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Synthesizing Research on the Impact of Greenwashing on Consumers, Organizations, and Sustainability

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Abstract

Amid growing demand for corporate accountability, greenwashing has emerged as a critical research issue. While many studies have addressed this topic, an integrated understanding of its impacts on consumers, organizations, and employees, as well as the underlying psychological mechanisms, remains underdeveloped. This article addresses this gap by synthesizing findings from 13 quantitative studies published between 2013 and 2024, creating a holistic model of the causes, patterns, and multifaceted consequences of greenwashing. The study employs a descriptive research synthesis method, adhering to PRISMA principles for transparency. Studies were selected from key academic databases, including ScienceDirect, SAGE, EMERALD, ProQuest, and Google Scholar, based on predefined eligibility criteria, and were appraised using CASP frameworks for methodological soundness. The synthesis reveals that perceived greenwashing erodes consumer trust and brand loyalty, increases confusion and perceived risk, and damages purchase intentions. For organizations, these effects diminish green brand equity and tarnish corporate reputation. Internally, greenwashing negatively affects employee morale, trust, and job performance, fostering a culture of cynicism. These impacts are mediated by psychological variables like consumer trust, satisfaction, and attitude, and moderated by factors such as environmental concern and prior brand perceptions. Future research should explore diverse cultural and developing country contexts and investigate long-term behavioral impacts on stakeholders. The study concludes that organizations must move beyond performative environmentalism and adopt transparent communication and verifiable sustainable practices to rebuild stakeholder trust and achieve long-term market resilience.

Keywords: Greenwashing, Sustainability, Green brand equity, Consumer trust, Corporate reputation

Introduction

In an era of escalating environmental challenges, many businesses have turned to "green marketing" to meet consumer demands and gain competitive advantages. However, intense competition and profit pressures have led to greenwashing, a strategy that creates an exaggerated or false positive environmental image. Organizations provide ambiguous, distorted, or overstated information to influence the market, while their actual operations may contradict their claims. Greenwashing undermines consumer confidence, diminishes the value of green products, and harms efforts to solve environmental problems sustainably. For instance, Volkswagen's "Dieselgate" emissions scandal in Germany is a prominent case of greenwashing that resulted in approximately US$34.7 billion in fines and enduring reputational damage. (Robinson, 2024). Similarly, the coffee pod company Keurig in Canada was fined C$3 million for misleading claims that its single-use pods were widely recyclable, illustrating how discovered deception can lead to legal penalties and public backlash. (Robinson, 2024). These cases demonstrate that when consumers eventually learn environmental claims were false, companies suffer significant long-term consequences in credibility and financial losses.

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Although existing research has illuminated various aspects of greenwashing's impact, such as effects on consumer trust or brand image in isolation, significant gaps remain. There is a need for a more integrated understanding of how greenwashing simultaneously affects diverse stakeholder groups, including consumers, organizations, and employees, and how these impacts are shaped by underlying psychological mechanisms and contextual factors. Furthermore, as noted in prior research, empirical evidence remains relatively limitedfor specific industries and within developing economies, such as Thailand, which limits the generalizability of current knowledge. Therefore, the goal of this article is to address these limitations by synthesizing international quantitative research published between 2013 and 2024. This synthesis not only aims to provide a comprehensive overview of the established causes, patterns, and effects of greenwashing but also seeks to elucidate the complex interplay of mediating and moderating variables that influence these outcomes across both consumer and organizational domains. Consolidating these fragmented findings will offer a unique holistic perspective on greenwashing's pervasive impacts, thereby providing a more robust empirical basis for theoretical advancement and the development of practical strategies to promote genuine sustainability.

Literature Review

Greenwashing is generally defined as communicating the environmental value of products or organizations in a misleading or exaggerated manner to create a positive image. Lyon and Montgomery (2015) describe greenwashing as the act of conveying a false impression or providing deceptive information about a company's environmental practices. It is essentially marketing that misleads about the environmental benefits of products or services (Delmas & Burbano, 2011). As consumers increasingly care about the environment, pressure on businesses to demonstrate social and environmental responsibility has grown (Santos et al., 2024). Conversely, intense business competition and short-term profit goals are significant motivations leading to greenwashing (Braga Junior et al., 2019).

