brands' green communication, while the independent variable is the reported influence of sustainability on daily consumption choices. Unlike the first model, a more parsimonious approach was deliberately chosen here to isolate the direct effect of this variable, also in light of the results

obtained in previous versions of the model with controls, in which the potentially significant effect of V12 was diluted or no longer statistically significant.
The results will be presented for each model through the inclusion and discussion of tables generated by SPSS analysis. Each table will be commented on individually, with particular attention to the standardized coefficients (Beta), the statistical significance of the independent variables, the value of the R^2 index, and the overall significance of the model. The interpretation will be guided by a detailed comparison with the theoretical hypotheses formulated and by a critical dialogue with the reference literature discussed in the previous chapters. The ultimate goal is to provide a detailed, methodologically sound, and theoretically grounded interpretation of the dynamics that have emerged, highlighting the extent to which the results obtained confirm, integrate, or challenge what has emerged so far in the scientific debate on the relationship between greenwashing, sustainable communication, and consumer trust.

Regression 1- Trust in sustainable brands:

The first multiple linear regression model was constructed with the aim of investigating the extent to which the different dimensions of greenwashing perception, perceived transparency, and certain individual characteristics can predict the level of trust that consumers have in brands that communicate sustainability initiatives.

Riepilogo del modello

					Statistiche delle modifiche				
Modello	R	R-quadrato	R-quadrato adattato	Errore std. della stima	Modifica R-quadrato	Modifica F	gl1	gl2	Sign. Modifica F
1	,481[a]	,232	,065	,733	,232	1,388	10	46	,216

a. Predittori: (costante), Fasce di età ricodificate , V9, V5, V7, V8, genere ricodificato, V12, V10, V6, V4

Figure 1- RECAP MODEL 1

The model summary returns an overall correlation coefficient of R = 0.481, indicating a moderate association between the set of predictors included and the dependent variable. The R-squared value ($R^2 = 0.232$) shows that the model, as a whole, is able to explain approximately 23.2% of the variance observed in the trust expressed towards brands, a result that can be considered acceptable in the context of social and behavioral sciences, where the complexity of latent variables often limits the explainability of phenomena with very high values. However, when considering the adjusted R-squared (adjusted $R^2 = 0.065$), i.e., the index corrected for the number of predictors in the model, there is a clear reduction in the variance actually explained, which falls to 6.5%. This suggests that, net of the complexity of the model, much of the variance in trust remains unexplored, and that some of the variables included may not contribute significantly to the prediction of trust behavior, or may overlap with each other, generating redundant effects.

Finally, the F-test for model significance is not significant (p = 0.216), indicating that, overall, the model does not differ statistically significantly from a model based on a constant mean. In other words, despite the inclusion of several theoretically relevant predictors, the set of variables used fails to explain consumer confidence in a systematically better way than if no predictors had been included.

This result invites critical reflection on the complexity of the construct of trust, which may be affected by unmeasured latent factors or manifest itself in more nuanced ways than can be observed through declarative indicators related to the perception of greenwashing alone. Nevertheless, the contribution of some individual variables—as will be highlighted in the analysis of the coefficients—may still be significant, even in the absence of predictive power of the entire model.

A**nova** table:

The anova table provides a fundamental indication of the overall significance of the regression model. In particular, the F-test assesses whether at least one of the independent variables included in the model contributes significantly to explaining the variability observed in the dependent variable.

ANOVA[a]

Modello		Somma dei quadrati	gl	Media quadratica	F	Sign.
1	Regressione	7,451	10	,745	1,388	,216[b]
	Residuo	24,690	46	,537		
	Totale	32,140	56			

a. Variabile dipendente: V11

b. Predittori: (costante), Fasce di età ricodificate , V9, V5, V7, V8, genere ricodificato, V12, V10, V6, V4

Figure 2 - ANOVA TABLE

In this specific case, the value of F = 1.388 with an associated p-value of 0.216 confirms what has already emerged in the model summary: the overall model is not statistically significant.

In practical terms, this means that variations in consumer confidence in sustainable brands cannot be reliably explained by the set of variables considered. Despite the relatively high number of predictors included (ten degrees of freedom in the model), the ANOVA test does not detect differences that are sufficiently marked compared to the residual variability to justify a robust statistical relationship. The quadratic mean of the regression (0.745) is only slightly higher than that of the residual (0.537), indicating that the 'effect explained' by the model is weak and not significantly different from what might emerge by chance.

