

Greenwashing and its effects on community engagement : A working paper

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Abstract

In response to rising environmental concerns, many corporations have adopted green branding strategies; however, not all such efforts are genuine. Greenwashing—the practice of misleading stakeholders about environmental practices—has emerged as a critical barrier to building public trust and promoting community engagement in sustainability. This study presents initial findings from a pilot survey conducted in Tamil Nadu, India, using a newly developed instrument to assess the impact of greenwashing on community engagement, with public trust as a mediating variable and environmental awareness as a moderator. A structured questionnaire with 77 items across four constructs—greenwashing, public trust,

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community engagement, and environmental awareness—was validated through expert review, exploratory factor analysis (KMO = 0.831), and reliability testing (Cronbach's alpha > 0.87 for all constructs). Findings revealed a negative correlation between greenwashing and community engagement ($r = -0.45$), with public trust mediating this relationship. Moderation analysis confirmed that individuals with higher environmental awareness were less affected by greenwashing. Grounded in the Theory of Planned Behavior and ecological citizenship theory, the study highlights the deterrent effects of deceptive green claims on civic participation. Implications suggest the need for policy interventions, enhanced environmental education, and stricter regulations to counteract greenwashing and foster genuine community involvement.

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Keywords: *Environmental awareness, Mediator, Moderator, Public trust, Sustainability communication.*

1. Introduction

In an era where environmental degradation and climate change have moved from marginal discourse to central global concerns, businesses have increasingly adopted green branding strategies to appeal to environmentally conscious consumers. Stringent regulations force companies to advertise and pose as if they have complied with all sustainability compliance requirements[1]

However, not all such advertisements and efforts are authentic or impactful. The term greenwashing, first popularized by environmentalist Jay Westerveld in the 1980s, refers to the deceptive use of environmental rhetoric to mislead stakeholders about an organization's environmental practices [2][3].

Greenwashing undermines not only consumer trust but also societal efforts toward genuine sustainability. It creates confusion, breeds skepticism, and may discourage meaningful public action on environmental issues. As public discourse becomes saturated with green claims, the authenticity and integrity of environmental initiatives come under scrutiny. Organizations should implement genuine green practices to avoid greenwashing accusations[4] While much literature focuses on corporate motivations behind greenwashing, fewer studies delve into its effects on community-level engagement and the moderating role of environmental knowledge.

This study addresses this gap by presenting initial findings from a pilot study, aimed at validating a newly developed instrument that

examines greenwashing's impact on community engagement and public trust, moderated by environmental awareness.

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2. Conceptual Framework and Literature Review

2.1 Greenwashing and Its Dimensions

Greenwashing manifests in various forms, including vague environmental claims, symbolic gestures without meaningful action, selective disclosure, and even outright falsification [5][6][7]. This deceptive practice is driven by several factors, such as lax regulations, consumer and investor demand for sustainability, pressure from environmental NGOs and the media, corporate reputation management, and market competition. Scholars like Walker and Wan [8] argue that firms facing intense competitive pressure are more likely to resort to symbolic environmental strategies rather than adopting more substantive, genuine approaches [9].

2.2 Community Engagement

Community engagement refers to the active involvement of individuals and groups in environmental decision-making and action [10]. This engagement can take various forms, including environmental activism such as protests and petitions, volunteering in clean-up drives, and participation in awareness campaigns. Prior research suggests that greenwashing can have a negative impact on community engagement, as it may disillusion citizens and reduce their motivation to participate meaningfully in environmental initiatives [11]. Recent literature shows that green washing can have a significant negative impact on community engagement, as it undermines trust and leads to disengagement [12].

2.3 Environmental Awareness as a Moderator

Environmental awareness encompasses individuals' knowledge, attitudes, and behaviors toward the environment [13]. It influences how individuals interpret corporate green claims. High awareness can buffer against the demotivating effects of greenwashing by helping individuals discern genuine efforts from manipulative messaging.

2.4 Research Objectives

1. The development and validation of a structured questionnaire.
2. Preliminary data from a pilot survey assessing how greenwashing affects public trust and engagement.
3. The moderating role of environmental awareness in mitigating greenwashing's negative impact.

3. Methodology

3.1 Instrument Development

A comprehensive questionnaire was meticulously designed to capture a wide range of factors related to greenwashing, public trust, community engagement, and environmental awareness. The instrument was structured to follow a scale that assesses perceived greenwashing practices [13] and its impact on environmental behaviors [14]. The questionnaire consisted of 77 items, each rated on a 5-point Likert scale, where respondents indicated their level of agreement with each statement, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The instrument was divided into four major constructs, with each construct designed to capture specific aspects of the research focus.

The first construct, Greenwashing, was evaluated through 20 items that addressed five distinct drivers: lax regulations, competitive pressure, misuse of Corporate Social Responsibility (CSR), consumer demand for sustainability, and corporate reputation management. These items were intended to explore how organizations engage in greenwashing practices in response to various external and internal pressures.

