Feeling of Betrayal as a Mediator in the Effect of Greenwashing Perceptions on Environmentally Friendly Product Purchase Decisions: Evidence from Bottled Water Consumers

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Abstract

Exaggerated or inauthentic sustainability claims, known as greenwashing, have the potential to undermine consumer trust in eco-friendly brands. This research aims to examine the influence of greenwashing perceptions on green product purchase decisions, with the feeling of betrayal as a mediating variable and environmental responsibility as a moderating variable. The research design employed a quantitative approach using a cross-sectional survey of 300 consumers in Jakarta who purchased one of the bottled drinking water brands labeled as green. Data were collected through an online questionnaire using a 5-point Likert scale and analyzed with Structural Equation Modeling (SEM-PLS). The results indicated that perceptions of greenwashing had a significant negative effect on purchase decisions and substantially increased the feeling of betrayal, which in turn reduced intentions to buy green products. The mediation effect of the feeling of betrayal was confirmed to be significant, whereas environmental responsibility did not demonstrate a moderating role. These findings emphasize the importance of transparency and clarity in sustainability communications to maintain consumer trust and prevent loyalty erosion. Theoretically, this study expands the Theory of Planned Behavior by highlighting the emotional role of consumers in evaluating green claims, while practically, the implications of this research are highly relevant for companies and regulators aiming to strengthen credible sustainability communication standards.

Keywords: *Greenwashing*, Green Purchasing Decisions, *Feeling of Betrayal*, Environmental Responsibility, SDG.

INTRODUCTION

Global environmental issues such as climate change, plastic pollution, and ecosystem degradation have become major concerns in recent decades (IPCC, 2021). The increasing intensity of climate disasters, biodiversity loss, and the accumulation of plastic waste in the oceans underscore the urgency for the international community to shift toward more sustainable consumption practices (Borrelle et al., 2020). This condition

encourages consumers to consider not only functionality and price but also the environmental impact of the products they choose (White et al., 2019). This phenomenon is referred to as green consumption, where consumers are increasingly inclined to purchase products with environmentally friendly attributes, such as recycled materials, energy efficiency, and production processes with minimal emissions (Biswas & Roy, 2015; Testa et al., 2019; Lopes et al., 2024).

In response to rising consumer awareness, many companies are adopting green marketing strategies to build a positive image and gain a competitive advantage (Apostolopoulos et al., 2025). However, in practice, not all green claims align with the companies' actual actions. The phenomenon known as greenwashing—the presentation of exaggerated, ambiguous, or misleading environmental claims—has created new risks. Instead of strengthening trust, greenwashing may damage the psychological contract between consumers and brands, induce a sense of betrayal, and reduce intentions to purchase environmentally friendly products (Chen & Chang, 2013; Ahmed et al., 2020). The mismatch between sustainability communication and real corporate practices creates cognitive dissonance, where consumers perceive that their ethical expectations are unmet, ultimately leading to decreased loyalty (Hung & Chang, 2024).

Several previous studies have examined consumer behavior in purchasing green products using the Theory of Planned Behavior (TPB), which emphasizes the role of attitudes, subjective norms, and perceived behavioral control (Ajzen, 1991). However, most research remains focused on rational factors, while the role of emotional factors—such as feelings of betrayal—has been relatively underexplored. Empirical evidence shows that negative emotions significantly influence consumer behavior, especially in the context of greenwashing. Additionally, research investigating consumer environmental responsibility as a moderating variable remains limited, with inconsistent findings (Bulut et al., 2021). This raises the question of whether environmental responsibility can mitigate the negative impact of greenwashing perceptions on purchasing decisions.

To address this gap, this study examines the influence of greenwashing perceptions on purchase decisions for environmentally friendly products, with feeling of betrayal as a mediating variable and environmental responsibility as a moderating variable. The context of the study focuses on Jakarta consumers who purchase bottled drinking water products labeled as green, a category particularly relevant because it is often associated with sustainability claims yet still relies on single-use plastics.