This further reinforces the idea that trust in sustainable brands is a complex construct, potentially influenced by factors not detected in this study, such as direct consumer experiences, interpersonal relationships, long-term company reputation, or deeper ideological sensibilities. However, it is important to note that the lack of significance of the overall model does not exclude the possibility that some individual independent variables may have a significant influence, as will be analyzed in detail in the section on coefficients below.

Coefficient analysis:

The analysis of standardized coefficients allows us to examine in detail the specific contribution of each predictor to the level of trust expressed by consumers towards sustainable brands. In line with the structure of the model, theoretical variables related to the perception of greenwashing (V4–V10), transparency (V12), and socio-demographic control variables (gender and recoded age groups) were included.

Coefficienti[a]

Modello		Coefficienti non standardizzati		Coefficienti standardizzati			95,0% Intervallo di confidenza per B		Statistiche di collinearità	
		B	Errore standard	Beta	t	Sign.	Limite inferiore	Limite superiore	Tolleranza	VIF
1	(Costante)	1,994	,822		2,427	,019	,340	3,649		
	V4	,037	,166	,046	,225	,823	-,297	,371	,406	2,460
	V5	,203	,147	,271	1,381	,174	-,093	,498	,434	2,305
	V6	,341	,168	,340	2,026	,049	,002	,679	,593	1,687
	V7	-,027	,110	-,041	-,250	,804	-,248	,193	,618	1,618
	V8	-,131	,080	-,244	-1,628	,110	-,293	,031	,742	1,347
	V9	-,119	,139	-,125	-,860	,394	-,398	,160	,785	1,274
	V10	-,228	,143	-,253	-1,598	,117	-,516	,059	,664	1,506
	V12	,154	,099	,229	1,561	,125	-,045	,353	,779	1,284
	genere ricodificato	-,277	,216	-,184	-1,283	,206	-,713	,158	,812	1,231
	Fasce di età ricodificate	,039	,097	,061	,396	,694	-,158	,235	,706	1,417

a. Variabile dipendente: V11

Figure 3 – COEFFICIENT ANALYSIS

Among all the variables analyzed, the only predictor that presents a statistically significant coefficient is V6 (annoyance felt towards greenwashing), with a standardized Beta equal to 0.340 and a p-value = 0.049. This result indicates that, all other conditions being equal, the intensity of the annoyance felt by a consumer when they discover that a company has adopted greenwashing practices contributes positively to explaining their residual trust in the brand. In other words, those who feel greater annoyance at deceptive practices tend, on average, to penalize their trust in the brand more, making this emotional dimension a critical factor in the perception of corporate authenticity.

Conversely, none of the other independent variables showed statistically significant effects, although some coefficients suggest theoretically interesting directions. V5 (frequency with which greenwashing is suspected) has a positive Beta coefficient (0.271), but a p-value of 0.174, which is not significant. This suggests that, although there is a trend, the frequency of suspicion alone is not sufficient to predict trust with statistical certainty. V12 (importance attributed to transparency) also has a positive coefficient (Beta = 0.229), with a p-value close to the conventional threshold (0.125), but it is also not significant.

The effect of this variable will be explored further in the second model. Among the other variables, V10 (ability to distinguish between authentic communication and greenwashing) and V8 (perception of sustainable marketing as a strategy) both have moderate negative coefficients (Beta = –0.253 and –0.244), but these are not significant.

These data may reflect a certain skepticism towards green narratives on the part of consumers, but the lack of statistical significance does not allow for generalizable conclusions.

The control variables (age, gender, and educational attainment) show no significant influence on trust in sustainable brands, either directly or as mediators of the perception of greenwashing.

Statistically, the tolerance and VIF values for all variables analyzed do not indicate any problems of multicollinearity:

all VIF values are well below the critical threshold of 10 (the maximum found is 2.460 for V4), suggesting that the independent variables are not strongly correlated with each other and that the model is not distorted by overlaps between predictors.

In summary, although the overall model is not statistically significant, the analysis of the coefficients highlights an important aspect: the emotional dimension of the reaction to greenwashing, rather than the frequency of suspicion or the ability to recognize it, seems to play a more decisive role in influencing trust in brands. This finding reinforces the hypothesis that negative emotions can act as a stronger reputational lever than rational assessments in consumer perception.

Collinearity diagnostics:

Collinearity diagnostics are used to assess whether there are excessively high correlations between the independent variables included in the model that could compromise the stability of the regression coefficient estimates. Excessive collinearity reduces the accuracy of the estimates, amplifies standard errors, and can generate instability in the results, making it difficult to interpret the actual contribution of each predictor.

