Unveiling Greenwashing in Marketing: A Structured Review of Consumer Impacts and Methodological Gaps

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Abstract. Greenwashing has become a major challenge in contemporary marketing as firms increasingly use sustainability communication to build legitimacy and differentiate their offerings. This article provides a structured review of greenwashing research in marketing and consumer behavior to clarify how the phenomenon is conceptualized, how consumers process it, what outcomes it generates, and where the literature remains methodologically limited. Based on a Scopus search, the initial dataset of 258 records was reduced to 248 after applying the publication-year filter (2015–2026) and further narrowed to 167 English-language journal articles. Following relevance screening and full-text eligibility assessment, 24 studies were included in the final review and synthesized thematically. The review shows that greenwashing is best understood not simply as false environmental claims, but as a broader communication problem operating through claims, labels, packaging cues, digital narratives, and symbolic sustainability signals. Its effects unfold through layered consumer mechanisms, including perceived greenwashing, confusion, trust erosion, skepticism, authenticity judgments, and perceived risk. These mechanisms shape outcomes such as reduced purchase intention, lower willingness to pay, weakened brand image and loyalty, negative word of mouth, boycott intentions, and public backlash. The findings also indicate that these effects are conditional, influenced by consumer knowledge, message specificity, brand authenticity, third-party verification, and the wider digital communication environment. Methodologically, the field remains dominated by cross-sectional survey studies, leaving longitudinal, multimethod, and endogeneity-aware designs underdeveloped. Overall, greenwashing emerges as a central issue for sustainability communication, consumer trust, and market legitimacy.

Keywords: Greenwashing; Green Marketing; Consumer Behavior; Sustainability Communication; Brand Trust; Structured Literature Review

1 Introduction

Greenwashing has become a central concern in contemporary marketing as firms increasingly compete through environmental positioning, sustainability branding, and

© The Author(s) 2026
R. Hurriyati et al. (eds.), *Proceedings of the 10th Global Conference on Business, Management, and Entrepreneurship (GCBME 2025)*, Advances in Economics, Business and Management Research 407,
https://doi.org/10.2991/978-94-6239-819-1_46

green communication. As Akturan [1] and Szabo and Webster [2] suggest, what was once treated as a narrow problem of misleading environmental claims is now better understood as a broader communication challenge in which words, images, labels, packaging cues, influencer messages, and digital narratives may signal a level of environmental responsibility that consumers ultimately perceive as unsupported or exaggerated. In this sense, greenwashing is not only an ethical issue; it is also a marketing problem because it shapes how consumers interpret sustainability messages, form trust judgments, and decide whether a brand deserves support.

The growing strategic importance of green marketing has made this issue more visible. Rahman and Nguyen-Viet [4] show that brands increasingly rely on environmental language to strengthen legitimacy, differentiate offerings, and appeal to sustainability-aware consumers. However, the expansion of green communication has also widened the gap between symbolic environmental messaging and operational reality. When that gap becomes visible, consumers may not simply reject a single claim; they may begin to question the authenticity of the brand, the credibility of the message, and even the trustworthiness of green claims more broadly. This helps explain why greenwashing can affect not only individual advertising executions but also brand image, loyalty, public backlash, and category-level distrust, as also reflected in Mohammed et al. [3].

Recent literature shows that greenwashing research in marketing has expanded rapidly in both breadth and depth. Earlier studies tended to focus on purchase intention, brand trust, and skepticism. More recent work has broadened the conversation toward compensation claims, eco-labels, packaging design, third-party certification, influencer-led sustainability communication, social media discourse, and related forms of deceptive sustainability signaling [5], [6], [7], [8]. The field has also become more context-sensitive, with strong streams in fashion, hospitality, tourism, food and packaging, beauty, and digital platform environments [9], [10], [11]. These developments indicate that greenwashing should no longer be treated as a marginal anomaly in green advertising; it is increasingly studied as a recurring and structurally significant problem in sustainability communication.