Greenwashing takes many forms, such as using ambiguous wording or undefined eco-friendly terms like "all-natural" or "green." making environmental claims lacking credible supporting evidence, or even using fake eco-labels to mislead consumers. Common tactics include vague claims, unsubstantiated assertions, misleading green visuals/packaging, selective disclosure of positives while masking negatives, and false comparisons to competitors. The main drivers of greenwashing are the desire to increase sales, improve corporate image, and capitalize on the eco-friendly trend. This has led to greenwashing in various industries such as food, beverages, cosmetics, hotels, and energy (Dahl, 2010). Ultimately, these deceptive strategies often yield short-term marketing gains at the cost of long-term trust.

While companies may perceive short-term benefits from greenwashing, such as boosted sales or a temporarily enhanced public image, the long-term impacts are overwhelmingly negative once deceptive claims come to light. Previous research has found that greenwashing perceptions negatively affect various consumer behaviors, including brand attitudes, trust, purchase intentions, and word-of-mouth recommendations. For example, when customers discover that green claims were false, companies often face significant backlash. In one notable case, fashion retailers H&M (Sweden) and Decathlon (France) were sanctioned for unsubstantiated sustainability claims on their product labels, leading them to make donations of approximately $430,000–$530,000 to sustainable causes in 2022 as recompense (Robinson, 2024). Such cases underscore how revelations of greenwashing erode consumer trust and can result in legal or financial penalties for organizations. On the other hand, true positive outcomes of greenwashing are illusory and short-lived; any initial gain in reputation or sales is typically reversed by the subsequent loss of credibility (Robinson, 2024). Thus, the literature overwhelmingly documents negative impacts of greenwashing on stakeholders once the deception is revealed, confirming that the practice is counterproductive in the long run.

In the context of sustainability literature, greenwashing is seen as a serious obstacle to genuine sustainable development. The widely

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cited Brundtland Commission defines sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." (World Commission on Environment and Development [WCED], (1987). Achieving sustainability requires transparent and truthful corporate practices. Greenwashing runs directly counter to this principle by creating a false impression of sustainability rather than substantive action. The rise of greenwashing poses challenges to corporate accountability and consumer trust, necessitating greater scrutiny and transparency in environmental claims. Essentially, greenwashing dilutes the credibility of legitimately sustainable companies and can slow progress toward environmental goals. Literature in this domain emphasizes that authentic sustainability reporting and performance are crucial; firms that merely pay lip service through greenwashing may hinder broader sustainability efforts (Ziolo et al., 2024). Therefore, a holistic understanding of greenwashing's impacts is not only a marketing or ethics concern but also integral to advancing true sustainability.

Methodology

This study employs a descriptive research synthesis method, adhering to principles outlined in the PRISMA 2020 statement where relevant for narrative synthesis, to ensure transparency and systematic reporting. The process comprised the following steps:

1. Eligibility Criteria: This synthesis focused on international, peer-reviewed academic articles published in English between January 2013 and April 2024, which quantitatively examined greenwashing.

Inclusion Criteria

Research Type: Studies considered must have employed quantitative methodologies (e.g., surveys, experiments, quantitative secondary data analysis). Qualitative studies, case studies without quantitative data, conceptual papers, and literature reviews were excluded.

Focus: Studies must have empirically investigated greenwashing as a key variable, whether as an antecedent, outcome, mediator, or moderator, or examined perceived greenwashing and its impact on consumers, organizations, or employees.

Outcome Measures: Studies needed to report quantitative data on the relationship between greenwashing and relevant outcome variables such as consumer trust, purchase intention, brand equity, and employee attitudes or behaviors.

Publication Status: Only peer-reviewed academic journal articles were selected to ensure a baseline level of scholarly rigor. Conference proceedings, book chapters, and dissertations were excluded.

Exclusion Criteria

Studies for which the full text was not accessible in English.

Studies that mentioned greenwashing only superficially and where it was not a primary construct under empirical investigation.

