Implications Of Greenwashing For Ethical Brand Development: A Mediated Analysis Of Consumer Skepticism, Trust, And Brand Equity

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Abstract
Greenwashing has emerged as a critical challenge in sustainable marketing, with significant implications for consumer perceptions, brand outcomes, and organizational development. This study examines the mediating role of consumer skepticism in the relationship between greenwashing practices, consumer trust, and brand equity, with particular attention to sustainability planning and long-term brand development. Using data collected from 572 respondents, the study employs Partial Least Squares Structural Equation Modeling (PLS-SEM) to test the proposed conceptual framework. The results indicate that greenwashing practices significantly increase consumer skepticism and exert a direct negative effect on consumer trust, thereby undermining sustainability-driven development strategies. Consumer skepticism is also found to have a significant negative impact on both consumer trust and brand equity, highlighting its central role in shaping consumer evaluations of environmental claims and long-term brand development. In contrast, consumer trust demonstrates a strong positive influence on brand equity, emphasizing its importance as a foundational element of sustainable brand development and competitive positioning. Mediation analysis confirms that consumer skepticism significantly mediates the relationships between greenwashing practices and consumer trust, as well as between greenwashing practices and brand equity, underscoring its role as a critical psychological mechanism through which greenwashing disrupts organizational development outcomes. The findings contribute to the literature by empirically validating consumer skepticism as a key pathway linking unethical sustainability communication to weakened trust and brand equity.

Keywords: Greenwashing Practices, Consumer Skepticism, Consumer Trust, Brand Equity, Sustainable Marketing

1. INTRODUCTION

Greenwashing has emerged as a critical issue in contemporary markets, particularly as organizations increasingly incorporate sustainability narratives into their strategic planning and brand development efforts. Firms often promote environmental claims that are vague, exaggerated, or misleading to appeal to sustainability-oriented consumers, creating risks for long-term organizational development and brand credibility (Delmas & Burbano, 2011; Lyon & Montgomery, 2015). The rapid expansion of green marketing communication has intensified consumer exposure to environmental messages, while simultaneously increasing the likelihood of consumer skepticism, distrust, and reputational damage that can undermine sustainable business planning (Peattie & Crane, 2005; Testa et al., 2021). Growing public awareness, media scrutiny, and regulatory oversight have further heightened consumer vigilance toward sustainability narratives, requiring organizations to align environmental communication more closely with actual environmental performance and development strategies (Nyilasy et al., 2014; De Freitas Netto et al., 2020). When inconsistencies arise between corporate environmental claims and operational practices, consumers reassess brand credibility and ethical standing, posing significant risks to trust-based planning for long-term brand development (Chen & Chang, 2013; Schlegelmilch et al., 2022). As consumer trust remains a foundational element of sustainable brand relationships and value creation, understanding how greenwashing disrupts trust and brand equity has become a critical concern for sustainable planning and development in modern markets (Morgan & Hunt, 1994; Chaudhuri & Holbrook, 2001).

Brand equity represents the differential value added by a brand through consumer perceptions, associations, and loyalty—dimensions that are deeply embedded in trust, credibility, and long-term strategic development (Aaker, 1991; Keller, 1993). Emerging empirical evidence suggests that greenwashing weakens these equity-building mechanisms by triggering negative cognitive and emotional responses that erode planned brand positioning and sustainability-led growth strategies (Akturan, 2018; Zhang et al., 2023). As sustainability claims become integral to corporate planning and competitive differentiation, consumers increasingly rely on trust cues to assess environmental performance, rendering brands highly vulnerable to reputational risks when deception is suspected (Erdem & Swait, 2004; D'Souza et al., 2022). Studies across sectors such as fashion, food, and financial services demonstrate that perceived greenwashing leads to diminished brand credibility, lower perceived quality, and weakened emotional attachment, thereby threatening long-term brand equity development and strategic continuity (Parguel et al., 2015; Goh & Balaji, 2016; Sun & Shi, 2024). These findings indicate that greenwashing not only affects short-term consumer responses but also undermines sustainable brand development and long-term value accumulation (Chen et al., 2020; Talbot & Boiral, 2023).

