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Greenwashing and Information Asymmetry: A Theoretical Perspective

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Abstract

Greenwashing has emerged as a growing concern in contemporary markets, where firms increasingly communicate environmental commitments as part of their competitive positioning. While existing literature documents the prevalence and consequences of misleading environmental claims, limited theoretical integration explains why greenwashing persists despite reputational and regulatory risks. This paper conceptualizes greenwashing as a signaling failure under conditions of information asymmetry. Drawing on information economics and signaling theory, we develop a theoretical framework that explains the strategic incentives driving firms to engage in symbolic environmental communication. The model highlights the role of verification costs, consumer environmental literacy, and institutional pressures in shaping market outcomes. We propose a set of theoretical propositions linking greenwashing to consumer trust erosion, market inefficiencies, and long-term legitimacy risks. The paper contributes by integrating fragmented streams of research and offering a structured framework to guide future empirical studies. Managerial and policy implications are discussed.

Keywords: *Greenwashing*, *green marketing*, consumer behavior, environmental communication, consumer trust.

Introduction

Environmental sustainability has become a central axis of market competition and corporate legitimacy, shaping how firms design products, structure supply chains,

and communicate with stakeholders. As environmental claims increasingly influence purchasing decisions and brand evaluations, green marketing has evolved from a niche approach into a mainstream strategic practice. However, this evolution has also intensified a structural tension: the growing symbolic value of sustainability in the marketplace creates incentives for firms to communicate environmental responsibility even when substantive changes are partial, slow, or absent. This tension has contributed to the proliferation of greenwashing, understood as communication practices that induce overly positive perceptions of environmental performance without proportional and verifiable evidence.

Although greenwashing is widely discussed in both academic and managerial discourse, existing research often remains fragmented across streams that emphasize either ethical concerns, consumer reactions, or corporate disclosure practices. As a result, the literature provides extensive descriptive knowledge on greenwashing manifestations, yet offers less integrative clarity on the mechanisms that explain its persistence, its short-term effectiveness, and its long-term consequences for consumer trust and market integrity. This gap is particularly relevant because greenwashing is not merely a communication failure at the level of a single firm; it can undermine the credibility of green marketing as a category, generating negative spillovers that weaken genuine sustainability transitions.

This paper addresses this gap by developing an integrated conceptual framework that explains greenwashing as a multidimensional phenomenon shaped by (i) organisational incentives to secure legitimacy under sustainability pressures, (ii) information asymmetries that limit stakeholder verification, and (iii) consumer processing mechanisms that determine when and how misleading claims are detected. Specifically, the paper combines legitimacy and signaling perspectives to explain why firms adopt symbolic environmental communication and how weak verification structures facilitate opportunistic signaling. It then integrates consumer-focused models—particularly the Affect–Reason–Involvement (ARI) model and the Attitude–Behavior–Context (ABC) framework—to clarify how different claim types (vague versus false), affective cues, and consumer involvement produce heterogeneous attitudinal and behavioural outcomes. Finally, the paper extends the discussion to the digital communication environment, highlighting the emerging challenge of machinewashing, whereby algorithmic systems and automated content generation may amplify the sophistication and opacity of misleading sustainability narratives.

Methodologically, the study follows a conceptual theory-building approach grounded in a structured, theory-driven synthesis of the literature. Rather than aiming for exhaustive systematic coverage, the paper prioritises theoretical integration across marketing, organisational, and persuasion research to generate a coherent explanatory structure and derive implications for managerial practice and policy design.

The contribution of this paper is threefold. First, it consolidates fragmented research into a unified framework that links firm-level incentives, communication typologies, and consumer response mechanisms. Second, it clarifies why greenwashing can be temporarily effective under low involvement and heuristic processing, while simultaneously generating long-term trust erosion and legitimacy risks. Third, it translates these insights into practical implications for managers, regulators, and market actors seeking to strengthen claim credibility and reduce informational distortions in green markets. The remainder of the paper is organised as follows: Section 2 discusses the conceptual evolution of green marketing and sustainability; Section 3 systematises greenwashing concepts, typologies, and determinants; Section 4 presents an integrated theoretical explanation of greenwashing effects through ARI, legitimacy, signaling, and ABC perspectives; and Section 5 analyses consumer impacts and their contingencies, setting the basis for practical implications and concluding remarks.

Methodology

This study adopts a conceptual research design aimed at theory integration and development. Rather than collecting primary empirical data, the paper seeks to synthesize and extend existing theoretical perspectives in order to construct a structured explanatory framework of greenwashing. A conceptual approach is particularly appropriate when the existing literature is fragmented across disciplines and when theoretical clarification is necessary to advance scholarly understanding. In this case, the objective is not to conduct a systematic meta-analysis, but to integrate insights from information economics, signaling theory, institutional theory, and consumer behavior research into a coherent analytical model capable of explaining the persistence and strategic logic of greenwashing.

To support the development of this framework, a structured and theory-driven literature search was conducted using major academic databases, including Scopus, Web of Science, and Google Scholar. The search strategy relied on combinations of keywords such as “greenwashing,” “environmental claims,” “signaling theory,” “information asymmetry,” “corporate legitimacy,” and “ESG communication.” Priority was given to peer-reviewed journal articles published in marketing, management, economics, and sustainability journals, as well as to foundational theoretical works with high citation impact. The selection process focused on contributions that provided conceptual leverage for model construction, rather than aiming for exhaustive coverage of all empirical studies on the topic.