This research is expected to make two main contributions. First, theoretically, it advances the Theory of Planned Behavior by incorporating the emotional dimensions of consumers, thereby providing a more holistic understanding of green product purchasing behavior. Second, practically, the findings may serve as a reference for companies to avoid greenwashing practices and to develop more transparent and credible sustainability communication strategies. For regulators, the results are relevant in strengthening the monitoring of environmental claims to protect consumers while fostering a more sustainable marketplace. Ultimately, this study provides empirical evidence on the mediating role of feeling of betrayal and the moderating role of environmental responsibility, offering valuable insights for both academic discourse and practical efforts to promote authentic sustainable consumption.

The Theory of Planned Behavior (TPB) developed by Ajzen (1991) is one of the most widely used theoretical frameworks to explain consumer behavior. According to TPB, behavioral intentions are shaped by attitudes toward behavior, subjective norms, and perceived behavioral control. In the context of green products, a number of studies

confirm that positive attitudes toward sustainability, social support, and the perception of ease of access encourage the intention to buy environmentally friendly products (Lopes et al., 2024; Do et al., 2025). However, more recent literature suggests that the explanatory power of TPB in sustainability contexts can be enhanced by incorporating additional variables, such as environmental values, perceptions of green benefits, and emotional factors (Apostolopoulos et al., 2025).

Greenwashing is defined as the practice of presenting exaggerated, ambiguous, or misleading eco-friendly claims (Delmas & Burbano, 2011). Its main impacts include increased consumer skepticism, reduced trust in brands, and diminished intention to buy green products (Chen & Chang, 2013; Ahmed et al., 2020). More recent research further indicates that awareness of greenwashing practices contributes to consumer confusion and perceived risk, which in turn diminishes loyalty and purchase intent (Hung & Chang, 2024; Zhang, 2025). Thus, greenwashing not only undermines short-term behavior but also erodes long-term brand value.

Consumer psychology literature suggests that feelings of betrayal occur when expectations of brand honesty are unmet (Grégoire & Fisher, 2008). In the context of greenwashing, inauthentic sustainability claims can evoke betrayal due to the misalignment between consumers' ethical values and corporate behavior (Nguyen et al., 2021; Lu et al., 2022). These feelings of betrayal act as a psychological mechanism that amplifies the negative effect of greenwashing on purchase intent. Recent studies confirm that negative emotions such as betrayal play a significant mediating role in explaining the reduction in intentions to buy green products (Tarabieh, 2021; Zhang et al., 2024).

Environmental responsibility reflects an individual's level of concern for the ecological consequences of consumption behavior (Joshi & Rahman, 2019). Some studies suggest that consumers with higher environmental responsibility tend to be more critical of green claims and exercise greater caution in making purchasing decisions (Bulut et al., 2021). However, findings across studies remain mixed. Some research identifies a significant moderating role of environmental responsibility (Narula & Desore, 2025), while other evidence shows that perceptions of greenwashing consistently dominate and reduce purchase intentions—regardless of consumers' environmental concern (Hung & Chang, 2024). This uncertainty highlights the need to investigate further the extent to which environmental responsibility can mitigate the impact of greenwashing on purchasing decisions.

Based on the literature review, several research gaps are evident. First, previous studies have focused primarily on rational determinants of green consumption, while the emotional role of consumers—particularly the feeling of betrayal—has been underexplored in the context of greenwashing. Second, empirical evidence on the role of environmental responsibility as a moderating variable remains contradictory. Therefore, this study seeks to fill these gaps by simultaneously examining the influence of greenwashing on purchase decisions, the mediating role of feeling of betrayal, and the moderating role of environmental responsibility in the context of green-labeled bottled water consumption in Jakarta.
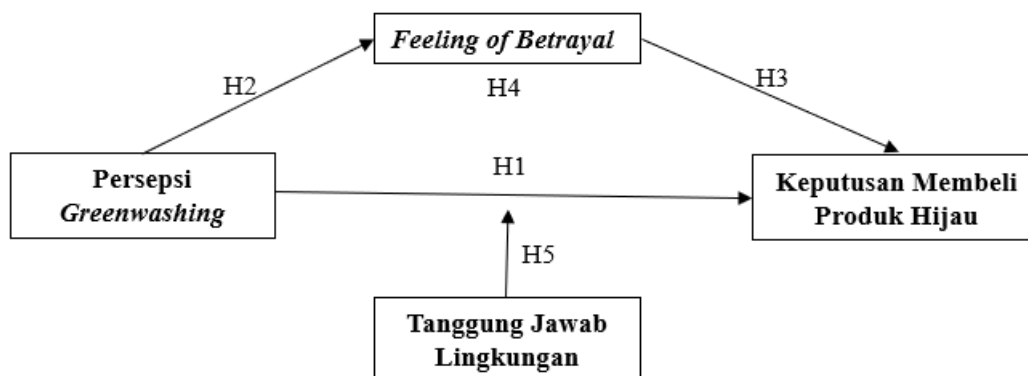
Figure 1. Conceptual Framework