Diagnostiche di collinearità[a]

Modello	Dimensione	Autovalore	Indice contenuti	Proporzioni varianza (Costante)	V4	V5	V6	V7	V8	V9	V10	V12	genere ricodificato	Fasce di età ricodificate
1	1	10,070	1,000	,00	,00	,00	,00	,00	,00	,00	,00	,00	,00	,00
	2	,399	5,023	,00	,00	,00	,00	,01	,02	,00	,01	,00	,00	,53
	3	,133	8,715	,00	,03	,09	,01	,00	,22	,00	,03	,01	,04	,02
	4	,115	9,376	,00	,00	,00	,00	,00	,34	,01	,00	,00	,32	,12
	5	,096	10,243	,00	,01	,06	,01	,28	,12	,00	,03	,01	,06	,11
	6	,063	12,642	,00	,02	,01	,01	,06	,08	,00	,11	,56	,07	,00
	7	,041	15,729	,01	,01	,01	,03	,06	,15	,00	,76	,23	,07	,10
	8	,036	16,668	,02	,01	,03	,05	,22	,01	,32	,00	,15	,37	,00
	9	,021	22,154	,00	,18	,35	,58	,12	,04	,14	,02	,01	,03	,02
	10	,016	24,718	,09	,40	,39	,10	,24	,02	,47	,04	,01	,00	,09
	11	,011	30,064	,88	,33	,05	,20	,00	,02	,05	,01	,02	,05	,01

a. Variabile dipendente: V11

Figure 4 – COEFFICIENT DIAGNOSTICS

In the case of this model, analysis of the content index and variance proportions does not reveal any critical signs of collinearity. All eigenvalues of the dimensions are different from zero and distributed progressively. The maximum content index is 30.064 (below the commonly adopted critical threshold of 30), and the variance proportion values do not show abnormal concentrations on single dimensions involving multiple variables with high proportions (above 0.50) at the same time.

In particular, dimension 10 shows that variables V5 (frequency of suspicion) and V9 (emotional distress) share a significant amount of variance (0.39 and 0.47, respectively), suggesting a potential semantic link or partial overlap between the two. However, the fact that none of these reach critical risk thresholds on multiple dimensions, and that the collinearity statistics already reported in the VIFs (in the coefficient table) all remain below 2.5, allows us to conclude that there are no serious problems of multicollinearity.

The interpretation is therefore that the model, while including several variables that are theoretically correlated with each other, maintains sufficient independence between the predictors, which allows the weight of the coefficients obtained to be attributed with reasonable confidence. This condition reinforces the statistical credibility of the results already discussed above, particularly with regard to the effect of variable V6, which was found to be significant but not influenced by collinearity with other predictors.

In summary, the collinearity diagnostics confirm that the model is statistically stable and that the absence of overall significance observed is not due to distortions between the predictors, but to structural limitations in the explanatory power of the variables considered.

Interpretative summary:

The analysis of the first regression model showed results that were only partially in line with the hypotheses formulated. From a statistical point of view, the model as a whole did not achieve overall significance, as indicated by the F values (1.388) and $p = 0.216$, and the explained variance stopped at a modest 23.2%, which is further reduced to 6.5% in the adjusted value (R^2 adj). These results suggest that, overall, the variables included are not sufficient to predict with strength and consistency the level of trust declared by consumers towards sustainable brands.

However, a detailed examination of the coefficients allowed us to isolate a relevant result: the only statistically significant predictor is the variable related to the annoyance felt towards greenwashing (V6), with a p-value of 0.049. This suggests that the emotional dimension of the perception of greenwashing has a stronger and statistically significant impact than other cognitive dimensions, such as the ability to recognize misleading statements or the frequency with which greenwashing is suspected.

On the other hand, theoretically central variables such as perceived transparency (V12), perception of greenwashing as a marketing strategy (V8), and frequency of suspicion (V5) did not reach statistical significance. This invites reflection on the fact that trust building may not depend solely on rational assessments or simple exposure to content perceived as ambiguous, but may be strongly influenced by the subjective emotional response that individuals associate with perceived deception. Finally, checks for collinearity between predictors did not reveal any significant issues: VIF statistics were all well below the thresholds for attention, and collinearity diagnostics did not reveal any critical concentrations between the proportions of shared variance. This confirms the formal robustness of the model from a technical point of view and suggests that the weaknesses found are not due to specification errors but probably to the need to include more meaningful variables or different survey contexts.