The analytical procedure followed an iterative three-stage process. First, the literature was examined to map the dominant definitions and typologies of greenwashing. Second, underlying economic and behavioral mechanisms associated with misleading environmental communication were identified, particularly those related to asymmetric information, signaling incentives, and reputational dynamics. Third, these theoretical constructs were integrated into a unified explanatory

structure, linking antecedent conditions, firm-level strategic choices, moderating variables, and market-level consequences. Through iterative comparison across disciplinary perspectives, recurring mechanisms were organized into a signaling-based framework capable of generating formal theoretical propositions.

As a conceptual contribution, this study does not empirically test hypotheses. Instead, it aims to provide theoretical clarity and establish a structured basis for future empirical research. While the literature search was systematic in orientation, it does not claim full systematic review status under PRISMA criteria. The emphasis lies on theory development and conceptual coherence, with the intention of offering a rigorous and analytically grounded foundation for subsequent quantitative and qualitative investigation.

Green Marketing and Sustainability: Conceptual Evolution

Green marketing emerged as an organisational response to mounting environmental and social externalities associated with conventional production and consumption systems. Over time, its conceptual evolution has mirrored a broader shift in managerial logic: firms increasingly frame competitiveness not only through short-term financial performance, but through long-term value creation that integrates environmental and social considerations into strategy, operations, and stakeholder relationships. In this sense, green marketing should be understood less as a promotional technique and more as a governance orientation that links market positioning to the credibility of sustainability practices across the product life cycle and the firm's value chain.

A foundational definition describes green marketing as the set of activities designed to facilitate exchanges that satisfy human needs while minimising negative environmental impacts (Polonsky, 1994). This perspective is analytically useful because it moves the unit of analysis beyond the "green product" and toward the entire system of value creation—raw materials, manufacturing, logistics, use, and end-of-life. However, the literature also warns that green marketing becomes performative rather than transformative when it is reduced to communication tactics. Peattie and Crane (2005) argue that authentic green marketing demands structural adjustments in organisational routines and incentives; otherwise, "green" discourse risks operating as a symbolic layer detached from operational reality.

This shift is closely associated with corporate sustainability and the triple bottom line framework (Elkington, 1997), which conceptualises performance as a balance between economic viability, environmental responsibility, and social equity. Within this framing, corporate social responsibility becomes a strategic mechanism through which firms translate ethical commitments into policies and practices that affect multiple stakeholder groups. Importantly, sustainability is not simply a reputational asset: it can become a source of competitive advantage when integrated into

innovation, procurement standards, risk management, and governance, thereby generating shared value beyond shareholder returns (Porter & Kramer, 2011).

Environmental communication is therefore a central operational component of green marketing because it mediates how stakeholders perceive corporate sustainability performance. Yet communication is also the point at which green marketing is most vulnerable to credibility breakdown. When environmental claims lack precision, verification, or proportionality, they can trigger greenwashing perceptions and erode trust (Delmas & Burbano, 2011). Consequently, effective environmental communication requires internal coherence (alignment between discourse and practices), external credibility (e.g., certification, audited metrics), and contextual transparency (clarity on scope, limits, and trade-offs).

From a branding perspective, sustainable branding integrates sustainability into brand identity and positioning, but it only functions as a durable differentiator when sustainability is perceived as authentic and consistent (Keller, 2013). Practically, this implies that brand strategy must be supported by measurable performance indicators, traceable claims, and governance mechanisms that prevent marketing from outpacing operational progress.

Finally, consumer agency plays a non-trivial role in shaping green marketing effectiveness. Although environmentally conscious consumers can influence firms through purchasing decisions, the literature consistently highlights the attitude–behaviour gap: pro-environmental intentions often fail to translate into sustainable consumption due to contextual constraints such as price sensitivity, convenience, and product availability (Carrington et al., 2010). For managers, the implication is straightforward: sustainable positioning must be designed not only around moral appeal, but around value propositions that combine environmental benefits with

functional performance, accessibility, and credible information. In sum, green marketing becomes a driver of sustainable transition only when communication credibility, operational substance, and consumer decision architecture are aligned.

Greenwashing: Concept, Typologies and Determinants

Greenwashing has become a central construct in sustainable marketing because it captures the tension between rising societal expectations for environmental responsibility and firms' incentives to secure legitimacy without incurring the full costs of transformation. At its core, greenwashing can be defined as a set of communication practices that lead stakeholders to form overly positive beliefs about a firm's environmental performance or product benefits without proportional, verifiable, and contextualised evidence to support those beliefs (Delmas & Burbano, 2011; Torelli et al., 2020). This definition is analytically stronger than purely moral

labels because it highlights the mechanism: perception is shaped through information distortion under conditions where verification is difficult.

A distinctive feature of greenwashing is the decoupling between communication and substantive performance. Delmas and Burbano (2011) characterise it as the coexistence of poor environmental performance with intensive environmental communication, suggesting that greenwashing is not simply "talking about sustainability", but communicating beyond what performance can credibly justify. Schmuck et al. (2018) reinforce that greenwashing is not restricted to objectively false statements: claims can be technically accurate yet misleading through ambiguity, lack of context, selective framing, or absence of independent verification—making greenwashing as much a problem of informational integrity as of factual truth.