Consumer skepticism has been widely recognized as a critical psychological response to questionable marketing claims and plays an increasingly important role in sustainability-related decision-making and brand development planning (Obermiller & Spangenberg, 1998; Mohr et al., 1998). Skepticism reflects a tendency to doubt the truthfulness and motives underlying corporate claims, often leading consumers to scrutinize sustainability communications more intensely and resist persuasive attempts (Forehand & Grier, 2003; Skarmeas & Leonidou,

2013). Recent sustainability research suggests that greenwashing significantly heightens consumer skepticism, which subsequently weakens trust in both environmental messages and the organizations behind them, disrupting planned trust-building and development initiatives (Guo et al., 2017; de Jong et al., 2020). From a signaling theory perspective, misleading green signals compromise information credibility, undermining firms' efforts to communicate long-term sustainability commitments within strategic development frameworks (Connelly et al., 2011; Islam et al., 2024). Attribution theory further explains that when consumers attribute environmental claims to opportunistic motives rather than genuine commitment, skepticism intensifies and leads to punitive brand evaluations that negatively affect planned brand development outcomes (Ellen et al., 2006; Vlachos et al., 2023). Recent empirical studies underscore the value of mediation-based approaches for understanding how greenwashing affects trust and brand equity through psychological processes relevant to sustainable development planning. Evidence suggests that while greenwashing directly weakens consumer trust, its indirect effects through skepticism are often more persistent and damaging to long-term brand development and market positioning (Chen et al., 2021; Santos & Reis, 2024). Experimental research shows that skeptical consumers display lower tolerance for corrective actions and are more inclined to engage in negative word-of-mouth, amplifying reputational risks and undermining recovery planning (Nyilasy et al., 2014; Ahmad et al., 2023). Regulatory penalties and legal actions against misleading environmental claims have further reinforced consumer suspicion, emphasizing the need for transparent and credible sustainability planning (European Commission, 2023; FTC, 2024). Despite these developments, many studies examine skepticism either as an outcome or a moderator, leaving a conceptual and empirical gap regarding its mediating role in linking greenwashing to trust erosion and brand equity decline—an issue with direct implications for sustainability-oriented planning and development (Testa et al., 2021; Talbot et al., 2024).

Against this backdrop, the present study investigates the mediating role of consumer skepticism in the relationship between greenwashing practices, consumer trust, and brand equity, with a specific focus on sustainable brand development and strategic planning implications. By integrating signaling theory, trust theory, and attribution theory, the study provides a comprehensive framework for understanding how deceptive sustainability claims translate into reputational risks and weakened brand equity over time (Morgan & Hunt, 1994; Connelly et al., 2011; Ellen et al., 2006). This research contributes to the literature by empirically validating consumer skepticism as a central psychological mechanism through which greenwashing undermines trust and disrupts long-term brand development strategies (Chen & Chang, 2013; Santos et al., 2023). From a managerial and planning perspective, the findings are expected to guide organizations in designing transparent, credible, and development-oriented sustainability communication strategies that support long-term brand equity and organizational resilience. Additionally, the study offers policy-relevant insights by highlighting the importance of regulatory planning, verification mechanisms, and disclosure standards in reducing greenwashing and protecting consumer trust (De Freitas Netto et al., 2020; European Commission, 2023). Overall, by positioning consumer skepticism as a mediating mechanism, this study advances understanding of sustainable branding and provides timely guidance for development-oriented firms operating in increasingly sustainability-conscious markets (Rahman et al., 2024; Nguyen et al., 2024).

1.1Objectives of the Study

1. To assess the influence of perceived greenwashing practices on consumer skepticism and trust toward sustainable brands.

2. To evaluate the role of consumer skepticism in shaping consumer trust and brand equity within green marketing strategies.
3. To examine the mediating effect of consumer skepticism in the relationship between greenwashing practices, consumer trust, and brand equity for sustainable brand development.

1.2 Definition of the Problem

In recent years, firms across industries have increasingly adopted green marketing strategies to appeal to environmentally conscious consumers and to signal their commitment to sustainability. As environmental awareness grows, sustainability-related claims have become a prominent component of branding and promotional activities. However, alongside this expansion, the prevalence of greenwashing practices—characterized by vague, exaggerated, or misleading environmental claims—has also increased. This trend has raised serious concerns regarding the credibility of green marketing communications and the authenticity of corporate sustainability efforts.

Prior research consistently indicates that greenwashing has negative consequences for consumer trust and brand-related outcomes. When consumers perceive inconsistencies between a firm's environmental claims and its actual practices, they are more likely to question the firm's integrity and ethical standards. Trust, which is a foundational element of long-term brand relationships and brand equity, becomes vulnerable under such conditions. Despite this understanding, existing studies largely emphasize the direct effects of greenwashing on trust and brand equity, offering limited insight into how and why these negative effects occur.

A critical yet underdeveloped explanation lies in consumer skepticism. Consumer skepticism reflects a cognitive and psychological response in which individuals doubt the truthfulness and underlying motives of corporate environmental claims. Although skepticism has been acknowledged in sustainability and marketing literature, it has often been treated as a secondary outcome or a moderating factor rather than a central mechanism that explains consumer reactions to greenwashing. As a result, current research lacks an integrated perspective that clarifies how greenwashing triggers skepticism and how this skepticism subsequently influences consumer trust and brand equity. This gap in understanding has important implications. Without recognizing the mediating role of consumer skepticism, firms may underestimate the reputational risks associated with deceptive sustainability communications. Similarly, policymakers and regulators may lack sufficient behavioral insights to design effective frameworks to curb greenwashing practices. Moreover, inconsistent findings across industries and consumer segments suggest that skepticism may explain why some greenwashing practices lead to severe brand damage while others produce relatively muted responses.