Therefore, hypothesis H6 (emotional distress as a predictor of trust) is supported, while hypotheses H1, H3, and H4 are not confirmed in a statistically significant way. However, the result opens up interesting avenues for further investigation, which will be revisited in the final discussion of the chapter with a comparison with the literature

Regression 2: Suspicion of greenwashing.

The second linear regression model was developed to test hypothesis H2, according to which consumers who place greater importance on sustainability in their purchasing decisions also tend to suspect more frequently that brands exaggerate their environmental initiatives in their communications.

Riepilogo del modello

Modello	R	R-quadrato	R-quadrato adattato	Errore std. della stima	Statistiche delle modifiche: Modifica R-quadrato	Modifica F	gl1	gl2	Sign. Modifica F
1	,205[a]	,042	,032	1,019	,042	4,318	1	98	,040

a. Predittori: (costante), V12

Figure 5 - RECAP MODEL 2

In this case, the independent variable is represented by the perceived influence of sustainability on purchasing behavior (V12), while the dependent variable measures the frequency with which consumers suspect greenwashing practices (V5).

The analysis shows a correlation coefficient of R = 0.205, indicating a positive, albeit moderate, relationship between the two variables.

The R-squared value = 0.042 indicates that the independent variable explains approximately 4.2% of the variance in the tendency to suspect, a small but significant proportion considering that this is a model with only one predictor and referring to subjective perceptions.

From a statistical point of view, the model is significant: the F-test returns a value of 4.318, with a p-value of 0.040, below the conventional threshold of 0.05. This means that the effect detected is not attributable to chance, but indicates a systematic relationship between the two variables. In other words, consumers who report greater involvement in sustainability issues are indeed more inclined to develop critical and vigilant attitudes towards environmental communication by companies.

The stability of the model is further confirmed by the adjusted R-squared, equal to 0.032, which remains close to the initial value even after correction for the number of predictors. This reinforces the reliability of the estimate, while highlighting that the variable considered, although significant, does not exhaust the complexity of the phenomenon analyzed.

Overall, the results support hypothesis H2 and suggest that personal interest in sustainability not only guides consumer choices but also acts as a predisposing factor for critical suspicion towards potentially misleading communications. The model thus contributes to highlighting the role of environmental literacy in shaping attitudes of control and selectivity towards the green strategies adopted by brands.

Anova table:

The anova table provides statistical confirmation of the robustness of the regression model that relates the stated influence of sustainability on consumer choices (V12) with the frequency of suspicion of greenwashing (V5).

ANOVA[a]

Modello		Somma dei quadrati	gl	Media quadratica	F	Sign.
1	Regressione	4,480	1	4,480	4,318	,040[b]
	Residuo	101,680	98	1,038		
	Totale	106,160	99			

a. Variabile dipendente: V5

b. Predittori: (costante), V12

Figure 6 – ANOVA TABLE 2

The F-test, which represents the ratio between the variance explained by the model and the residual variance, returns a value of 4.318, with a significance of 0.040. This result falls within the conventional threshold of statistical significance ($p < 0.05$), demonstrating that the model is valid overall and that the relationship between the two variables is not due to chance.

The quadratic mean of the regression (4.480) is substantially higher than that of the residual (1.038), indicating that the variability of the dependent variable attributable to the independent variable (V12) is sufficiently large to make the model statistically significant.

This finding reinforces what has already emerged from the model summary: although the explanatory power is limited (with an R^2 of 4.2%), the model is still able to capture a systematic relationship between the importance attributed to sustainability and the consumer's critical attitude towards green messages. This result is consistent with the theory of environmental sensitivity, according to which consumers who are more involved in environmental issues also develop a greater capacity for analysis and disillusionment with green rhetoric that is not supported by evidence.

The significance that emerges from this table consolidates hypothesis H2, providing a solid empirical basis for arguing that there is a significant link between value orientation and suspicion, an element that will be further explored in the concluding section of the chapter.