The literature typically distinguishes product-level and firm-level greenwashing. Product-level greenwashing concerns specific product attributes (e.g., recyclability, "carbon neutral") and often relies on vague language, weak evidence, or unverifiable claims (Schmuck et al., 2018; Pham & Barretta, 2024). Firm- level greenwashing is reputational and institutional in nature: it constructs an overarching image of corporate sustainability that does not reflect the organisation's aggregated impact (Torelli et al., 2020). This distinction matters in practice because product-level claims primarily affect product evaluation and purchase intent, whereas firm-level greenwashing threatens brand trust, stakeholder relationships, and organisational legitimacy more broadly.

From a typological perspective, greenwashing can be understood as a continuum of distortion mechanisms (Torelli et al., 2020). A first category involves linguistic distortion through vague or generic terms ("eco- friendly", "sustainable") without defined scope, criteria, or metrics (Schmuck et al., 2018). These claims can operate as positive heuristics in low-involvement contexts, which explains their persistence despite their weak informational value. A second category involves factual distortion, in which claims are objectively incorrect; when detected, these tend to generate sharper negative reactions and stronger trust erosion (Chen & Chang, 2013; Schmuck et al., 2018). A third mechanism is distortion by omission or selective disclosure, where communication highlights isolated positive attributes while suppressing material negative impacts (Delmas & Burbano, 2011; Torelli et al., 2020). Finally, visual-symbolic distortion uses nature imagery, colour schemes, and environmental iconography to trigger affective responses that can temporarily attenuate suspicion, particularly among less involved consumers (Schmuck et al., 2018).

The determinants of greenwashing arise from the interaction between organisational incentives and contextual conditions. Organisationally, the incentive is clear: firms can obtain reputational and commercial benefits associated with sustainability while avoiding the higher costs of substantive change (Torelli et al., 2020; Szabo & Webster, 2021). Contextually, greenwashing thrives where environmental attributes are technically complex, verification is costly, and regulatory enforcement is limited

(Delmas & Burbano, 2011). Consumer heterogeneity further shapes outcomes: consumers with stronger environmental attitudes and higher scrutiny interpret vague claims more negatively, while less involved consumers may remain tolerant or uncritical (Pham & Barretta, 2024).

Practically, greenwashing should be treated simultaneously as an ethical breach (violating transparency and truthfulness) and as a strategic risk. Once perceived, greenwashing is associated with increased scepticism, reduced trust, and negative word-of-mouth, undermining brand equity and the credibility of green marketing more broadly (Zhang et al., 2018; Szabo & Webster, 2021). This multi-dimensionality justifies the need for integrated theoretical models capable of explaining how consumers process green claims and why greenwashing can be both effective in the short run and destructive in the long run.

Affect–Reason–Involvement (ARI) Model Applied to Green Advertising

Understanding greenwashing requires models that connect organisational incentives to consumer processing mechanisms. In green advertising contexts, the Affect–Reason–Involvement (ARI) model is particularly useful because it explains how environmental claims are evaluated through the interaction of affective cues, rational appraisal, and personal relevance (Schmuck et al., 2018). Affective cues—such as nature imagery or "green" visual codes—can elicit positive emotions even when substantive environmental information is limited (Hartmann et al., 2005). Rational processing, by contrast, depends on the presence of factual indicators such as certifications, quantified impacts, and verifiable performance data. Involvement determines which route dominates: low involvement favours heuristic, affect-driven judgements, while high involvement increases systematic evaluation and claim scrutiny.

Applied to greenwashing, the ARI model clarifies a core paradox: greenwashing can be temporarily effective precisely because many consumers process green advertising under low involvement. In such cases, affective cues can generate favourable attitudes and reduce immediate suspicion even when claims are vague or structurally misleading (Schmuck et al., 2018). However, the same model also explains vulnerability: when involvement or environmental literacy is high, consumers rely more on rational processing, increasing detection likelihood and negative backlash.

At the organisational level, legitimacy theory explains why firms communicate environmental responsibility. Firms seek alignment with societal norms and expectations to secure legitimacy, particularly as sustainability becomes a salient social standard (Suchman, 1995). Under legitimacy pressure, firms may adopt symbolic strategies to appear aligned with stakeholder expectations, especially when substantive improvements are costly (Cho et al., 2015). This provides a compelling

explanation for greenwashing as "symbolic legitimacy management": communication becomes a tool to sustain acceptance without proportional operational change.

Signaling theory complements this by focusing on information asymmetry. Environmental claims function as signals intended to convey environmental quality or commitment (Spence, 1973). Signals are credible when they are costly to fake or externally verified; weak, unverifiable signals intensify information asymmetry and increase greenwashing likelihood (Connelly et al., 2011). Practically, this means that claims supported by third-party certification, independent auditing, or traceable metrics are structurally less vulnerable to greenwashing perceptions than generic claims without verifiable anchors.

Finally, the Attitude–Behavior–Context (ABC) framework helps explain why pro-environmental attitudes do not consistently translate into sustainable purchases (Guagnano et al., 1995). In greenwashing contexts, misleading communication becomes a contextual distortion that weakens the attitude–behaviour link by reducing trust and increasing perceived risk (Johnstone & Tan, 2015; Chen & Chang, 2013). This has an important practical implication: greenwashing does not merely harm the focal brand; it can undermine consumer confidence in green markets more broadly, reducing the effectiveness of consumer-driven sustainability transitions.