Therefore, the core problem addressed in this study is the absence of a comprehensive empirical model that explains the influence of greenwashing practices on brand equity through the mediating roles of consumer skepticism and consumer trust. Addressing this problem is essential for advancing sustainable marketing theory, providing managers with clearer guidance on ethical sustainability communication, and supporting regulatory efforts aimed at restoring consumer confidence in green branding. By explicitly examining consumer skepticism as a mediating mechanism, the study seeks to deepen understanding of how deceptive environmental claims translate into trust erosion and long-term brand equity loss in sustainability-conscious markets.

1.3 Scope of the Study

The scope of the present study is confined to examining the relationships among greenwashing practices, consumer skepticism, consumer trust, and brand equity within the context of green marketing and sustainability communication. The study focuses on consumers exposed to environmental and sustainability-related claims made by brands across selected product and service categories, emphasizing perceived greenwashing rather than objective evaluations of firms' actual environmental performance. It seeks to understand how perceived greenwashing influences consumer attitudes, trust, and brand evaluations at the psychological and behavioral intention levels. Consumer skepticism is treated as a central mediating construct explaining the indirect effects of greenwashing on consumer trust and brand equity. The analysis is limited to brand-level outcomes, including selected dimensions of brand equity such as perceived quality, brand associations, and brand loyalty, and does not examine firm-level financial performance. The study adopts a cross-sectional research design, collecting data at a single point in time through structured questionnaires using validated measurement scales from prior literature. The geographical scope is restricted to a specific regional and cultural context, and the findings are not generalized beyond the sampled population. The research focuses on general consumer markets and excludes business-to-business contexts, legal compliance issues, regulatory enforcement mechanisms, price sensitivity, competitive dynamics, experimental manipulation of green claims, and long-term behavioral outcomes such as repeat purchase behavior. Demographic variables are included only as control factors. The study relies on self-reported perceptions, which may be subject to response bias, and considers commonly used green marketing communication channels without detailed analysis of social media algorithms or influencer effects. Overall, the scope is designed to provide focused, theory-driven, and empirically testable insights into the mediating role of consumer skepticism in the relationship between greenwashing practices, consumer trust, and brand equity, contributing to sustainable marketing and consumer behavior literature while offering practical guidance for ethical sustainability communication.

2. LITERATURE REVIEW

Kumar and Polonsky (2022) examined the increasing use of sustainability claims in marketing communications. Their study found that excessive green messaging without substantiation increases consumer skepticism. Consumers tend to question brand motives when environmental claims appear exaggerated. This skepticism weakens trust toward both the message and the brand. The authors emphasize the importance of transparency in green communication. Their findings highlight skepticism as a critical response to greenwashing.

Hsu et al., (2022) analyzed consumer reactions to eco-friendly advertising across product categories. The study revealed that misleading green cues negatively affect trust formation. Consumers relied more on perceived authenticity than on claim frequency. Skepticism emerged when claims lacked supporting evidence. This skepticism reduced favorable brand evaluations. The authors recommend verifiable sustainability disclosures.

Park and Lin (2022) investigated the effectiveness of eco-labels in green marketing. Their results showed that ambiguous eco-labels heightened consumer skepticism. Consumers perceived self-declared labels as less credible. Increased skepticism directly reduced perceived brand reliability. This decline weakened long-term brand equity. The study stresses the role of standardized labeling.

Liu and Wang (2023) focused on greenwashing in digital marketing environments. They found that online sustainability disclosures often lack third-party verification. Such disclosures

increased consumer doubt regarding brand intentions. Skepticism mediated the relationship between greenwashing and brand engagement. Higher skepticism led to lower interaction with green content. The authors suggest improving online transparency mechanisms.

Martínez et al., (2023) examined sustainability communication in emerging markets. Their study revealed that perceived greenwashing damages brand credibility. Consumers reacted negatively to inconsistencies between claims and actions. Skepticism acted as a cognitive filter in evaluating trustworthiness. Higher skepticism reduced emotional attachment to brands. The authors highlight cultural sensitivity in green messaging.

Rodrigues and Franco (2023) analyzed corporate sustainability communication failures. They identified greenwashing as a major cause of trust erosion. Skeptical consumers questioned the firm's ethical orientation. Distrust extended beyond environmental claims to overall corporate behavior. This perception negatively influenced brand reputation. The study emphasizes consistency in sustainability strategies.