Studies lacking sufficient methodological detail to allow for quality assessment.

2. Information Sources and Search Strategy

A comprehensive literature search was conducted in May 2024 across five international academic databases: ScienceDirect, SAGE Journals, EMERALD Insight, ProQuest Central, and Google Scholar. [1] The primary search term used was "greenwashing." To ensure broader coverage, various related terms such as "green wash," "misleading environmental claims," combined with impact-related terms like "consumer trust" and "brand reputation," were piloted., but "greenwashing" proved most effective in capturing relevant quantitative studies. No language restrictions were applied at the search stage, but only English-language articles were considered at the screening stage due to resource limitations for translation. Additionally, reference lists of identified key articles and relevant review articles were manually scanned to find potentially includable studies.

3. Study Selection Process

The study selection process followed a multi-stage approach, adapted from the PRISMA 2020 flow diagram, as depicted in Figure 1.

Step 1: Identification and Deduplication: The initial database search yielded 875 records. After removing 230 duplicates, 645 unique records remained.

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Step 2: Title and Abstract Screening: Titles and abstracts of these records were screened for relevance against the predefined eligibility criteria by the primary researcher. 580 records were excluded at this stage, primarily because they were not empirical studies, were purely qualitative, or were not directly relevant to the impacts of greenwashing, leaving 65 articles for full-text review.

Step 3: Full-Text Eligibility Assessment: The full texts of these 65 articles were retrieved and assessed for eligibility. 52 articles were excluded at this stage for various reasons, including: not meeting quantitative research design criteria (15 articles), greenwashing not being a primary empirical variable (10 articles), outcome measures not aligning with the synthesis focus (12 articles), or insufficient methodological detail/unclear rigor upon full-text review (15 articles).

Final Selection: This process resulted in a final selection of 13 quantitative studies included in this descriptive research synthesis.

Selection Stage	**Details**	**Number of Records**
Identification	Records identified from database searching	875
Screening	Records after duplicates removed	645
	Records screened (by title/abstract)	645
		Records excluded 580
Eligibility	Full-text articles assessed for eligibility	65
		Full-text articles excluded with reasons 52 (Not quantitative: 15, Not primary variable: 10, Outcomes not aligned: 12, Low rigor: 15)
Included	Studies included in the descriptive synthesis	**13**

Figure 1 PRISMA 2020 Flow Diagram.

4. Data Extraction

A standardized data extraction form was developed and used to gather key information from each selected study. This included: basic study details (authors, year, country of study), research objectives, methodological approach (design, sample size and characteristics), variables examined (independent, dependent, mediating, moderating), measurement instruments used for greenwashing and key outcomes, and main quantitative findings related to greenwashing causes or effects, including reported effect sizes or statistical significance.

5. The methodological quality of the 13 selected studies was independently assessed by the primary researcher using a critical appraisal checklist adapted from the Critical Appraisal Skills Programme (CASP) guidelines for quantitative studies. Given the narrative nature of the synthesis and the inclusion of diverse quantitative designs (e.g., surveys, experiments), relevant items from CASP checklists (e.g., for cohort studies, randomized controlled trials, or general quantitative appraisal principles) were synthesized into an ad-hoc assessment tool. Key criteria assessed included clarity of research aims, appropriateness of research design to address those aims, adequacy of sampling strategy and sample size justification, reliability and validity of measurement instruments, especially for greenwashing, clarity in reporting statistical methods, control for potential confounding variables where applicable, and coherence between results, discussion, and conclusions. Studies were not excluded based on an aggregate quality score, but this assessment informed the interpretation of findings and the overall strength of evidence in the synthesis. All 13 studies were deemed of sufficient quality for inclusion.

6. Data Synthesis and Interpretation

A descriptive research synthesis approach was used. Due to the heterogeneity in research designs, outcome measures, and specific contexts of the 13 studies, a quantitative meta-analysis was not feasible. Instead, the extracted data were analyzed thematically and synthesized narratively. The researcher identified common themes, patterns of greenwashing strategies, consistencies and discrepancies in findings regarding impacts on consumers, organizations, and employees, and recurring recommendations. The synthesis focused

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on summarizing the direction and consistency of effects rather than calculating pooled effect sizes.