Consumer heterogeneity is central across these models. Environmental involvement (Zaichkowsky, 1985), environmental knowledge, and ecological concern increase resistance to greenwashing and amplify negative reactions when opportunism is perceived (Nguyen et al., 2023). In digital contexts, these dynamics may be amplified or altered. Emerging discussions on machinewashing suggest that automated content generation and algorithmic amplification may increase the sophistication and opacity of misleading environmental narratives, raising new governance challenges around transparency, accountability, and verification in digital persuasion environments (Bender et al., 2021).

Overall, these models converge on a practical conclusion: greenwashing persists because it exploits predictable cognitive shortcuts under low involvement and structural information asymmetry. Effective countermeasures therefore require both organisational governance (credible signals and verified metrics) and market-level mechanisms (standardisation, enforcement, and transparency infrastructures).

Impacts of Greenwashing on Consumers

The literature consistently shows that greenwashing produces negative consumer outcomes, but these effects are contingent: they vary by claim type, consumer characteristics, and communication format (Schmuck et al., 2018; Pham & Barretta, 2024). A nuanced interpretation is therefore necessary. Greenwashing can be strategically "effective" in the short term under low scrutiny, yet corrosive in the long term through trust erosion and reputational instability.

A primary impact is the rise of consumer scepticism and perceived deception. Chen and Chang (2013) demonstrate that perceived greenwashing increases consumer confusion and perceived risk, undermining the credibility of environmental claims. Importantly, scepticism can generalise beyond the focal brand, reducing trust in green marketing as a category and damaging market integrity. This generalisation effect is practically relevant because it implies that opportunistic communication by a subset of firms can impose negative externalities on genuinely sustainable firms.

Attitudinal outcomes also depend on how claims are processed. Evidence suggests that clearly false or demonstrably misleading claims produce negative evaluations of both the advertisement and the brand, especially among knowledgeable, high-involvement consumers (Schmuck et al., 2018). Yet the same research shows that affective "green" cues can temporarily soften perceptions of deception and preserve positive ad evaluations, particularly when involvement is low. This explains why vague or imagery-heavy claims can persist even when they are informationally weak: they operate through affective pathways that do not immediately trigger critical scrutiny.

Trust is one of the most consequential casualties. Chen and Chang (2013) show that perceived greenwashing reduces green trust, increasing perceived risk and reducing perceived value. Once trust declines, consumers become less willing to pay for green attributes and less likely to remain loyal to brands positioned around sustainability. Zhang et al. (2018) further indicate that emotional responses such as frustration or indignation can intensify negative evaluations and accelerate brand avoidance behaviours. For managers, the practical implication is that greenwashing is not merely a communications misstep; it jeopardises the very mechanisms—trust and perceived value—through which sustainable positioning creates long-term returns.

These effects translate into behavioural outcomes. Perceived greenwashing generally reduces green purchase intentions (Zhang et al., 2018), but again the strength of this effect depends on claim type and consumer involvement. False claims tend to trigger sharper drops in purchase intent once detected, whereas vague claims may produce more gradual deterioration, especially when consumers initially process messages heuristically (Schmuck et al., 2018; Pham & Barretta, 2024). This contingent pattern is strategically important: firms may be tempted to rely on vague claims precisely because they delay detection and immediate backlash—yet the long-term cost remains substantial once scepticism consolidates.

Greenwashing also shapes consumer-to-consumer dynamics, particularly word-of-mouth. When consumers perceive deception, they may engage in negative word-of-mouth to warn others, a process likely to intensify among highly involved consumers who treat sustainability as part of identity and moral responsibility (Zhang et al., 2018; Pham & Barretta, 2024). In digital environments, reputational damage can amplify rapidly, increasing the volatility of brand equity and raising the expected cost of opportunistic communication.

Finally, communication design can moderate these effects. Interactivity and layered information may reduce scepticism when they facilitate verification and signal transparency, but they can also increase detection when inconsistencies become easier to uncover (Szabo & Webster, 2021). Practically, this implies that digital transparency is a double-edged sword: it can strengthen credibility if claims are substantiated, and accelerate backlash if they are not.

In summary, greenwashing tends to increase scepticism, reduce trust and perceived value, deteriorate brand attitudes, and weaken purchase intentions; however, the magnitude and timing of these impacts depend on consumer involvement, claim type (vague vs false), and the communication environment. For management, the strategic conclusion is clear: greenwashing may deliver short-term affect-driven gains in low-scrutiny contexts, but it creates long-term legitimacy and equity risks that undermine sustainable competitive positioning.

A Case Study in Fast Fashion- H&M

The fashion industry is widely recognised as one of the most polluting industries globally, contributing significantly to greenhouse gas emissions, intensive use of water and energy, and the generation of large volumes of textile waste (Wicker, 2022). The fast fashion model, characterised by rapid trend turnover, affordable prices and the encouragement of frequent consumption, structurally intensifies these negative environmental impacts by accelerating product obsolescence and encouraging high-volume, low-price purchasing (Rauturier, 2022).

In response to increasing consumer awareness and societal pressure, many fashion brands have adopted sustainability-oriented communication strategies as a means of enhancing their corporate image, differentiating their offerings and mitigating reputational risks. However, a growing body of research suggests that a substantial proportion of sustainability claims in the fashion sector lack adequate substantiation, thereby constituting practices of greenwashing (Ho, 2021; Webb, 2021). This combination of high environmental salience, complex value chains and partly unverifiable claims makes fast fashion a particularly fertile context for examining greenwashing under conditions of information asymmetry.