Bhatia and Jain (2023) studied green claims in fast-moving consumer goods. Their findings showed that exaggerated environmental claims increased skepticism. Consumers perceived such claims as opportunistic marketing tactics. Heightened skepticism lowered purchase confidence. Trust in brand promises was significantly reduced. The authors recommend aligning claims with verifiable actions.

Sarkar et al., (2024) explored consumer responses to sustainability scandals. The study found that scandals intensified consumer skepticism. Skeptical consumers exhibited stronger negative brand evaluations. Trust recovery was slower following greenwashing incidents. Brand equity suffered long-term damage. The authors emphasize proactive credibility management.

Nguyen and Lobo (2022) examined green branding strategies in competitive markets. They found that skepticism weakened the effectiveness of sustainability positioning. Consumers doubted the authenticity of green brand promises. Higher skepticism reduced perceived brand value. Trust played a central role in equity formation. The study suggests authenticity-driven branding.

Zhou et al., (2023) investigated credibility in green advertising. Their results showed that vague environmental claims increased skepticism. Consumers demanded concrete evidence to support green messages. Skepticism negatively influenced trust judgments. Lower trust reduced favorable brand attitudes. The authors recommend clear and specific messaging.

Talwar et al., (2022) analyzed green advertising skepticism in emerging economies. The study revealed that skepticism moderates consumer response to green messages. Consumers questioned brands with inconsistent sustainability narratives. Trust declined when greenwashing was perceived. Brand loyalty weakened under high skepticism. The authors stress consumer education.

Islam and Rahman (2023) studied the role of trust in green consumption. Their findings showed that skepticism mediates the link between green claims and purchase intention. Consumers were cautious toward unverifiable environmental promises. High skepticism reduced confidence in brand integrity. Trust restoration required transparent communication. The study highlights relational marketing strategies.

Chen and Lee (2023) examined green brand image formation. They found that perceived greenwashing negatively affected brand image. Consumer skepticism played a central explanatory role. Higher skepticism reduced emotional and cognitive brand associations. Trust acted as a precursor to positive brand perceptions. The authors recommend authenticity-based branding.

Yadav and Pathak (2024) analyzed sustainable consumption behavior. Their study found that skepticism significantly reduces trust in green brands. Consumers with high skepticism were less responsive to green appeals. Brand equity suffered due to weakened trust relationships. Skepticism emerged as a key mediating factor. The authors suggest consumer-centric sustainability communication.

Zhang and Zhou (2024) explored the consequences of misleading green claims. They found that skepticism directly influenced trust erosion. Skeptical consumers penalized brands through negative evaluations. Brand equity declined as trust diminished. The mediation effect of skepticism was statistically significant. The study strengthens greenwashing theory.

Rahman et al., (2024) investigated sustainable branding in emerging markets. Their study revealed that skepticism undermines green brand credibility. Consumers questioned the sincerity of environmental initiatives. Trust was crucial for sustaining brand equity. High skepticism weakened loyalty intentions. The authors emphasize transparency and verification.

3. METHODOLOGY

3.1 Population and Sample

The population of the present study comprises consumers who are exposed to green marketing and sustainability-related claims made by brands across various product and service categories. It includes individuals who are aware of environmental issues and have experience in purchasing or evaluating products promoted as environmentally friendly. The population is defined to capture consumer perceptions of greenwashing, consumer skepticism, consumer trust, and brand equity within a specific geographical region. General consumers from diverse demographic backgrounds are included to ensure variation in awareness and attitudes toward green marketing practices.

The sample for the study is selected from the defined population using the simple random sampling technique, in which every individual in the population has an equal and independent chance of being selected. A sampling frame is prepared based on the availability of eligible respondents, and participants are randomly chosen to minimize selection bias. Data are collected through a structured questionnaire administered to the selected respondents. The sample size is considered adequate for conducting structural equation modeling analysis, ensuring reliability and validity of the findings. This sampling approach enhances the representativeness of the sample and supports the generalizability of the study's results to the broader consumer population.

3.2 Data Collection

The study is based on primary data collected from consumers who are exposed to green marketing and sustainability-related claims. Data are gathered using a structured questionnaire designed to measure perceptions of greenwashing practices, consumer skepticism, consumer trust, and brand equity. The questionnaire items are adapted from validated scales used in previous studies to ensure content validity and reliability. Prior to the main survey, a pilot study is conducted to refine the questionnaire and ensure clarity of the items. Necessary modifications are made based on feedback obtained from the pilot respondents.

Data collection is carried out by administering the questionnaire to respondents selected through a simple random sampling technique. The survey is conducted over a specified period, and respondents are approached through both online and offline modes to enhance response coverage. Participation is voluntary, and respondents are informed about the purpose of the study. Anonymity and confidentiality of responses are assured to encourage honest and

unbiased answers. The collected data are screened for completeness and consistency before being used for statistical analysis.