7. Inter-Rater Reliability

The primary researcher conducted the study selection and quality appraisal. To mitigate potential bias, predefined eligibility and quality criteria were strictly adhered to. A colleague with expertise in research synthesis reviewed the application of these criteria to a random 20% sample of the screened and appraised studies, providing feedback and confirming consistency. Although full dual-reviewer screening and appraisal were not undertaken due to resource constraints, this peer-review process aimed to enhance the robustness of selection and appraisal decisions.

Results and Discussion

After applying the selection criteria, 13 quantitative studies (2013–2024) were included in the synthesis. The key characteristics and findings of each study are summarized in Table 1 below.

Table 1 Summary of Key Findings from 13 Selected Studies on Greenwashing.

Study (Year)	Focus /Variable	Key Findings
Chen & Chang (2013)	- Greenwashing - Green trust - Green consumer confusion - Green perceived risk	1. Greenwashing negatively impacts green trust. 2. Greenwashing is positively related to consumer confusion and perceived risk. 3. Consumer confusion and perceived risk partially mediate the negative relationship between greenwashing and green trust.
Chen et al. (2014)	- Greenwashing - Green word-of-mouth (WOM) - Green perceived quality - Green satisfaction	1. Greenwashing has a negative direct and indirect effect on green WOM. 2. Green perceived quality and green satisfaction partially mediate the relationship between greenwashing and green WOM. 3. Companies should reduce greenwashing and enhance perceived quality and satisfaction to encourage positive WOM.
Chen et al. (2016)	- Greenwashing - Green brand equity - Green brand image - Green satisfaction	1. Greenwashing has a negative direct and indirect effect on green brand equity. 2. Green brand image and green satisfaction partially mediate this relationship. 3. Greenwashing harms green brand image and satisfaction, which ultimately impacts brand equity.
Avcılar & Külter Demirgüneş (2017)	- Perceived greenwashing - Green brand equity - Green consumer confusion - Green perceived risk - Green trust	1. Perceived greenwashing increases consumer confusion and perceived risk. 2. Consumer confusion and perceived risk negatively affect green trust. 3. Green trust positively impacts green brand equity. 4. A greenwash index has a direct negative effect on green brand equity.
Braga Junior et al. (2019)	- Greenwashing - Green consumption attitudes and beliefs - Perceived risk and confusion - Perceived benefits and	1. Greenwashing increases perceived risk and confusion in green consumption. 2. Greenwashing negatively impacts perceived benefits and satisfaction. 3. Positive Attitudes and beliefs increase perceived benefits, satisfaction, and perceived behavioral

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Study (Year)	Focus /Variable	Key Findings
	satisfaction	control. 4. Consumers with strong product beliefs may initially overlook risks but will stop purchasing upon discovering greenwashing.
Tahir et al. (2020)	- Greenwashing - Green employee behavior - Employee value orientation - Green psychological climate - Internal environmental focus	1. Greenwashing negatively affects employees' pro-environmental (green) workplace behaviors. 2. Employee value orientation and green psychological climate partially mediate this relationship. 3. Internal environmental focus (extent of internal sustainability emphasis) has no mediating effect. 4. Greenwashing is negatively related to both employee value orientation and green psychological climate.
Gil-Cordero et al. (2021)	- Greenwashing - Behavioral intention - Corporate social responsibility (CSR) - Word-of-mouth (WOM)	1. Greenwashing has no direct effect on green purchase intention, but an indirect effect through CSR and WOM. 2. Greenwashing negatively affects CSR, and CSR positively affects WOM. 3. WOM has the strongest influence on purchase Intention. 4. The effect of greenwashing on purchase intention is fully mediated by CSR and WOM (no direct effect).
Li et al. (2022)	- Perceived greenwashing - Employee job performance - Organizational distrust - Employee environmental values	1. Perceived greenwashing negatively impacts employee job performance, mediated by organizational distrust. 2. Employees' environmental values strengthen the negative relationship between perceived greenwashing and job performance (i.e., environmentally conscious employees react more strongly). 3. Highlights the need for coordination between HR and sustainability departments to prevent greenwashing impacts.
Ha (2022)	- Greenwashing - Green brand equity - Green brand image, satisfaction, trust - Green concern	1. Greenwashing has no direct effect on green brand equity, but an indirect negative effect through green brand image and green trust. 2. Consumers' green concern moderates the relationship between greenwashing and brand equity (high concern consumers react more negatively). 3. Green brand image and green trust are important mediators in the greenwashing–brand equity relationship.
Amer & Mohamed (2023)	- Greenwashing - Brand reputation - Brand credibility - Green brand equity	1. Greenwashing negatively affects green brand equity, brand reputation, and brand credibility. 2. Green brand equity has a positive effect on Reputation.