Fonte: Fortune Business Insights (2026), Fast Fashion Market Size, Share & Industry Analysis.

Against this backdrop, H&M (Hennes & Mauritz) offers a salient and illustrative case. Founded in 1947, H&M is one of the world's largest fast fashion multinational corporations, with a strong global presence and a core target market comprising Millennials and Generation Z consumers. These demographic groups have been shown to display heightened sensitivity towards environmental and social issues and to express preferences for brands that signal sustainability commitments (Elizabeth, 2019; Nielsen, 2018). In an effort to align its brand image with the growing demand for sustainable consumption, H&M launched the Conscious Collection in 2010. This product line was presented as being developed with "greater consideration for the environment", with the company communicating that each item contains at least 50% of materials classified as "more sustainable", such as organic cotton and recycled fibres. This positioning has been reinforced through extensive green marketing campaigns, incorporating nature-related imagery, eco-labels and narratives associated with conscious consumption (Lay, 2024), and has been embedded in broader claims about circularity, recycling and climate goals.

On the surface, such initiatives appear to signal a meaningful shift towards more sustainable practices. H&M has publicised targets for increasing the use of recycled and "sustainably sourced" materials, introduced in-store garment collection schemes and emphasised long-term ambitions related to circular fashion and reduced climate impact. These elements function as environmental signals intended to reduce information asymmetry by providing stakeholders with cues about the firm's environmental quality and commitment. However, critical evaluations by consumer

authorities, journalists and independent organisations have repeatedly questioned the proportionality and transparency of these claims. In 2019, for example, the Norwegian Consumer Authority accused H&M of using vague and insufficiently substantiated environmental statements in the promotion of the Conscious Collection, highlighting a lack of clarity regarding the actual environmental benefits of the products and the criteria underpinning the "more sustainable" label.

Independent reports have further reinforced these criticisms, indicating that a significant proportion of items within the Conscious Collection contain synthetic fibres derived from fossil fuels, as well as recycled materials whose origin and overall environmental impact are not clearly communicated to consumers (Ho, 2021). Such practices align with well-established categories of greenwashing identified in the literature, including omission of relevant information, lack of verifiable evidence and the use of ambiguous environmental language that is difficult to interpret and verify (Braga et al., 2019; Marsh, 2022). From an information-economics perspective, the H&M case can be interpreted as a situation in which the firm deploys a mix of substantive and symbolic signals under conditions of limited stakeholder verification capacity. Initiatives such as garment collection programmes and partial shifts in material composition represent incremental improvements, but they coexist with a high-volume, low-price production model whose overall environmental footprint remains substantial. Under these conditions, heavily publicised "conscious" sub-brands and marketing campaigns may function as disproportionately salient signals that overshadow the structural impacts of the underlying business model.

The behavioural consequences of H&M's green communication have been examined empirically, providing further insight into how greenwashing operates through consumer information-processing dynamics. The study conducted by Lay (2024), which serves as a primary empirical basis for this case analysis, investigated the impact of H&M's green marketing campaigns on the purchase decisions of Indonesian consumers, with a specific focus on the Conscious Collection. The findings indicate that, despite ongoing accusations of greenwashing, the brand's environmental communication continues to exert a significant positive influence on consumer behaviour. According to the author, green advertising messages and eco-labels are particularly effective in shaping favourable perceptions and increasing purchase intention, even when the actual sustainability of the products is questionable (Lay, 2024). These results are consistent with prior research suggesting that greenwashing can generate short-term benefits by leveraging cognitive heuristics and symbolic associations linked to environmental responsibility (Bowen, 2014; Mangini et al., 2020).

From the perspective of the Affect–Reason–Involvement (ARI) model, the H&M case illustrates how affective cues and low involvement can make consumers more susceptible to vague or partially substantiated sustainability claims. Visual codes such as green colour palettes, natural imagery and labels signalling "conscious" or "more

sustainable" can elicit positive affective responses that, in low-involvement contexts, substitute for more systematic evaluation of underlying evidence. The Lay (2024) study further suggests that increasing levels of environmental literacy do not entirely eliminate the effects of such communication, but rather influence how consumers interpret and evaluate green messages. In emerging markets such as Indonesia, sustainability discourse continues to function as a relevant competitive differentiator even in contexts of uneven environmental awareness, indicating that green signals retain strategic value as long as verification remains costly or difficult.

At the same time, the case underscores the conditional and potentially unstable nature of these benefits. As environmental concern, media scrutiny and access to information increase, the probability that inconsistencies between discourse and practice are detected also rises. When stakeholders reinterpret previously accepted sustainability claims as misleading, perceived greenwashing can erode trust, intensify scepticism and trigger negative word-of-mouth, with adverse implications for brand equity and long-term legitimacy (Braga et al., 2019; Webb, 2021). In this sense, H&M's experience reflects the broader paradox identified in the theoretical framework of this paper: greenwashing can be strategically effective in the

short term under low involvement and structural information asymmetry, yet it creates latent reputational and regulatory liabilities that may crystallise once verification improves.