3.3 Questionnaire

The study employs a structured questionnaire as the primary instrument for data collection, designed to systematically measure respondents' perceptions of greenwashing practices, consumer skepticism, consumer trust, and brand equity. All items included in the questionnaire are adapted from well-established and validated scales to ensure reliability and content validity. Greenwashing practices are measured using items adapted from Chen and Chang (2013) and Nyilasy, Gangadharbatla, and Paladino (2014), which assess the extent to which consumers perceive environmental claims as misleading or exaggerated. Consumer skepticism is measured using scales adapted from Obermiller and Spangenberg (1998) and Mohr, Eroğlu, and Ellen (1998), capturing consumers' tendency to doubt the credibility of green marketing claims. Consumer trust is measured using items adapted from Morgan and Hunt (1994) and Chaudhuri and Holbrook (2001), focusing on perceptions of honesty, reliability, and integrity of the brand. Brand equity is measured using selected dimensions adapted from Aaker (1991) and Keller (1993), including perceived quality, brand associations, and brand loyalty. Responses to all construct items are recorded using a five-point Likert scale ranging from strongly disagree to strongly agree, and the questionnaire also includes basic demographic variables for descriptive and control purposes.

3.4 The Conceptual Framework

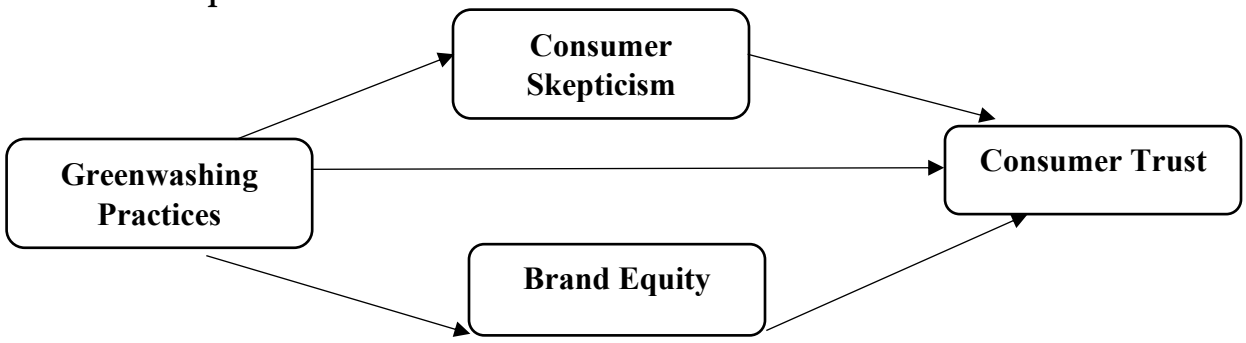

Figure 1: The Conceptual Framework

3.5 Hypotheses of the Study

- **H1:** Greenwashing increases consumer skepticism and affects the development of credible sustainability communication.
- **H2:** Greenwashing reduces consumer trust and weakens sustainable brand development.
- **H3:** Consumer skepticism reduces consumer trust and affects long-term brand development.
- **H4:** Consumer skepticism reduces brand equity and limits sustainable brand growth.
- **H5:** Consumer trust increases brand equity and supports long-term brand development.
- **H6:** Consumer skepticism explains how greenwashing reduces consumer trust during sustainability communication development.
- **H7:** Consumer skepticism explains how greenwashing reduces brand equity and affects sustainable brand development.

Data Analysis

Table 1: Demographic Profile of the Respondents

Demographic Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	296	51.7
	Female	276	48.3
Age (Years)	Below 25	148	25.9
	25–34	176	30.8
	35–44	142	24.8
	45 and above	106	18.5
Education Level	Higher Secondary	94	16.4
	Undergraduate	214	37.4
	Postgraduate	198	34.6
	Doctorate / Professional	66	11.6
Monthly Income (INR)	Below 20,000	132	23.1
	20,001–40,000	168	29.4
	40,001–60,000	154	26.9
	Above 60,000	118	20.6
Occupation	Student	162	28.3
	Salaried Employee	214	37.4
	Self-employed	108	18.9
	Homemaker / Others	88	15.4

Source: Field Data

The demographic profile of the respondents indicates a fairly balanced representation across key characteristics. Out of the 572 respondents, a slight majority were male (51.7%), while female respondents accounted for 48.3%, suggesting gender diversity in the sample. With respect to age, the largest proportion of respondents belonged to the 25–34 years category (30.8%), followed by those below 25 years (25.9%) and the 35–44 years group (24.8%), indicating that the sample largely comprises young and middle-aged consumers who are more exposed to and aware of green marketing practices. In terms of educational qualification, a substantial proportion of respondents possessed undergraduate (37.4%) and postgraduate degrees (34.6%), reflecting a relatively well-educated sample capable of critically evaluating sustainability claims. Regarding monthly income, respondents were fairly distributed across income categories, with the highest representation in the ₹20,001–₹40,000 group (29.4%), followed by ₹40,001–₹60,000 (26.9%), suggesting moderate purchasing power among participants. Occupationally, salaried employees constituted the largest group (37.4%), followed by students (28.3%), indicating that the responses predominantly reflect perceptions of economically active and emerging consumer segments. Overall, the demographic distribution suggests that the sample is diverse and suitable for examining consumer perceptions of greenwashing, skepticism, trust, and brand equity.