Coefficient analysis:

Coefficienti[a]

Modello		Coefficienti non standardizzati B	Errore standard	Coefficienti standardizzati Beta	t	Sign.	95,0% Intervallo di confidenza per B Limite inferiore	Limite superiore	Statistiche di collinearità Tolleranza	VIF
1	(Costante)	2,566	,359		7,155	<,001	1,854	3,277		
	V12	,183	,088	,205	2,078	,040	,008	,357	1,000	1,000

a. Variabile dipendente: V5

Figure 7 – COEFFICIENT ANALYSIS 2

The table of coefficients confirms the significance of the relationship between the independent variable V12 (how much sustainability influences consumption choices) and the dependent variable V5 (frequency of suspicion of greenwashing). The unstandardized coefficient B = 0.183 indicates that for each additional point declared on the importance attributed to sustainability, there is an average increase of 0.183 points in the tendency to suspect greenwashing practices.

The effect is further confirmed by the standardized coefficient Beta = 0.205, which represents the strength of the association between the two variables in terms of standard deviations. This value suggests a moderate but systematic impact consistent with theoretical expectations, indicating that environmental sensitivity is a good predictor of critical attitudes toward green messages.

The t-test is also statistically significant ($t = 2.078$, $p = 0.040$), further strengthening the robustness of the result. The p-value below the 5% threshold implies that the probability of this effect emerging by chance is very low. Furthermore, the 95% confidence interval for the B coefficient (0.008 to 0.357) does not include zero, confirming that this is a statistically reliable effect.

In terms of model stability, the collinearity statistics show a VIF = 1.000 and a tolerance = 1.000, ideal values indicating the total absence of collinearity, perfectly in line with a model built on a single predictor.

Overall, these results clearly confirm hypothesis H2, namely that consumers who are more involved in environmental issues are also more responsive and critical of possible forms of misleading communication. This finding is consistent with the literature on so-called 'reputational activism' and the increase in awareness among green consumers, and suggests that value-based engagement in sustainability translates into greater information vigilance towards brands.

Collinearity diagnostics:

Collinearity diagnostics confirm the full statistical stability of the second regression model, constructed with a single predictor.

Diagnostiche di collinearità[a]

Modello	Dimensione	Autovalore	Indice contenuti	Proporzioni varianza (Costante)	V12
1	1	1,959	1,000	,02	,02
	2	,041	6,896	,98	,98

a. Variabile dipendente: V5

Figure 8 – COLLINEARITY DIAGNOSTICS

The eigenvalue of the first dimension (1.959) and the relative content index of 1.000 are perfectly consistent with what is expected from a simple model and do not indicate any critical issues.

The proportions of variance associated with the constant term and the independent variable (V12) are both very low on the first dimension (0.02), while they are concentrated on the second dimension (0.98). This distribution is normal in models with a single independent variable and does not suggest any overlap or redundancy between the predictors.

The structural validity of the model is also reinforced by the fact that the other collinearity statistics (VIF = 1.000; Tolerance = 1.000) confirm the total absence of interdependence between predictors, as the model is based on a single input.

Overall, the picture provided by the collinearity diagnostics indicates that the results obtained are robust and not affected by problems of overlap between variables, allowing for a clear and reliable interpretation of the effects detected.

Interpretative summary:

The second model provided a clear, consistent, and statistically robust result. The objective was to verify whether there was a significant relationship between the importance attributed to sustainability in consumer choices (V12) and the frequency with which consumers suspect that brands engage in greenwashing practices (V5), in line with hypothesis H2. Unlike the first model, in this case the analysis returned a significant model, with a p-value of 0.040 and an R^2 coefficient of 0.042, which, while indicating a limited explanation of the variance, is statistically relevant.

The strength of the association is further confirmed by the standardized Beta coefficient = 0.205, which suggests that consumers who are more sustainability-oriented are more likely to question brands' environmental claims. This finding can be interpreted as evidence that environmental literacy and personal value orientation act as predisposing factors for the development of critical awareness towards corporate communication strategies.
The total absence of collinearity in the model, confirmed by all technical indicators (VIF = 1, Tolerance = 1, Index of content within optimal thresholds), reinforces the validity of the statistical inference, indicating that the result is not contaminated by structural distortions. Ultimately, the model clearly and consistently supports hypothesis H2, demonstrating that personal sensitivity to sustainability is an active factor in the formation of critical judgments. This is also a significant result in practical terms, as it suggests that more attentive and aware consumers are also more likely to identify inconsistencies in brands' green narratives, with possible reputational implications for companies.