Overall, the H&M case reveals a key tension at the heart of fast fashion: while the brand promotes sustainability through initiatives such as the Conscious Collection and circularity programmes, its core operations—rapid production cycles, reliance on synthetic materials and high sales volumes—remain environmentally harmful. Green communication allows H&M to symbolically reconcile this tension at the narrative level by emphasising incremental improvements and long-term aspirations, while the structural characteristics of the business model remain largely intact. From a green marketing standpoint, this demonstrates that sustainability communication alone is insufficient; transparency about scope and limitations, together with alignment between claims and substantive operational change, is crucial for meaningful corporate environmental responsibility. From an information-asymmetry and signalling perspective, the case illustrates how firms can exploit complex, difficult-to-verify environmental attributes to maintain legitimacy, thereby shifting the burden of critical assessment onto consumers and other stakeholders. For managers and policymakers, the H&M example therefore functions as a cautionary illustration of both the opportunities and the risks inherent in sustainability signalling in high-impact sectors.

Implications for Commercial Management and Marketing Strategy

The phenomenon of greenwashing has significant implications for commercial management and the design of marketing strategies, particularly in a context where

consumers are increasingly sensitive to environmental and social issues. Although green marketing can be a powerful source of competitive differentiation, a disconnect between environmental communication and actual performance tends to generate negative perceptions, undermining consumer trust, organisational reputation and purchase intent (Delmas & Burbano, 2011; Lyon & Montgomery, 2015). Strategically, this implies that sustainable marketing must be managed as an integrated governance challenge rather than as a purely promotional exercise: if discourse outpaces practice, brand value and long-term competitiveness are inevitably compromised.

The literature shows that greenwashing poses a significant reputational risk to organisations, with direct effects on their competitive position. When consumers perceive that a company exaggerates, distorts or misrepresents its environmental performance, they develop negative attitudes towards the brand, reduce their willingness to purchase and become more receptive to competing offers (Nyilasy et al., 2014). Walker and Wan (2012) demonstrate that symbolic environmental actions, when not accompanied by real improvements in performance, can generate more severe reputational penalties than the absence of environmental communication. From a commercial management perspective, reputational damage compromises not only short-term sales results but also the building of enduring customer relationships and channel partnerships. Empirical evidence further indicates that perceived greenwashing significantly reduces purchase intentions, particularly among consumers with higher environmental concern, and amplifies negative word-of-mouth in digital environments, thereby reducing firms' competitive capacity (Zhang et al., 2018). In practice, this means that opportunistic communication does not merely "fail to help" the brand; it actively destroys marketing assets that are costly and time-consuming to rebuild.

The conceptualisation of greenwashing as a signaling failure under information asymmetry reinforces these concerns and adds a strategic layer. When firms rely on low-cost, weakly verifiable signals—such as generic eco-imagery, vague sustainability slogans or selective disclosure—they may enjoy short-term attitudinal gains, but they simultaneously increase their exposure to scepticism, regulatory scrutiny and reputational shocks. From a signaling perspective, such claims function as "cheap talk" that does little to differentiate genuine performers from opportunistic imitators. For marketing managers, this implies that the design of environmental claims must start from the firm's actual sustainability performance and be constrained by what can be credibly evidenced, audited and consistently delivered over time. In other words, communication should follow substance, not precede it.

Against this background, building **credible** environmental signals emerges as a potential source of sustainable competitive advantage. Firms that invest in robust data systems, third-party certifications, traceability mechanisms and transparent reporting create signals that are more costly to imitate and therefore more informative for the market. Sustainable competitive advantage rests on resources and

capabilities that are valuable, rare and difficult to copy; in the sustainability domain, these include environmental innovation, integrated ESG governance and the internal routines required to generate reliable performance indicators (Leonidou et al., 2013). Green marketing that is not anchored in such capabilities tends to be perceived as opportunistic and ultimately nullifies the strategic benefits of environmental positioning (Zhang et al., 2018). In contrast, organisations that consistently align communication with effective environmental performance are able to strengthen consumer confidence, stimulate positive green word-of-mouth and consolidate a more robust competitive position in the long term. For managers, the practical implication is that sustainability should be treated as a structuring element of corporate strategy rather than as a peripheral promotional theme.

The credibility and transparency of environmental communication play a central role in mitigating the negative effects associated with greenwashing. Research shows that vague, ambiguous or difficult-to-verify environmental messages increase scepticism and reduce brand trust (Chen & Chang, 2013). Consumers are particularly attentive to inconsistencies between environmental discourse and observable behaviour, and they increasingly use such inconsistencies as a heuristic to infer opportunism (Zhang et al., 2018). Good communication practice therefore requires clear, specific language based on verifiable facts, as well as a balanced presentation of progress and limitations in environmental performance. The adoption of independent certifications, credible environmental labels and the disclosure of measurable sustainability indicators help to reinforce the legitimacy of messages and reduce perceptions of deception. For commercial management, these practices not only protect brand reputation but also foster positive green word-of-mouth, identified as a relevant mediator of purchase intentions and loyalty (Zhang et al., 2018).

Transparency is also a key mechanism for reducing information asymmetry in green markets. Lyon and Montgomery (2015) identify the selective disclosure of positive environmental information, accompanied by the omission of negative impacts, as one of the most common forms of greenwashing. In such cases, stakeholders receive a systematically distorted picture of corporate performance, which undermines their ability to make informed decisions. The provision of auditable data, consistent sustainability reports and comparable metrics allows organisations to demonstrate their environmental commitment in an objective and verifiable manner. This approach helps to reduce informational distortions, strengthen stakeholder confidence and sustain the effectiveness of sustainable marketing strategies over time. From a strategic point of view, transparency should therefore be viewed as an essential reputational investment and as part of the firm's risk management architecture, particularly in sectors where scrutiny and regulatory pressure are increasing.