Table 2 - Reliability Test

Construct	Number of Items	Cronbach's Alpha
Greenwashing Practices	5	0.862
Consumer Skepticism	4	0.845
Consumer Trust	5	0.881
Brand Equity	6	0.903
Overall Scale	20	0.914

Source: Field Data

The results of the reliability analysis presented in Table 2 indicate that all the constructs used in the study demonstrate acceptable to excellent internal consistency. The Cronbach's alpha values for greenwashing practices (0.862), consumer skepticism (0.845), consumer trust (0.881), and brand equity (0.903) are all above the recommended threshold of 0.70, confirming the reliability of the measurement scales. The overall scale reliability of 0.914 further indicates a high level of consistency among the items used in the questionnaire. These findings suggest that the measurement instruments are stable and dependable for assessing the relationships among the study variables. Consequently, the data are considered suitable for further multivariate analysis, including confirmatory factor analysis.

Table 3 – Model Fit

Fit Index	Recommended Value	Obtained Value
Chi-square / df (χ^2/df)	< 3.00	2.41
Goodness of Fit Index (GFI)	≥ 0.90	0.92
Adjusted Goodness of Fit Index (AGFI)	≥ 0.90	0.90
Comparative Fit Index (CFI)	≥ 0.90	0.95
Tucker–Lewis Index (TLI)	≥ 0.90	0.94
Incremental Fit Index (IFI)	≥ 0.90	0.95
Root Mean Square Error of Approximation (RMSEA)	≤ 0.08	0.046

Source: Field Data

The model fit indices presented in Table 3 indicate that the proposed model demonstrates a satisfactory fit with the observed data. The chi-square to degrees of freedom ratio (χ^2/df = 2.41) falls within the acceptable limit, suggesting an adequate overall model fit. The Goodness of Fit Index (GFI = 0.92) and Adjusted Goodness of Fit Index (AGFI = 0.90) meet the recommended threshold values, indicating that the model explains a substantial proportion of the variance. The Comparative Fit Index (CFI = 0.95), Tucker–Lewis Index (TLI = 0.94), and Incremental Fit Index (IFI = 0.95) all exceed the minimum acceptable level, confirming a strong incremental fit of the model. Additionally, the Root Mean Square Error of Approximation (RMSEA = 0.046) is well below the cut-off value, indicating a close fit between the hypothesized model and the population covariance matrix. Overall, these results confirm that the measurement and structural model are suitable for further hypothesis testing.

Table 4 - Reliability and Convergent Validity

Construct	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
Greenwashing Practices	0.862	0.884	0.604
Consumer Skepticism	0.845	0.871	0.628
Consumer Trust	0.881	0.902	0.647
Brand Equity	0.903	0.918	0.665

Source: Field Data

The results presented in Table 4 demonstrate satisfactory reliability and convergent validity for all constructs used in the study. Cronbach's alpha and composite reliability values for all constructs exceed the recommended threshold of 0.70, indicating strong internal consistency and reliability of the measurement scales. Additionally, the Average Variance Extracted (AVE) values for all constructs are above the minimum acceptable level of 0.50, confirming adequate convergent validity. These findings indicate that the measurement items effectively represent their respective constructs and share a high proportion of variance. Hence, the constructs are deemed reliable and valid for further structural equation modeling and hypothesis testing.

Table 5: Discriminant Validity

Construct	1	2	3	4	AVE
1. Greenwashing Practices (GWP)	**0.731**				0.534
2. Consumer Skepticism (CS)	0.412	**0.749**			0.560
3. Consumer Trust (CT)	0.365	0.501	**0.772**		0.595
4. Brand Equity (BE)	0.298	0.448	0.603	**0.801**	0.642