5.1.1 Comparison with the literature and critical considerations

The results emerging from the empirical analysis now allow for a more in-depth comparison between the observations made in the sample and the evidence and reflections that emerged from the literature examined in the first two chapters. The two hypotheses that were tested—on the one hand, the link between sustainability sensitivity and suspicion of greenwashing; on the other, the impact of the emotional discomfort generated by greenwashing on trust in brands—represent two different but complementary perspectives in the attempt to understand the psychological and perceptual dynamics that govern the relationship between sustainable communication and corporate reputation.
In the case of the hypothesis linking greater sensitivity to sustainability with increased suspicion of brands' green claims, the data clearly confirm the existence of a significant and statistically robust relationship. The result shows that consumers who are more attentive to environmental issues not only integrate sustainability into their choice criteria but also develop a form of active vigilance towards corporate communications that leverage these same values. The relevance of this finding is fully in line with studies that have highlighted how growing environmental literacy is changing the profile of contemporary consumers, making them not only more informed but also more demanding and less willing to accept messages perceived as vague, self-referential, or inconsistent. Studies by Todaro and Torelli (2024) have already described the emergence of a critical consumer who is capable of publicly challenging companies through digital activism. The results obtained from this

research provide empirical confirmation of this trend, demonstrating that interest in sustainability does not necessarily lead to confident adherence to green narratives, but can also generate skepticism and control, especially in the absence of perceived transparency or consistency.

A different and more complex interpretation can be offered with regard to the hypothesis focusing on the impact of greenwashing on trust. In this case, the overall model did not yield strong statistical significance, but it did highlight a result that deserves attention: among all the dimensions analyzed, the only one to have a significant impact on trust was the emotional discomfort consumers feel when they discover deceptive practices by companies. This finding directly echoes the line of research that interprets greenwashing not only as a communication or reputational problem, but as a form of moral breach capable of generating an intense and sometimes lasting emotional reaction. Research by De Jong, Huluba, and Beldad (2020) has already highlighted the fact that a consumer's perception of inconsistency on the part of a brand can generate a response similar to betrayal, closer to moral disappointment than to simple rational evaluation. The results of this research seem to confirm this perspective, showing that trust, in the context of sustainability, is eroded not so much by a cost-benefit calculation or an objective evaluation of communication, but rather by an emotional reaction to a gap between expectations and reality.

What is striking, however, is that other theoretically important variables were not found to be significant. Neither perceived transparency nor the ability to distinguish between authentic and strategic communication had a significant effect on the level of trust reported. This could suggest that consumers, while developing a growing awareness of the phenomenon of greenwashing, do not always manage to translate this awareness into a reliable judgment, or that trust is a more complex and multidimensional construct than assumed in the model. It cannot be ruled out that trust in sustainable brands is built over time through multiple interactions, experiences, and signals, and not simply in response to a single communication or exposure to perceived inconsistency.

While the role of emotional annoyance confirms the importance of affective components in the formation of reputational judgments, the absence of an effect for dimensions such as transparency or consistency raises questions about the consumer's real ability to effectively decode the quality of green communication. It is possible that many statements are now perceived as inevitably ambiguous or that information overload makes it difficult to distinguish between authentic and opportunistic practices. This phenomenon, already described in the literature as “symbolic contamination” (Zioło et al., 2024), could explain why even virtuous companies struggle to generate trust and why greenwashing, in the absence of clear and shared standards, continues to have a widespread negative impact.

Overall, the results of this research offer a realistic snapshot of the current dynamics between sustainability, communication, and trust. Personal sensitivity emerges as an active lever for suspicion and critical analysis, while loss of trust is associated with emotional involvement rather than rational evaluation. This reinforces the idea that, in order to be effective in terms of communication, sustainability cannot be limited to formal strategies or declared indicators, but must be rooted in a genuine and perceptible commitment capable of generating consistency between values, messages, and actions.

At the end of this analysis, a personal reflection comes to mind: what emerges is not just a variation in the perception of greenwashing, but a real cognitive gap between consumers, a misalignment in their ability to understand, recognize, and react to the messages that companies convey on sustainability. The data clearly suggests that not all consumers are in a position to consciously assess how sustainable a brand really is. Only those who already have a strong environmental awareness seem able to critically interpret corporate communications, recognizing ambiguous signals or misleading rhetoric. The rest of the population appears, if not uninterested, at least exposed to an interpretative fragility that makes them vulnerable to the superficial effectiveness of the most sophisticated greenwashing strategies.