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Study (Year)	Focus /Variable	Key Findings
		3. Brand reputation positively affects brand credibility. 4. Green brand equity mediates the relationship between greenwashing and reputation (greenwashing undermines equity, which in turn harms reputation).
Santos et al. (2024)	- Greenwashing - Corporate reputation - Brand hate - Perceived environmental performance - Green perceived risk	1. Greenwashing increases "brand hate" (intense negative feelings) among consumers. 2. Perceived environmental performance and green perceived risk mediate the relationship between greenwashing and corporate reputation. 3. Reducing greenwashing can improve perceived environmental performance, lower perceived risk, and thereby enhance corporate reputation.
Gupta & Singh (2024)	- Greenwashing perception - Attitude toward green products - Green purchase intention	1. Greenwashing perception negatively impacts consumers' attitudes toward green products. 2. Attitude toward green products positively influences green purchase intention. 3. Attitude partially mediates the relationship between greenwashing perception and purchase intention (greenwashing hurts attitudes, which then reduce intention).
Shojaei et al. (2024)	- Perceived greenwashing - Eco-friendly product purchase behavior - Perceived risk and differentiation - Attitude - Willingness to pay more	1. Perceived greenwashing negatively affects consumer attitude and increases perceived risk. 2. Neither perceived greenwashing nor perceived risk directly affect purchase intention, but they have indirect effects through attitude. 3. Perceived differentiation (seeing a product as genuinely unique/green) positively affects both attitude and purchase intention. 4. Attitude positively affects willingness to pay more and purchase intention. 5. Willingness to pay more positively affects both purchase intention and actual purchase behavior.

Across these 13 studies, several themes emerge repeatedly. The most frequently observed consequence of greenwashing is the erosion of consumer trust and credibility, which was highlighted in numerous studies (e.g., Chen & Chang, 2013; Avcılar & Demirgüneş, 2017; Amer & Abo El Ezz, 2023). Closely related to trust, many studies found that greenwashing heightens consumer confusion and perceived risk about green products. This confusion – often manifesting as skepticism about environmental claims – discourages consumers from purchasing supposedly "green" products. Another prevalent finding is the damage to brand equity and corporate reputation caused by greenwashing (Chen et al., 2016; Avcılar & Demirgüneş, 2017; Amer & Abo El Ezz, 2023). In multiple cases, greenwashing was shown to undermine brand image and satisfaction, in turn hurts long-term brand equity and reputation. Several studies also document declines in purchase intent or other pro-environmental consumer behaviors as an indirect result of greenwashing (Gupta & Singh, 2024; Shojaei et al., 2024) – typically mediated by negative attitudes or loss of trust. Additionally, negative word-of-mouth is a noted risk: when consumers feel deceived, they are likely to spread their negative impressions to others (Chen et al., 2014; Gil-Cordero et al., 2021).

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Finally, a few studies extend the impacts internally, showing that greenwashing can harm employee morale and performance by breeding organizational distrust (Tahir et al., 2020; Li et al., 2022). Notably, none of the reviewed research found any lasting positive outcomes of greenwashing; even short-term gains are eclipsed by these adverse effects once stakeholders recognize the deception. Together, these findings strongly reinforce the idea that greenwashing is a high-risk strategy with broadly negative repercussions for companies.