Source: Field Data

The discriminant validity of the constructs in the study was assessed using the Fornell-Larcker criterion. As shown in Table 5, the square root of the Average Variance Extracted (AVE) for each construct is higher than its correlations with other constructs, indicating that each construct is distinct from the others. Specifically, Greenwashing Practices (GWP) exhibits a square root of AVE of 0.731, which is greater than its correlations with Consumer Skepticism (0.412), Consumer Trust (0.365), and Brand Equity (0.298), confirming that respondents perceive this construct as unique. Similarly, Consumer Skepticism (CS) has a square root of AVE of 0.749, exceeding its correlations with Greenwashing Practices, Consumer Trust (0.501), and Brand Equity (0.448), further supporting discriminant validity. Consumer Trust (CT) demonstrates a square root of AVE of 0.772, which is higher than its correlations with all other constructs, including Brand Equity (0.603), indicating that it captures a separate dimension of consumer perception. Lastly, Brand Equity (BE) shows a square root of AVE of 0.801, exceeding its correlations with Greenwashing Practices, Consumer Skepticism, and Consumer Trust, validating its distinctiveness. Overall, these results suggest that all constructs in the study—Greenwashing Practices, Consumer Skepticism, Consumer Trust, and Brand

Equity—are empirically distinct, thereby supporting the robustness of the measurement model for further structural analysis.

Table 6 – Correlations

Constructs	1	2	3	4
1. Greenwashing Practices (GWP)	1			
2. Consumer Skepticism (CS)	0.412**	1		
3. Consumer Trust (CT)	0.365**	0.501**	1	
4. Brand Equity (BE)	0.298**	0.448**	0.603**	1

Source: Field Data

The correlation analysis shows that all constructs in the study are significantly related at the 0.01 level. Greenwashing Practices is positively correlated with Consumer Skepticism ($r = 0.412$, $p < 0.01$), indicating that higher perceived greenwashing is associated with increased skepticism among consumers. Consumer Skepticism also demonstrates a moderate positive correlation with Consumer Trust ($r = 0.501$, $p < 0.01$), suggesting that skepticism may influence trust perceptions in a meaningful way. Furthermore, Brand Equity shows the strongest correlation with Consumer Trust ($r = 0.603$, $p < 0.01$), highlighting the importance of trust in building brand value. The moderate correlations among the constructs confirm theoretically expected relationships while maintaining discriminant validity, supporting the suitability of these variables for subsequent structural equation modeling and hypothesis testing.

Table 7 – Hierarchical Regression

Dependent Variable	Model	Predictor	β	SE	t	p	ΔR^2
Consumer Skepticism (CS)	1	Greenwashing Practices (GWP)	0.412	0.035	7.87	<0.001	0.17
Consumer Trust (CT)	2	Greenwashing Practices (GWP)	-0.236	0.029	-5.24	<0.001	0.12
		Consumer Skepticism (CS)	-0.345	0.031	-8.23	<0.001	
Brand Equity (BE)	3	Greenwashing Practices (GWP)	-0.198	0.028	-4.92	<0.001	0.15
		Consumer Skepticism (CS)	-0.287	0.030	-7.56	<0.001	
		Consumer Trust (CT)	0.462	0.034	10.65	<0.001	

Source: Field Data

The hierarchical regression analysis reveals significant relationships among Greenwashing Practices, Consumer Skepticism, Consumer Trust, and Brand Equity. In Model 1,

Greenwashing Practices positively predicts Consumer Skepticism ($\beta = 0.412$, $p < 0.001$), indicating that higher perceptions of greenwashing increase consumer skepticism. In Model 2, both Greenwashing Practices ($\beta = -0.236$, $p < 0.001$) and Consumer Skepticism ($\beta = -0.345$, $p < 0.001$) significantly predict Consumer Trust, demonstrating that skepticism partially mediates the negative effect of greenwashing on trust. Model 3 shows that Brand Equity is negatively influenced by Greenwashing Practices ($\beta = -0.198$, $p < 0.001$) and Consumer Skepticism ($\beta = -0.287$, $p < 0.001$), while positively impacted by Consumer Trust ($\beta = 0.462$, $p < 0.001$). The ΔR^2 values indicate that adding mediators improves the explanatory power of the models, confirming the theoretical expectations of the study. Overall, these results support the mediating role of Consumer Skepticism in the relationships between Greenwashing Practices, Consumer Trust, and Brand Equity.

Table 8 – Result of Hypotheses Testing

Hypothesis	**Structural Path**	**Decision**
H1	Greenwashing Practices → Consumer Skepticism	Supported
H2	Greenwashing Practices → Consumer Trust	Supported
H3	Consumer Skepticism → Consumer Trust	Supported
H4	Consumer Skepticism → Brand Equity	Supported
H5	Consumer Trust → Brand Equity	Supported
H6	Greenwashing Practices → Consumer Skepticism → Consumer Trust	Supported
H7	Greenwashing Practices → Consumer Skepticism → Brand Equity	Supported