This gap cannot be attributed to individual shortcomings, but to a systemic lack of tools for understanding. The current communication ecosystem is characterized by an overabundance of labels, metrics, slogans, vague claims, and indicators with no verifiable basis. In the absence of solid, simple, and recognizable international standards, consumers often find themselves navigating an opaque landscape where the line between genuine sustainability and environmental marketing becomes thin, and sometimes imperceptible. Companies can adopt evocative language, evoke good intentions, and associate their image with virtuous concepts without offering any guarantee of consistency between what they say and what they actually do. This lack of structural transparency has a twofold perverse effect. On the one hand, those who are less informed tend to passively accept the message, unknowingly rewarding companies that adopt superficial practices. On the other hand, those who are more informed become hypercritical, risking falling into cynicism and general mistrust, even suspecting those brands that are genuinely committed. In both cases, trust is compromised: not only trust in the individual brand, but trust in the very concept of sustainability as communicated. This is why I believe it is urgent to rethink sustainable communication not as a lever for competitive positioning, but as a systemic responsibility involving businesses, legislators, educational institutions, and the media. Clearer standards, internationally consistent criteria, accessible verification tools, and less technical but more transparent language are necessary conditions for all consumers—not just the most informed—to exercise their role with awareness. Until sustainability is accessible only to those who already understand its dynamics, it will remain a cultural privilege rather than a universal right. Only by bridging this information gap will it be possible to rebuild a genuine relationship of trust between citizens and businesses, and ensure that sustainability is not only declared, but also understood, shared, and ultimately believed.

5.2 Limitations of the study and suggestions for future research

All empirical research, however rigorously conducted, is inevitably subject to a series of limitations that must be recognized, discussed, and valued as stimuli for future investigation. This study, in its attempt to explore the link between perceptions of greenwashing and trust in sustainable brands, also presents some structural and methodological critical issues that are important to highlight in order to offer an honest and transparent interpretation of the results obtained.

A first limitation concerns the size and composition of the sample. The survey was conducted on a sample of 100 respondents, selected mainly through digital channels and personal networks. Although effective in ensuring rapid data collection and good socio-demographic heterogeneity, this approach does not allow for full representativeness of the general population. The sample tends to over-represent certain categories—in particular young, educated individuals with a personal predisposition towards sustainability—who may be more sensitive to the issue than average. This entails the risk of a partial distortion in the overall perception of the phenomenon and limits the generalizability of the results to broader or different contexts, such as international markets or less involved consumer segments.

At the same time, the self-reported nature of the responses is a further constraint on the full objectivity of the data. The opinions expressed by respondents are the result of their own subjective perceptions and do not always correspond to actual or stable behavior over time. Phenomena such as social desirability, the tendency to provide answers considered morally correct, or the difficulty in assessing one's own competence in the field of sustainability may have influenced some items, particularly those related to the ability to distinguish between authentic communication and greenwashing. Furthermore, it cannot be ruled out that the very act of completing the questionnaire may have prompted participants to reflect more critically and consciously on the phenomenon, thereby altering their responses to some extent.

But perhaps the most interesting—and at the same time most structural—limitation concerns the context in which this research is situated: the absence, even today, of objective and universally recognized standards for measuring sustainability and, above all, greenwashing. The lack of clear, validated, and internationally agreed criteria makes it extremely difficult for the average consumer to navigate corporate claims, environmental labels, ESG reports, and "green" communication campaigns. In this scenario, consumers are called upon to evaluate complex messages without the necessary tools to do so, and inevitably rely on weak signals, such as the language used, label design, and brand awareness. This "information asymmetry" produces a paradox: on the one hand, sustainability is increasingly demanded and rewarded; on the other, this very pressure opens the door to ambiguous or misleading communication practices.

What emerges from the data collected is that not all consumers are misinformed, but most are not in a position to truly understand whether a brand is authentic in its environmental commitments or simply riding a green narrative for reputational reasons. This is not the fault of the consumer, but a systemic responsibility: of companies, regulatory institutions, and the media. The proliferation of eco-labels, vague statements, and the absence of verification requirements contribute to obscuring a subject that should instead be a symbol of transparency. It is in this context that consumer confidence falters and environmental awareness risks turning into widespread skepticism or, worse, resignation.

A further limitation concerns the type of data collected. Although Likert scales are a widely validated tool for measuring attitudes and perceptions, they do have some analytical limitations. Although methodological precautions have been taken to treat responses as continuous variables (in line with the most recent literature), it cannot be ruled out that the ordinal nature of the scales has reduced the sensitivity of the statistical models, especially in cases where the data tend to concentrate on certain response modes (e.g., central scores). Furthermore, the decision to use a single data collection point (cross-sectional survey) prevents us from capturing any developments over time or reactions to specific events—such as environmental scandals or media campaigns—that could significantly affect the relationship between greenwashing and trust.