The second construct, Public Trust, consisted of 20 items aimed at assessing the levels of transparency, integrity, and competence that respondents perceive in environmental organizations and businesses. This section sought to understand how the public's trust is influenced by corporate claims related to environmental sustainability.

The third construct, Community Engagement, included 12 items focusing on individuals' participation in environmental activism, citizen action, and volunteering. This construct explored how greenwashing influences the willingness of citizens to engage in meaningful environmental actions, such as protests, clean-up drives, and awareness campaigns.

Finally, Environmental Awareness was assessed through 25 items that examined respondents' knowledge of environmental issues, their motivation to adopt sustainable practices, their habits related to environmental conservation, and their skillsets in fostering sustainability.

Additionally, demographic data were collected to capture contextual factors such as age, education, income, and geographic location, providing deeper insights into the varied responses based on these factors. This multi-faceted approach aimed to ensure a comprehensive understanding of the relationships between greenwashing, trust, community engagement, and environmental awareness.

3.2 Sampling and Data Collection

A pilot study was conducted with 50 respondents (27 males, 23 females) from Tamil Nadu, India. Respondents were from diverse educational and professional backgrounds, including students, homemakers, salaried employees, and self-employed individuals. Data collection occurred in April 2025 via a Google Form shared through WhatsApp and email. Participation was voluntary and anonymous, and ethical clearance was obtained from the institutional review board.

4. Questionnaire Validation

4.1 Content Validity

The instrument's content validity was ensured through a rigorous three-stage process to confirm that the items accurately represented the constructs and measured the intended variables. The first stage involved a review of prior research from reputable sources, such as [2][6] and [11]. This review helped to identify relevant theoretical frameworks and ensure the items reflected existing literature on greenwashing, public trust, community engagement, and environmental awareness.

In the second stage, feedback was solicited from two academic experts in environmental studies and business ethics, as well as one environmental consultant with practical experience in sustainability. These experts provided valuable insights on the clarity, relevance, and comprehensiveness of the items, suggesting revisions to improve the instrument's alignment with theoretical concepts and real-world applications.

The third stage involved pilot testing the questionnaire with a small sample of respondents to identify any issues with the wording, ambiguity, or redundancy of items. Based on the feedback from pilot participants, the

questionnaire was revised to remove or modify any items that might cause confusion or overlap with other questions. This process ensured that each item was clearly understood and measured distinct aspects of the constructs.

To ensure full coverage of the theoretical constructs, each item was mapped directly to the relevant construct. This approach not only enhanced the clarity and precision of the instrument but also validated its content against the theoretical foundation of the research. The result was a robust and reliable tool capable of measuring the constructs of interest while maintaining strong content validity.

4.2 Construct Validity (Exploratory Factor Analysis)

Exploratory Factor Analysis (EFA) was conducted using SPSS to explore the underlying structure of the data and to identify the factors that best represent the constructs. The analysis employed Principal Component Analysis with Varimax rotation to maximize the variance of each factor. This method helps in identifying distinct and meaningful factors by simplifying the interpretation of the results.

To assess the adequacy of the sample for factor analysis, the Kaiser-Meyer-Olkin (KMO) Measure was calculated, yielding a value of 0.831. This indicates that the sample size was sufficient, and that the data were appropriate for factor analysis. A KMO value above 0.6 is generally considered acceptable, and the result of 0.831 suggests that the data have a good degree of sampling adequacy.

Additionally, Bartlett's Test of Sphericity was conducted to test the hypothesis that the correlation matrix is an identity matrix (i.e., no correlations between variables). The test yielded a significant result with $\chi^2(2926) = 5963.45$, and a p-value of less than 0.001. This significance indicates that the variables are sufficiently correlated to proceed with factor analysis, confirming the suitability of the data for identifying meaningful factors.

Overall, the EFA results, supported by the KMO measure and Bartlett's Test, confirmed that the data were well-suited for factor analysis and provided a robust foundation for further statistical analysis and the identification of latent constructs within the data.

Table 1
Results of Validity Test

Construct	No. of Items	Eigenvalues >1	Total Variance Explained
Greenwashing	20	5	64.2%
Public Trust	20	5	68.5%
Community Engagement	12	3	71.3%
Environmental Awareness	25	4	66.8%

Source: Systematically analyzed by the authors based on [15]

All item loadings exceeded 0.60, confirming convergent validity and supporting the questionnaire's multidimensionality.

4.3 Reliability Analysis

Cronbach's alpha was calculated for each construct and subscale. Values above 0.70 were considered acceptable [16].

Table 2
Results of Reliability Tests

Construct/Subscale	Cronbach's Alpha
Greenwashing	0.87
Public Trust	0.89
Community Engagement	0.91
Environmental Awareness	0.93
Highest Subscale (Sustainable Habits)	0.91

Source: Systematically analyzed by the authors based on [16]

These results confirm high internal consistency, indicating that the instrument is suitable for larger-scale administration.