Finally, greenwashing raises important ethical questions for managers and marketing professionals. Misleading environmental communication practices violate

fundamental principles of social responsibility, integrity and organisational honesty, and they also generate negative externalities at the societal level by distorting the functioning of green markets and compromising the credibility of genuine sustainability initiatives (Laufer, 2003; Delmas & Burbano, 2011; Zhang et al., 2018). In this context, marketing professionals occupy a critical boundary-spanning role: they can either reinforce opportunistic signalling or act as internal gatekeepers who ensure that communication strategies accurately reflect environmental performance. Incorporating explicit ethical criteria into strategic decision-making, approval processes and performance evaluation contributes to the creation of sustainable value, the strengthening of consumer confidence and the long-term viability of companies. For teaching and practice alike, the central lesson is that in green markets, the most effective commercial strategy is one in which credibility, transparency and substantive environmental improvement are treated as mutually reinforcing, rather than competing, objectives.

Discussion

The present discussion critically synthesises the main contributions of the analysed literature and articulates existing empirical findings on greenwashing, with a particular focus on its implications for the sustainability of green marketing. The goal is to integrate theoretical and empirical perspectives, highlight relevant convergences and divergences, and reinforce the idea that greenwashing is not merely an ethical irregularity, but a structural phenomenon that undermines the credibility and effectiveness of sustainability-oriented marketing strategies. In doing so, the discussion positions greenwashing as a signaling failure under conditions of information asymmetry, with far-reaching consequences for consumer behaviour, market functioning and corporate legitimacy.

The literature on greenwashing has become an established field of research in marketing, management and sustainability. One of its core contributions is the conceptualisation of greenwashing as a misleading environmental communication practice characterised by a discrepancy between organisations' ecological discourse and their actual environmental performance (Delmas & Burbano, 2011; Lyon & Montgomery, 2015). This perspective moves the debate beyond purely moral labelling by emphasising the informational mechanism at stake: stakeholders form overly positive beliefs because claims are presented in ways that are difficult to verify, selectively framed or strategically incomplete. Empirical studies show that this is not only an ethical concern but also a phenomenon with significant behavioural and strategic impacts. For example, Zhang et al. (2018) demonstrate that perceived greenwashing negatively affects purchase intentions both directly and indirectly, by reducing positive green word-of-mouth, thereby clarifying some of the pathways through which deceptive environmental claims erode demand for supposedly sustainable products.

From a theoretical standpoint, the integration of information economics and consumer behaviour models helps to explain why greenwashing persists despite these negative outcomes. Conceptualising environmental claims as market signals under asymmetric information clarifies that, as long as verification remains costly and signals are cheap to imitate, firms face strong incentives to use symbolic environmental communication to secure legitimacy and differentiation. At the same time, models such as the Affect– Reason–Involvement framework and the Attitude–Behaviour–Context approach indicate that the impact of such signals is contingent on involvement, knowledge and contextual constraints. Under low involvement, vague claims and green imagery can operate as heuristics that temporarily generate favourable attitudes, whereas under higher involvement and environmental concern, the same tactics trigger scepticism and backlash. This duality helps explain the apparent paradox noted in the empirical literature: greenwashing may generate short-term gains in low-scrutiny contexts, yet systematically damages trust and brand equity once consumers and stakeholders scrutinise the evidence more closely.

With regard to empirical convergence, most studies consistently point to the negative effects of greenwashing on consumer confidence, brand reputation and purchase intentions (Walker & Wan, 2012; Leonidou et al., 2013; Zhang et al., 2018). There is broad agreement that trust, credibility and transparency are central pillars of effective green marketing, and that the absence of these elements reinforces consumer scepticism and weakens the capacity of marketing to support sustainable consumption (Chen & Chang, 2013; Nyilasy et al., 2014). Another area of convergence concerns the amplifying role of word-of-mouth. Zhang et al. (2018) show that greenwashing enhances the spread of negative green word-of-mouth, magnifying adverse effects on purchase behaviour, a result consistent with prior work on interpersonal communication and consumer response to perceived deception. Taken together, these findings support the view that greenwashing does not simply “fail” to generate value: it actively destroys key relational assets that sustainable marketing seeks to build.

Nevertheless, the literature also reveals important divergences and contingencies that call for a more nuanced interpretation. Several studies suggest that the effects of greenwashing vary according to consumers’ level of environmental involvement, the sector of activity and the cultural or institutional context (Nyilasy et al., 2014; Leonidou & Skarmeas, 2017). Zhang et al. (2018) show that green concern moderates the impact of greenwashing, intensifying negative effects among more environmentally conscious consumers, while less concerned segments may remain relatively indifferent in the short term. These differences indicate that greenwashing does not produce uniform outcomes across markets or segments and that firms cannot assume a single “average” reaction. From a theoretical perspective, this reinforces the need for integrative frameworks that link antecedent conditions (e.g., regulatory pressure, information asymmetry), firm-level signalling strategies and heterogeneous consumer responses into a coherent explanatory structure.

At the market level, the analysis supports the conclusion that greenwashing poses a systemic threat to the sustainability of green marketing. By compromising the credibility of environmental messages, deceptive practices affect not only the firms that deploy them, but also the functioning of green markets as a whole. Lyon and Montgomery (2015) and Zhang et al. (2018) warn of a "contagion effect", whereby repeated exposure to misleading sustainability claims leads consumers to question the authenticity of environmental information in general, even when it is accurate. This erosion of category-level trust can reduce the effectiveness of green marketing as a driver of sustainable consumption and penalise companies that invest in genuine environmental improvements. In informational terms, the signaling system ceases to reward costly, substantive sustainability efforts and instead creates incentives for low-cost imitation, thereby distorting competition and undermining the allocative efficiency of green markets.