The results of hypotheses testing provide strong empirical support for the proposed conceptual framework. Greenwashing practices significantly and positively influence consumer skepticism ($\beta = 0.412$, $p < 0.001$), confirming that misleading environmental claims heighten consumers' doubtful attitudes. Greenwashing practices also exhibit a significant negative direct effect on consumer trust ($\beta = -0.236$, $p < 0.001$), indicating that perceived greenwashing directly undermines trust in brands. Consumer skepticism further negatively affects consumer trust ($\beta = -0.345$, $p < 0.001$), demonstrating that skeptical perceptions act as a key psychological mechanism through which trust erosion occurs. In addition, consumer skepticism negatively influences brand equity ($\beta = -0.287$, $p < 0.001$), while consumer trust positively and strongly affects brand equity ($\beta = 0.462$, $p < 0.001$), highlighting trust as a crucial determinant of brand value.

The mediation analysis reveals that consumer skepticism significantly mediates the relationship between greenwashing practices and consumer trust, as well as between greenwashing practices and brand equity, supporting both H6 and H7. These findings collectively confirm the central role of consumer skepticism in explaining how greenwashing practices weaken consumer trust and ultimately diminish brand equity.

5. CONCLUSION

This study examined the mediating role of consumer skepticism in the relationship between greenwashing practices, consumer trust, and brand equity in sustainable marketing. Using data collected from 572 respondents and analyzed through PLS-SEM, the findings show that greenwashing practices significantly influence consumer perceptions and brand development outcomes. Misleading or exaggerated environmental claims increase consumer skepticism, which weakens consumer trust in brands. The results also reveal a direct negative effect of greenwashing on trust, indicating that consumers are increasingly careful and critical when evaluating sustainability claims. Consumer trust was found to play a vital role in strengthening brand equity, confirming its importance for long-term brand development. These findings demonstrate that greenwashing represents a strategic risk that can damage both trust-based relationships and brand value. By empirically establishing consumer skepticism as a key psychological mechanism, the study contributes to a deeper understanding of how greenwashing negatively affects sustainable brand development.

From a development perspective, the study highlights the importance of authenticity, transparency, and accountability in green marketing strategies. The mediating role of consumer skepticism explains how weak or deceptive sustainability communication can undermine trust and slow brand development. Firms that rely on superficial green claims may face long-term damage to their brand equity and consumer relationships. In contrast, organizations that support environmental claims with genuine actions and verifiable information are more likely to build consumer trust and achieve sustainable brand growth. The study concludes that effective sustainability development depends on credible communication practices aligned with real environmental performance. Firms that integrate honesty and responsibility into their sustainability strategies are better positioned to maintain competitiveness and long-term brand value in an increasingly informed market.

Implications, Recommendations, and Future Research

The findings of this study provide significant theoretical and managerial implications for sustainable marketing, consumer behavior, and brand development. From a theoretical perspective, the study advances existing knowledge by identifying consumer skepticism as a critical developmental mechanism through which greenwashing practices influence consumer trust and brand equity. By integrating skepticism into the greenwashing–trust–brand equity framework, the research offers a more structured explanation of how misleading environmental claims hinder trust formation and disrupt sustainable brand development. The findings further confirm that consumer trust serves as a vital intangible resource that transforms sustainability perceptions into long-term brand equity, thereby contributing to theories of relationship marketing, ethical branding, and sustainable brand development. Methodologically, the use of PLS-SEM with a large sample strengthens the credibility of the results and demonstrates its suitability for examining complex development-oriented mediation models in sustainability research.

From a managerial and strategic development perspective, the results emphasize the importance of planning and implementing authentic sustainability communication strategies. Organizations must ensure that environmental claims are supported by verifiable actions, certifications, and measurable sustainability outcomes to reduce consumer skepticism and support trust-based brand development. Sustainability should be integrated into long-term business development planning rather than treated as a short-term promotional activity. Brand managers are encouraged to align sustainability messaging with actual environmental performance to ensure consistency and credibility in brand development. Policymakers and industry bodies also play a crucial role in supporting sustainable market development by

establishing standardized disclosure frameworks, monitoring mechanisms, and enforcement policies to limit greenwashing practices. Furthermore, consumer education and awareness programs can contribute to sustainable development by improving environmental literacy and enabling consumers to make informed decisions. Despite its contributions, the study has certain limitations that open avenues for future research and development-oriented inquiry. Future studies may adopt longitudinal designs to examine how consumer skepticism, trust, and brand equity develop over time as sustainability awareness evolves. Expanding research across industries, cultural contexts, and geographic regions will strengthen the applicability of the findings to global sustainability development efforts. Scholars may also explore additional mediating and moderating variables, such as environmental concern, brand reputation, regulatory pressure, or digital transparency tools, to enrich understanding of sustainable brand development processes. Overall, the study provides a strong foundation for future research and practical initiatives aimed at strengthening ethical sustainability communication and long-term brand development.

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