Following the individual studies, the key insights can be synthesized into major categories. Table 2 presents a consolidated overview of the causes, common patterns, and impacts of greenwashing, based on the collective evidence from the literature.

Table 2 Synthesis of Research Findings on Greenwashing.

Key Aspect	Summary of Main Findings	Primary References
Causes of Greenwashing	- Desire to improve eco-friendly image And gain a competitive edge by capitalizing on sustainability trends. - Lack of strict regulations and penalties enables misleading environmental claims. - Shareholder pressure for short-term profits over genuine sustainability efforts.	Braga Junior et al. (2019); Delmas & Burbano (2011); Santos et al. (2024)
Patterns of Greenwashing	- Use of vague or undefined "green" terms (e.g., "all-natural") that sound eco-friendly without clear meaning. - Environmental claims with no credible supporting evidence or verification. - Misleading green imagery (logos, packaging) implying benefits that don't exist. - Selective disclosure of positive environmental aspects while hiding negative facts. - False comparisons suggesting a product is greener than competitors without valid data.	Chen & Chang (2013); Chen et al. (2016); Delmas & Burbano (2011); Shabani et al. (2024); Tahir et al. (2020)
Impacts on Consumer Behavior	- Confusion about products' true eco-friendliness, leading to distrust of green claims. - Higher perceived risk in green product choices, discouraging purchases. - Negative attitudes and backlash toward brands exposed for greenwashing. - Decreased purchase intent and willingness to pay premium for "green" products. - Spread of negative word-of-mouth about companies engaged in greenwashing.	Avcılar & Külter Demirgüneş (2017); Braga Junior et al. (2019); Chen & Chang (2013); Chen et al. (2014); Gil-Cordero et al. (2021); Gupta & Singh (2024); Tahir et al. (2020)

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Key Aspect	Summary of Main Findings	Primary References
Impacts on Corporate Reputation & Image	- Eroded credibility as an environmentally responsible business. - Diminished reputation for genuine commitment to sustainability. - Weakened brand equity for "green" product lines. - Risk of long-term brand aversion and public disapproval once duplicity is revealed.	Amer & Abo El Ezz (2023); Chen et al. (2016); Gil-Cordero et al. (2021); Ha (2022); Santos et al. (2024); Tahir et al. (2020)
Impacts on Employees	- Reduced job performance and lower organizational citizenship behaviors among staff. - Decreased morale and confidence in the employer's integrity regarding environmental practices. - Feelings of distrust and uncertainty about company's true sustainability commitment.	Li et al. (2022); Tahir et al. (2020)

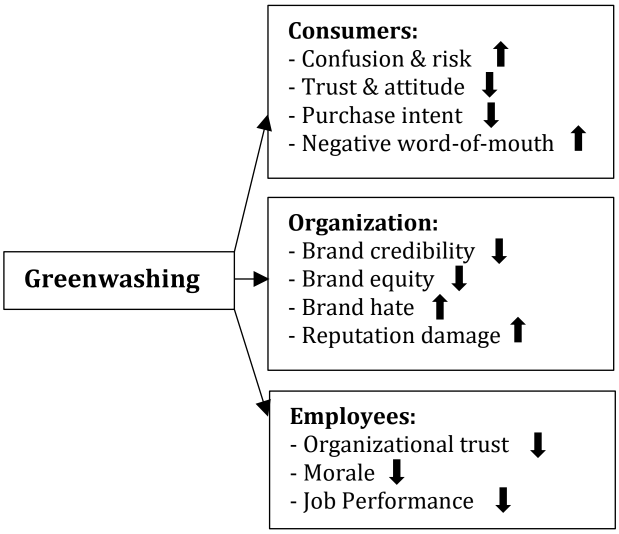

Figure 2 Conceptual framework.