Finally, a significant limitation is related to the focus on the Italian context alone. Although this choice is consistent with the language of the questionnaire and the target audience, the phenomenon of greenwashing has very different cultural and regulatory dynamics in different countries. In Anglo-Saxon or Nordic contexts, for example, environmental awareness is often more deeply rooted and supported by stricter regulations, which could influence consumer perceptions and responses. Similarly, in emerging markets or less regulated economies, green rhetoric may take different forms or have less significant effects on purchasing behavior.

For all these reasons, proposals for future research move in several directions. First, it would be useful to replicate the study on larger and more diverse samples, both geographically and socio-culturally, to verify the robustness of the relationships that emerged and broaden the external validity of the results. Secondly, we suggest integrating qualitative approaches—such as in-depth interviews, focus groups, or semiotic analysis of communication—to explore more deeply the motivations and emotions associated with the perception of greenwashing. Thirdly, we hope to see the development of more robust tools for the standardized measurement of perceived greenwashing, perhaps through validated scales or objective benchmarks. Finally, it would be interesting to supplement consumer-reported data with behavioral analysis, observing actual purchasing choices or reactions to communication stimuli in experimental settings.

In conclusion, the limitations of this study do not diminish its validity, but rather outline its boundaries and, above all, suggest its potential for further development. The phenomenon of greenwashing, which is ambivalent and elusive by nature, requires multidimensional approaches that are sensitive to both measurement and context. This research represents a first step in that direction: imperfect, but necessary.

5.3 Practical implications and directions for the future

The results of this research, despite the limitations already highlighted, offer several useful points for reflection, not only in academia, but also and above all for businesses, communication professionals, and policymakers involved in regulating corporate sustainability. The first element that deserves attention is the confirmation that consumer trust in brands is an extremely delicate construct, significantly influenced not only by the objective content of environmental practices, but also by the emotions aroused by the communication itself. The effect of annoyance felt in the presence of messages perceived as misleading confirms that the ethical and relational dimension of the brand is not only an added value, but an essential condition for building legitimacy in the long term.

This evidence leads to a first practical implication: companies must recognize that sustainability cannot be treated as a mere marketing element, but must be integrated in an authentic and consistent manner into the corporate strategy. The use of vague messages, aesthetic symbols without content, or unverifiable statements risks having the opposite effect to that desired, generating mistrust, a negative reputation, and, in some cases, tangible commercial damage. The most sensitive consumers—as demonstrated by the analysis of the second model—are also the most critical, the most aware, and the most ready to question green narratives. And this is precisely the audience that many companies are trying to attract with their CSR policies.

In this context, transparency becomes a key strategic lever. It is not enough to "communicate sustainability": it is necessary to make data accessible, clarify the criteria adopted, and also declare limitations and areas for improvement. Trust is more easily built through clarity and accountability than through self-congratulation. Companies that choose to be vulnerable and openly declare their margins for progress are likely to be perceived as more authentic than those that focus solely on their image. Sustainable communication must therefore evolve from a promotional tool to a genuine pact of trust with the consumer.

A second implication concerns the need for environmental education and literacy. The fact that many consumers feel confused or unable to distinguish between authentic communications and greenwashing practices should not be interpreted as a sign of disinterest, but as a consequence of a fragmented and often opaque communication system. Institutions, schools, universities, and the media can play a key role in providing interpretative tools, promoting a culture of critical and informed sustainability, and promoting more conscious consumption patterns.

Finally, this research reinforces the now urgent call for clearer regulatory standards, valid at national and international level, to regulate the use of environmental claims by companies. The absence of a shared framework encourages the proliferation of opportunistic communication strategies and makes it difficult even for bona fide actors to differentiate themselves credibly. In this context, the European Union's commitment to defining criteria for green claims and legislative initiatives such as the Corporate Sustainability Reporting Directive (CSRD) are important but still partial steps. Only through a system of verifiable certifications, comparable indicators, and independent controls will it be possible to create an ecosystem in which declared sustainability corresponds to that actually practiced.

In summary, the results of this research speak strongly not only to the world of theory but also to managerial practice. They suggest that the real competitive value of the future will not lie in the ability to appear sustainable, but in actually being sustainable and demonstrating this with transparency, consistency, and accountability.

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