Despite this expansion, the literature remains fragmented. Some studies conceptualize greenwashing as a communication strategy, others as a consumer perception, and others as a legitimacy or hypocrisy problem. Consumer reactions are also examined through a wide range of constructs, including confusion, skepticism, trust, authenticity, perceived risk, brand embarrassment, avoidance, boycott, and negative word of mouth [12], [13], [14]. In addition, much of the empirical evidence still relies on cross-sectional survey designs analyzed through SEM or PLS-SEM. Although these approaches are useful for modeling indirect effects, they often provide weaker support for causal claims than the sophistication of the theoretical models might suggest [15], [4].

This article addresses these issues through a structured review of greenwashing research in marketing and consumer behavior. The aim is to consolidate the literature into a more integrated account of how greenwashing operates as a communication problem, how it is processed by consumers, what outcomes it produces, under what conditions its effects intensify or weaken, and where the literature still shows methodological limitations.

2 Methods

This study adopts a structured literature review design based on Scopus-indexed journal articles. Scopus was selected because of its broad multidisciplinary coverage and strong representation of marketing, business, sustainability, and communication research. It was used as the sole database to preserve search precision, corpus consistency, and replicability within the page limits and scope of this proceeding paper. The search was conducted in the Title, Abstract, and Keywords fields using the following search string: TITLE-ABS-KEY ((greenwash* AND (marketing OR advertis* OR promotion* OR branding OR communication OR "green advertising" OR "brand communication") AND ("consumer behavior" OR "consumer behaviour" OR "consumer perception" OR "consumer response*" OR "purchase intention" OR "buying intention" OR "brand trust" OR skepticism OR "green trust"))).

The initial search returned 258 records. After applying the publication-year filter (2015–2026), the results were reduced to 248. Restricting the dataset further to English-language journal articles yielded 167 records, which were screened for relevance. Following title and abstract screening, 52 articles were retained for full-text assessment. After excluding 28 articles due to limited conceptual fit, non-marketing or non-consumer-behavior context, insufficient contribution to the final thematic synthesis, or mismatch with the review scope, 24 studies were included in the final review. The analysis proceeded in three stages. First, the included studies were examined to identify dominant sectors, theoretical anchors, key constructs, and methodological patterns. Second, the studies were grouped into broader analytical themes, namely greenwashing as a marketing communication problem, consumer processing mechanisms, behavioral and relational outcomes, boundary conditions and restorative signals, contextual streams, and methodological gaps. Third, the findings were synthesized into a compact article structure suited to a proceeding format.

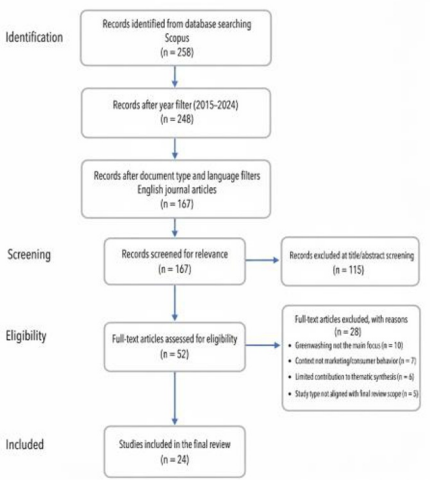

Fig 1. PRISMA Flow Diagram of Article Selection

Source : Author's Work

3 Results and Discussion

The reviewed literature shows that greenwashing in marketing is best understood as a multi-layered communication problem rather than a simple case of false environmental claims. Musgrove et al. [17] indicate that one of its most visible forms is claim-based greenwashing, where firms use vague, abstract, or weakly substantiated language such as eco-friendly or sustainable without clarifying scope, evidence, boundaries, or measurable performance. However, the corpus also shows that greenwashing often works through executional cues such as green packaging, natural imagery, eco-symbols, and visual design features that imply environmental responsibility even when the underlying product or practice does not justify such inferences. Leng [16] and Szabo and Webster [2] therefore suggest that consumers are influenced not only by propositional content but also by symbolic cues that shape impression formation through heuristic processing.