Following this synthesis, several important points can be highlighted. Greenwashing primarily stems from companies' motives to enhance their image or profits in the short term, especially by exploiting consumers' growing environmental awareness. The absence of strong regulation often enables this behavior. In terms of execution, greenwashing manifests through predictable patterns of misleading communication, as detailed above. These tactics create a marketplace where consumers struggle to distinguish truly sustainable products from false claims. The evidence clearly shows that such practices backfire, causing confusion and skepticism that hurt both consumer behavior and brand health. Even well-intentioned consumers can be misled into purchases that don't align with their values, which in turn erodes their overall confidence in green marketing. At an organizational level, revelations of greenwashing can severely undermine a company's credibility as a socially responsible entity, and even employees may lose morale and trust in their employer. The net effect is pervasive harm: while greenwashing might yield brief upticks in reputation or sales, the risk of discovery and the ensuing backlash can damage a company's standing for years.

This conceptual framework (Figure 1) synthesizes the reviewed findings into an integrated perspective. It illustrates that greenwashing, when perceived by stakeholders, triggers a chain of negative reactions: Consumers become skeptical and confused, which erodes their trust and willingness to buy; the organization's brand equity and reputation suffer; and employees disengage due to misalignment between stated values and actual practices. Notably, some studies indicated that certain effects are indirect – for example, greenwashing might not directly decrease purchase intention unless it first reduces consumers' attitudes or trust (as seen in Shojaei et al., 2024, and Gil-Cordero et al., 2021). This suggests the presence of mediating factors (like trust, satisfaction, or attitudes) and

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moderating factors (like consumer environmental concern or values) in the greenwashing-outcome relationship. In a few cases, researchers found no immediate impact of greenwashing on outcomes such as behavioral intent or brand equity unless intervening variables were considered Ha, 2022 reportedonly indirect effects via brand image and trust) – indicating that the effects of greenwashing are nuanced and context-dependent. Overall, however, the consensus is that any apparent short-term gains of green portrayal are overshadowed by longer-term losses in trust and reputation once stakeholders perceive the greenwashing.

Conclusions and Recommendation

Conclusion

The synthesis of 13 studies spanning various countries and industries provides a comprehensive understanding of the causes, patterns, and multifaceted impacts of greenwashing. The findings reveal that perceived greenwashing inflicts substantial damage on consumer trust, brand equity, corporate reputation, and even employee morale and performance. Organizations should be acutely aware of these detrimental effects and strive to conduct business with genuine environmental responsibility and transparent communication, rather than resorting to superficial tactics.

Notably, this review underscores that greenwashing's impacts often cut across multiple stakeholder groups simultaneously, amplifying the risk. For example, a single greenwashing incident can alienate customers (through distrust and confusion), harm investor and public perceptions of the brand, and demotivate employees – all at once. We also observed that some relationships are complex: in several studies, greenwashing did not affect outcomes in a simple linear way but operated through mediators like trust, satisfaction, or attitude, and could be stronger among stakeholders with high environmental values or concerns (moderators). This indicates that the mechanisms of impact involve psychological factors that deserve further exploration. In addition, a few divergent findings (e.g., cases where the effect on purchase behavior was indirect or contingent) suggest that more research is needed to identify boundary conditions – such as cultural context or product type – that might mitigate or exacerbate greenwashing's harm.

From a theoretical perspective, integrating these insights results in a more comprehensive framework, as shown in Figure 1 that links the micro-level consumer psychology with macro-level organizational outcomes and even internal organizational behavior. This framework contributes to the literature by highlighting interconnections-such as how consumer distrust can lead to brand reputation issues-that are often examined in isolation. It does not so much propose a radically new theory as it challenges firms to reconsider assumptions: the old notion that marketing spin can easily manage stakeholder perceptions is contradicted by the evidence of long-term damage. The clear message is that credibility and trust are *earned* through concrete, verifiable sustainable practices – there is no lasting shortcut through greenwashing.

In summary, companies are better served by aligning their environmental claims with actual sustainable practices from the start. Authentic sustainability efforts, backed by honest disclosure, are crucial to building and retaining trust among consumers and other stakeholders. Greenwashing, by contrast, is a short-lived illusion that poses high risks. Organizations that genuinely integrate environmental values into their operations and culture will not only avoid the pitfalls documented in these studies but also contribute positively to broader sustainability goals.