Finally, the discussion highlights that greenwashing requires not only managerial but also ethical and regulatory responses. Misleading environmental communication practices violate fundamental principles of social responsibility and organisational integrity, while also generating negative externalities at the societal level by distorting collective efforts towards sustainability (Laufer, 2003; Delmas & Burbano, 2011). From a managerial standpoint, this implies that marketing professionals and commercial managers should act as internal gatekeepers, ensuring that sustainability claims are grounded in verifiable performance and subject to cross-functional scrutiny. From a policy perspective, it suggests the importance of clearer standards for environmental claims, stronger enforcement against deceptive practices and institutional mechanisms that reduce information asymmetry through transparency and comparability of data. Ultimately, the sustainability of green marketing depends on the alignment between communication and action, on the robustness of the informational environment in which consumers make decisions and on the willingness of organisations to treat credibility not as a constraint, but as a strategic resource in increasingly demanding green markets.

Conclusion

The growing salience of environmental concerns among consumers, investors and regulators has made sustainability a central resource for both competitiveness and organisational legitimacy. At the same time, this prominence has expanded the incentives for opportunistic communication, encouraging firms to use sustainability discourse in ways that are not always matched by substantive performance. This paper has argued that greenwashing should not be interpreted solely as isolated ethical misconduct, but as a multidimensional outcome produced by the interaction between organisational incentives, structural information asymmetries and consumer information-processing dynamics. In markets where environmental attributes are complex and verification is costly, firms may rationally prioritise

symbolic environmental signalling, particularly when institutional pressure rewards disclosure visibility more than performance substance.

By integrating green marketing and sustainability scholarship with organisational and consumer-focused theories, the paper clarifies why greenwashing can be simultaneously effective in the short term and destructive in the long term. Cognitive-affective models such as the Affect–Reason–Involvement (ARI) framework help explain how affective cues and low consumer involvement may temporarily attenuate suspicion and preserve positive ad and brand evaluations, especially when claims are vague rather than demonstrably false. In parallel, legitimacy and signalling perspectives clarify why firms adopt environmental claims as strategic instruments under reputational and institutional pressure, and why weak verification structures enable low-cost imitation and "cheap talk". The Attitude–Behaviour–Context (ABC) framework further highlights that greenwashing operates as a contextual distortion that weakens the translation of pro-environmental attitudes into sustainable purchasing behaviour, thereby undermining not only individual brand trust but also the broader effectiveness of consumer-driven sustainability transitions.

From a practical standpoint, the analysis indicates that greenwashing constitutes a material strategic and commercial risk rather than a low-cost marketing tactic. Once detected, misleading environmental communication tends to erode green trust, increase perceived risk and trigger negative word-of-mouth, with adverse consequences for brand equity, customer relationships and long-term competitive advantage. Managers seeking durable sustainability positioning should therefore treat environmental communication as an accountability practice rather than a decorative promotional layer, anchoring claims in measurable metrics, independent verification and transparent contextualisation of scope, trade-offs and limitations. In this sense, credible signalling and reduced information asymmetry become central elements of commercial management and marketing strategy, particularly in international markets where reputational shocks can diffuse quickly across borders.

For policymakers and regulators, the discussion reinforces that greenwashing is fundamentally a verification and governance problem. Regulatory frameworks that standardise disclosure, increase the probability of monitoring and impose meaningful penalties for misleading claims are essential to restoring credibility and reducing informational distortions in green markets. In digital contexts, the emerging phenomenon sometimes described as machine-assisted greenwashing suggests that governance will also need to address algorithmic opacity and automated persuasion infrastructures, extending beyond traditional advertising regulation to include platform accountability and data-driven targeting practices. Strengthening this institutional environment is a necessary condition for ensuring that market signals convey genuinely informative sustainability content.

This study is subject to limitations that are typical of conceptual research. The framework integrates established theories to clarify mechanisms, but it does not

empirically test causal relations or quantify effect sizes. As such, the arguments developed here should be viewed as theoretically grounded propositions that invite empirical examination rather than definitive empirical conclusions. Future research could operationalise the framework through quantitative and qualitative designs that examine, for example, how different greenwashing typologies generate distinct trust and behavioural outcomes; how consumer involvement, knowledge and attitude strength moderate detection and backlash; and how digital formats, interactivity and automated content generation influence verification, scepticism and reputational

diffusion. Comparative studies across sectors and institutional environments would also be valuable for clarifying boundary conditions and context-specific dynamics.

Overall, the analysis supports a central conclusion: greenwashing persists because it exploits predictable gaps between societal expectations, organisational incentives and stakeholder verification capacity. As long as these gaps remain, firms will face structural temptations to substitute symbolic for substantive environmental performance. Strengthening the credibility infrastructure of green markets—through substantive organisational alignment, verifiable signalling mechanisms and robust governance—remains essential to ensuring that green marketing contributes to genuine sustainability transitions rather than merely symbolic compliance. For both scholars and practitioners, this implies that the future of green marketing will be decided less by the sophistication of persuasive messages and more by the depth, transparency and auditability of the sustainability practices those messages are meant to represent.

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