RESEARCH METHOD

This study used a quantitative approach to test hypotheses and determine the causal influence among consumer perception of greenwashing, feelings of betrayal, environmental responsibility, and the decision to buy green products. The research design was cross-sectional, with data collected at a single point in time. Primary data were obtained through a structured questionnaire divided according to the variables studied: consumer perception of greenwashing (independent variable), feelings of betrayal (mediating variable), environmental responsibility (moderating variable), and purchase decision (dependent variable). The research instrument was tested for validity and reliability, with Cronbach's Alpha values above 0.70 indicating internal consistency.

The study focused on Jakarta consumers who purchased bottled water labeled as environmentally friendly. Participants were selected using purposive sampling based on predetermined criteria. A total of 300 respondents completed the online questionnaire over four weeks, using a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). Before full deployment, a pilot test was conducted to confirm the reliability and validity of the instrument. Demographic questions were also included to support descriptive analysis. The sample size was considered sufficient to generate robust quantitative findings.

Data were analyzed using SmartPLS 4.0 with Structural Equation Modeling (SEM) techniques. SEM was employed to test both direct and moderated effects among the variables. The analysis included outer model testing for validity and reliability, as well as inner model evaluation using R^2, effect size (f^2), and hypothesis testing through bootstrapping. Moderation effects were examined using the product indicator approach as outlined by Chin et al., to assess the interaction between environmental responsibility and the predictor variables.

RESULT AND DISCUSSION

This study involved 300 respondents, the majority of whom were female (64%), while the lowest proportion was male (36%). Based on age, the largest group was in the range of 25–35 years (36.33%), while the least came from the age group of 56–60 years (5.67%). In terms of the last education, Bachelor's graduates are the dominant group

(35.67%), while high school graduates have the lowest proportion (8.67%). By occupation, the most respondents were private employees (34%) and the least were from other job categories such as freelancers (12.67%). In the marriage status variable, the majority of respondents are married (62%), while singles are the smallest group (38%). Based on monthly expenses, the highest category is 3-5 million rupiah (42.33%), while the lowest category is less than 3 million rupiah (22.33%). These results show that the respondents' profiles are dominated by the productive age group, highly educated, working in the formal sector, married, and having middle to upper purchasing power.

Descriptive Statistics

Descriptive analysis aims to describe the data profile of the sample before using statistical analysis techniques that serve to test hypotheses. Descriptive statistics provide an overview of the data based on mean values, standard deviations, maximum values, and minimums. Minimum and maximum values indicate the extreme distribution of the data, while average values provide information regarding central tendencies. Standard deviation is used to see how far the data spreads from the average value which can reflect the homogeneity or heterogeneity of the data.

This study involved 300 respondents with the variables analyzed consisting of independent variables, namely *Greenwashing Perception*, dependent variables, namely the Decision to Buy Green Products, and mediating variables, namely Feelings of Betrayal, and moderator variables, namely Consumer Environmental Responsibility.

Table 1. Descriptive Statistical Analysis Results

Variable	N	Min	Max	Mean	Std. Deviation
Perception of *Greenwashing*	300	15.00	50.00	36.0400	7.90612
Feelings of Betrayal	300	8.00	40.00	28.1367	6.30002
Decision to Buy Green Products	300	8.00	40.00	27.7000	6.74103
Consumer Environmental Responsibility	300	15.00	40.00	33.6300	4.44285

Source: Primary Data (2025)

Descriptive statistical analysis showed that the perception of *Greenwashing* had an average of 36.04 (SD = 7.91) with a distribution of medium to high values, indicating a variation in consumer views on the company's green claims practices. Feelings of betrayal recorded an average of 28.13 (SD = 6.30), indicating a relatively high level of disappointment with eco-friendly claims that are not entirely true. The decision to buy green products was at an average of 27.70 (SD = 6.74), reflecting a strong consumer tendency to choose eco-friendly products. Meanwhile, consumer environmental responsibility has an average of 33.63 (SD = 4.44) which indicates high awareness and commitment of individuals to environmental issues. Overall, these results provide a preliminary idea that the main variables of the study are at a high enough level and relevant to be further analyzed through structural modeling.