Recommendations

Future Research: Building on this review, future research should delve deeper into areas that remain under-explored. First, studies could expand to more diverse contexts, especially in developing countries or emerging markets, to improve the generalizability of findings beyond the mostly U.S./European-centric literature. Researchers should consider qualitative and longitudinal approaches – for instance, interviews or case studies could uncover nuances in how greenwashing is perceived over time, and longitudinal studies could track how consumer attitudes or brand performance. This revision removes the parentheses for better readability and makes the sentence more direct. There is also a need to develop and test theoretical frameworks

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that integrate the various mediators and moderators identified (e.g., trust, consumer environmental concern, cultural values) to better explain when and how greenwashing causes harm. The conceptual framework provided in this article is an initial step; scholars could refine this by examining the causal pathways in controlled settings or across different industries. Additionally, it is important to investigate strategies to counteract greenwashing. For example, research could assess the effectiveness of consumer education to protect consumers from false green claims or corporate transparency initiatives in rebuilding trust. By addressing these angles, future research can not only fill knowledge gaps but also inform more effective policies and business strategies to combat greenwashing.

Practical Implications for Policy and Business – The findings have clear implications for policymakers, regulators, and business leaders who seek to promote genuine sustainability. Regulators in many countries are moving to curb greenwashing with new laws and guidelines. For example, Britain's Financial Conduct Authority now requires that companies' environmental claims in public communications be clear, fair, and not misleading, and the European Union approved a directive banning explicit greenwashing and misleading environmental advertising. It is recommended that governments introduce and enforce such truth-in-marketing regulations if they haven't already, as a deterrent against egregious greenwashing. Effective enforcement is key: cases like Volkswagen's Dieselgate demonstrate that substantial penalties-exceeding $30 billion in that instance-are necessary to compel companies to address their misconduct.) did the company begin to address its misconduct. Other companies such as Keurig, Kohl's, and H&M have likewise faced fines or settlements for greenwashing in various jurisdictions. Regulators should examine these enforcement cases and, equally, learn from instances of regulatory failure or laxity, where the lack of enforcement allowed greenwashing to persist, in order to improve legal frameworks. On the corporate side, organizations are strongly encouraged to adopt self-regulatory measures and third-party standards that can lend credibility to their environmental claims. For example, implementing an ISO 14001 certified Environmental Management System can provide a structured framework for genuine environmental performance improvement. ISO 14001 is an internationally recognized standard that specifies requirements for effective environmental management systems, providing a framework an organization can follow rather than just setting lofty goals. Achieving such certification signals that a company has undergone rigorous audits of its environmental practices. Similarly, pursuing B Corp certification can demonstrate a company's commitment to high standards of social and environmental performance and transparency. B Corp Certification is a designation indicating that a business meets verified standards of accountability and transparency in areas from employee welfare to sustainability of supply chains. Adopting these or similar standards requires substantive action (not just rhetoric), thereby reducing the likelihood of greenwashing accusations.

Companies should also foster an internal culture of sustainability. This means aligning incentives and training for marketing, R&D, and operational staff to ensure that environmental claims are always backed by real improvements. Cross-departmental coordination, such as between sustainability teams and marketing departments, can help verify claims before they are made public,as suggested by Li et al. (2022) findings on internal trust. In practice, transparency is crucial. Firms should report environmental progress honestly, acknowledging both shortcomings and achievements. Proactively engaging with stakeholders-through sustainability reports, forums, or certifications-can help rebuild trust if it has been shaken or strengthen trust in advance. In conclusion, combating greenwashing will require a combination of stricter external regulations and diligent internal governance. Policymakers should continue developing clear guidelines and enforcing penalties to dissuade companies from misleading the public. At the same time, organizations must take responsibility by embedding authenticity into their branding – effectively, by "doing the right thing" environmentally and communicating honestly about it. In an era of growing eco-consciousness, companies that invest in genuine sustainability initiatives, such as energy efficiency, ethical sourcing, and emissions reduction, will stand outand communicate them

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transparently will not only avoid the pitfalls of greenwashing but also gain a competitive advantage through earned trust. Ultimately, aligning business strategies with sustainable principles – rather than attempting to paper over unsustainable practices with green marketing – is both an ethical imperative and a prudent long-term strategy for success.

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