Labels, certifications, and transparency cues occupy an ambivalent role in this process. Gosselt et al. [18] show that external certification and third-party verification can strengthen credibility and reduce skepticism, but only when consumers understand them and trust the certifying institution. Marschlich and Hurtado [6] reinforce this point by showing that certification can improve perceived authenticity and credibility, while Ollitervo et al. [11] demonstrate that packaging-related cues may also shape environmental judgments in powerful ways. The digital context complicates the picture further. As Balaskas and Yfantidou [10], Li et al. [5], and Salimi et al. [8] show, social media, influencer communication, and online communities have transformed greenwashing from a one-way messaging issue into a networked public communication process in which consumers actively reinterpret, critique, and circulate accusations of hypocrisy or deception.

Once exposed to such communication, consumers do not respond in a single step. The reviewed studies consistently suggest that greenwashing works through layered processing mechanisms. At the cognitive level, consumers form judgments such as perceived greenwashing, confusion, expectation disconfirmation, and hypocrisy perception. These judgments matter because the effects of greenwashing often depend less on the objective factual status of a claim than on whether consumers interpret the communication as exaggerated, inconsistent, or strategically misleading. Confusion is especially important in green markets because consumers are often faced with multiple labels, symbolic cues, and environmental terms that are difficult to verify [12], [19].

At the relational level, the most central mechanism is trust. Green trust and brand trust repeatedly emerge as the principal channels through which greenwashing affects downstream outcomes. When consumers perceive a gap between message and reality, they often revise their trust in the brand's environmental commitment, authenticity, and credibility. The review also shows that authenticity and credibility are closely intertwined with trust. Brands that are seen as using sustainability communication opportunistically are judged not simply as inaccurate, but as insincere, and such judgments weaken brand image and destabilize the symbolic coherence of a brand's environmental identity [20], [15], [4].

At the affective and evaluative level, greenwashing frequently produces skepticism, perceived risk, embarrassment, and stronger moralized responses. In some cases, these responses remain at the level of guarded evaluation. In others, they intensify into stronger oppositional reactions such as brand hate or public backlash. The literature therefore suggests that greenwashing can be processed not only as a communication flaw, but as a violation of perceived moral alignment between brand promise and brand conduct [13], [3], [21].

These layered processing mechanisms lead to a broad range of outcomes. The most common is reduced purchase intention. Across sectors such as fashion, electronics, hospitality, tourism, food, and packaging, perceived greenwashing is generally associated with a lower willingness to buy, weaker willingness to pay a premium, and a reduced probability that positive environmental attitudes will translate into actual green purchase behavior [1], [9], [22]. Yet the review also shows that these effects are often indirect. Greenwashing frequently reduces purchase-related outcomes through trust erosion, skepticism, perceived risk, or green word of mouth rather than through a simple direct path [15], [14].

The consequences are also relational. Greenwashing erodes brand image, brand equity, credibility, and loyalty. This matters because the damage is not limited to the immediate campaign or product. When sustainability is central to brand identity, perceived greenwashing can weaken the symbolic value accumulated around the brand over time. In this sense, greenwashing is not merely a short-term reputational inconvenience; it can damage longer-term relational capital [1], [15].

Beyond individual purchase and brand outcomes, the review shows that greenwashing increasingly produces social reaction outcomes. Negative word of mouth, boycott intentions, brand avoidance, and digital backlash appear with growing frequency in recent studies. This is especially visible in fast fashion, social media discourse, and highly scrutinized categories such as airlines and hospitality. In digital settings, accusations of greenwashing can circulate rapidly and become part of broader discussions of hypocrisy, accountability, and ethical failure [3], [7], [21], [8].