5. Preliminary Findings

Initial data revealed important trends:

5.1 *Impact of Greenwashing on Engagement*

Correlation analysis revealed a moderate negative correlation ($r = -0.45$) between greenwashing and community engagement. This indicates that as participants perceived higher instances of greenwashing by corporations, their involvement in environmental activities decreased. In other words, the more respondents felt that companies were engaging in deceptive environmental practices, the less likely they were to participate in genuine environmental efforts. [17].

Some of the items that showed the strongest agreement from participants included statements such as:

“CSR activities are often used by companies to distract from environmentally harmful operations.”

“I feel skeptical about environmental claims made by corporations.”

These responses underscore a general sense of mistrust towards corporate environmental claims, with participants expressing skepticism about the authenticity of corporate sustainability efforts. This finding aligns with the work of Seele and Gatti [18], who argued that greenwashing undermines the motivational foundation of public participation in environmental activities. According to Seele and Gatti, when people feel that corporate environmental initiatives are not genuine, it reduces their willingness to engage in meaningful environmental actions, as they perceive these efforts as insincere or misleading. Thus, the results of this analysis highlight the detrimental effect of greenwashing on public motivation to actively participate in environmental causes.

5.2 *Public Trust as a Mediating Variable*

The analysis revealed that public trust was positively associated with community engagement ($r = +0.52$) and negatively associated with perceived greenwashing ($r = -0.47$). These findings suggest a mediating effect where greenwashing plays a crucial role in diminishing public trust, which in turn reduces the willingness of individuals to engage in environmental activities. Specifically, when individuals perceive companies to be engaging in greenwashing, their trust in these organizations is eroded. This loss of trust then translates into a decline in their motivation to participate in environmental initiatives, such as activism, volunteering, and sustainability efforts. The negative relationship between greenwashing and public trust underscores how deceptive corporate practices can have broader consequences, not just on public perceptions of the organizations involved, but also on their impact on

community engagement in environmental causes. This mediating effect emphasizes the importance of fostering genuine sustainability efforts to maintain trust and encourage active participation.

5.3 Environmental Awareness as Moderator

Respondents with high environmental awareness scores (average > 4.0) demonstrated stronger community engagement even in the presence of greenwashing. This finding suggests that individuals with a higher level of environmental knowledge are less likely to be deterred by corporate greenwashing tactics. To further investigate this relationship, a moderation analysis was conducted using the Hayes PROCESS Macro, Model 1, which revealed a significant interaction term between greenwashing and environmental awareness ($p = .03$). This indicates that environmental awareness moderates the impact of greenwashing on community engagement, with more informed individuals maintaining their engagement despite deceptive practices. The model's adjusted R^2 of 0.41 suggests that the interaction between greenwashing and environmental awareness accounts for a substantial portion of the variance in community engagement. These results highlight the protective role of environmental awareness, allowing informed citizens to critically evaluate corporate claims and stay engaged in environmental activities, despite the challenges posed by greenwashing.

5.4 Model Refinement and Implications

Based on the pilot data, the research model was refined to include a more structured framework that examines the relationships between greenwashing, public trust, and community engagement. The model now posits that greenwashing negatively impacts public trust, which in turn reduces community engagement. Additionally, environmental awareness was introduced as a moderating variable, influencing both the direct path from greenwashing to public trust and the indirect path from public trust to community engagement. This refined framework is rooted in Ajzen's Theory [19] of Planned Behavior, which emphasizes the role of attitudes, subjective norms, and perceived behavioral control in shaping behaviors such as environmental engagement. Furthermore, the framework aligns with theories of ecological citizenship, such as those proposed by Dobson [20], which suggest that informed and responsible citizenship can be a key driver of environmental participation. The model thus provides empirical

support for the idea that ecological awareness can enhance engagement, even when greenwashing is present.

6. Conclusion

6.1 *Theoretical Contributions*

This research validates greenwashing as a significant social deterrent to civic action, showing how deceptive corporate practices erode public trust and diminish community engagement. It introduces trust as a mediating construct, highlighting how greenwashing undermines trust, which in turn reduces individuals' willingness to participate in environmental activities. Furthermore, the study emphasizes the protective role of environmental awareness, illustrating that informed individuals are more resilient to the negative effects of greenwashing. By critically evaluating corporate claims, they are able to maintain engagement in environmental activism, offering a potential pathway to counteract the disengagement caused by greenwashing.

6.2 *Practical Implications*

Environmental educators can play a pivotal role by leveraging awareness-building programs to help individuals critically assess corporate environmental claims and mitigate the psychological impact of greenwashing. Policymakers should take a proactive stance by enforcing stricter guidelines on environmental claims, such as mandating third-party certifications, to ensure authenticity and prevent misleading practices. Additionally, NGOs and civil society groups can act as vital watchdogs, promoting transparency and holding corporations accountable for their environmental promises. By mobilizing public trust and advocating for truthful sustainability efforts, these organizations can empower citizens and enhance collective action toward genuine environmental engagement.

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