Another important finding is that the effects of greenwashing are not uniform. On the consumer side, environmental knowledge, concern, involvement, and prior exposure shape the intensity of skeptical processing. Fella and Bausa [19] and Sinha and Annamdevula [14] suggest that knowledgeable consumers are generally better able to identify weak claims, although even informed consumers may still be influenced by symbolic or visual cues under low-involvement conditions. On the brand and message side, transparency, authenticity, specificity, and prior reputation also matter. Gosselt et al. [18] and Marschlich and Hurtado [6] indicate that more concrete and bounded claims are usually more defensible than broad symbolic language, but message clarity alone is not sufficient because consumers still judge whether the message is proportionate to what the brand can credibly claim.

The review also highlights growing contextual differentiation in the field. Fashion and beauty research emphasizes symbolism, identity, and skepticism toward image-intensive sustainability communication. Hospitality, tourism, and airline studies highlight trust and experiential credibility in service settings where environmental performance is harder to verify directly [9]. Food, packaging, and organic product studies

foreground cue-based processing and the interpretive role of labels, materials, and eco-symbols [11]. Meanwhile, social media and influencer research shows that greenwashing has become increasingly public, networked, and difficult for firms to control once accusations circulate [5], [8], [10].

From a methodological perspective, the field is analytically rich but inferentially uneven. Cross-sectional survey designs analyzed through SEM and PLS-SEM dominate the literature. These studies have been useful for modeling complex mediation and moderation pathways, but they often rely on contemporaneous self-report data and therefore face problems of temporal ambiguity, omitted variables, and potential endogeneity. Experimental studies improve internal validity by isolating message effects, and intervention-based work shows promise in examining literacy and prebunking strategies. Digital trace and discourse-based studies further strengthen the field by capturing naturally occurring communication and public contestation [23], [8], [24]. Even so, longitudinal, comparative, multimethod, and more explicitly endogeneity-aware designs remain underdeveloped.

Taken together, these findings suggest that greenwashing is best understood as a structurally important sustainability communication problem with cognitive, relational, behavioral, social, and methodological dimensions. It does not merely distort individual purchase decisions; it can weaken market trust in sustainability communication itself. This is why the consequences of greenwashing can extend beyond the focal brand to the broader category of green claims and, ultimately, to the credibility of green marketing as a strategic practice.

4 Conclusion

This review shows that greenwashing in marketing has evolved into a broader and more complex phenomenon than earlier literature often assumed. Rather than being limited to false environmental claims, it now appears as a multi-level communication problem operating through language, imagery, labels, digital narratives, and strategic sustainability signaling. Across the literature, the central issue is the perceived gap between what brands communicate and what consumers believe can be credibly supported.

The review further demonstrates that the effects of greenwashing unfold through layered processing mechanisms. Consumers first interpret environmental communication cognitively through judgments such as confusion, disconfirmation, and perceived greenwashing. These judgments then affect relational mechanisms such as trust, authenticity, credibility, and brand image, and may eventually become affectively and morally charged through skepticism, perceived risk, and stronger forms of rejection. As a result, greenwashing shapes not only purchase-related outcomes but also brand equity, loyalty, word of mouth, boycott, avoidance, and public backlash.

Another key conclusion is that these effects are conditional. Consumer knowledge, concern, involvement, authenticity cues, message specificity, third-party certification, and the broader digital communication environment all influence how greenwashing is processed and whether its effects intensify or weaken. At the same time, the review

indicates that restorative signals such as verifiability, credible external support, and sincere post-crisis response can work only when consumers perceive them as substantively aligned with actual conduct.

Methodologically, the field has grown rapidly but still relies heavily on cross-sectional survey models. Stronger longitudinal, multimethod, comparative, and endogeneity-aware research is needed if future scholarship is to move from sophisticated association models toward more robust explanation. Overall, the review concludes that greenwashing is not a peripheral flaw in green marketing, but a structurally significant challenge for sustainability communication, consumer trust, and market legitimacy.

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