Outer Model

In this study, the convergent validity test was carried out through two main measures, namely the loading factor and the AVE value. Based on the Rule of Thumb, for confirmatory research, the recommended loading factor value is >0.70, while in exploratory research the value between 0.60–0.70 is still acceptable (Hair Jr. et al., 2019). The results of the outer loading test (Table 4.8) show that all indicators in each variable have a loading factor value above 0.70 or are in the range of 0.60–0.70. Thus, all indicators are declared valid and feasible to use in the research model. This confirms that the instruments used have been able to adequately represent the constructs of *Greenwashing* Perception, Feelings of Betrayal, Environmental Responsibility, and the Decision to Buy Green Products, so that they can be used at the next stage of analysis.

Table 2. AVE Value

	Average Variance Extracted (AVE)
X.	0.710
Y.	0.663
Z.	0.737
M.	0.591

Source: PLS Output Yield 0.4, 2025

Based on the results of the discriminant validity test using the Fornell-Larcker criteria, the highest square root value of AVE is found in the Z construct of 0.858, while the lowest value is found in the Y construct of 0.814. Since all the diagonal values in the table are larger than the correlations between the corresponding constructs, it can be concluded that all constructs have good discriminant validity, so that they are able to distinguish themselves adequately from other constructs.

Furthermore, in the test using the Heterotrait-Monotrait Ratio (HTMT), the highest HTMT value was found in the relationship between the Z and X constructs of 0.817, while the lowest value was found in the relationship between the Y and X constructs of 0.681. All HTMT values are below the threshold of 0.90, so it can be ensured that this research model does not experience serious problems related to discriminatory validity.

Construct reliability testing was performed using Cronbach's Alpha and Composite Reliability with a threshold of > 0.70 for confirmatory studies (Hair et al., 2019). Based on the results of Cronbach's Alpha, the highest value was obtained in construct X of 0.955, while the lowest value was found in construct y of 0.928. The entire value is above 0.70, so it can be concluded that all constructs have excellent internal consistency.

Furthermore, the results of the Composite Reliability (rho_c) test showed that the highest value was found in construct X at 0.961, while the lowest value was found in construct Y at 0.940. The overall value is above 0.70, which indicates that each construct has a high level of reliability and meets the criteria of confirmatory research.

Table 3. Construct reliability testing

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)
X.	0.955	0.961	0.961
Y.	0.928	0.938	0.940
Z.	0.949	0.951	0.957
M.	0.920	0.970	0.928

Source: PLS Output Yield 0.4, 2025

Inner Model Analysis

The value of the determination coefficient (R²) is used to measure how much variance of endogenous variables can be explained by constructs in the model. The results of the analysis showed that the Green Product Purchase Decision variable (Y) had an R² value of 0.641, which was in the moderate category (0.50–0.75). This means that 64.1% of the variation in purchasing decisions can be explained by the perception of greenwashing and feelings of betrayal, while the rest are influenced by other factors outside the model. Meanwhile, the Betrayed Feelings (M) variable obtained an R² value of 0.641, which is also in the moderate category. This means that the perception of Greenwashing can explain 64.1% of the variation in feelings of betrayal by consumers. Thus, this research model has a fairly good predictive ability in explaining the relationship between variables.

Table 4. Analysis of the determination coefficient

	R-square	Adjusted R-square
Y.	0.641	0.633
Z.	0.641	0.640

Source: PLS Output Yield 0.4, 2025

The effect size (f²) is used to see the relative contribution of each exogenous construct to the endogenous construct. The analysis showed that the perception of greenwashing had a large effect on feelings of betrayal (f² > 0.35), which confirmed the strength of the relationship. Meanwhile, the effect of direct greenwashing perception on purchasing decisions was relatively small to moderate (0.02 < f² < 0.15), but still significant. This indicates that the main influence of greenwashing on purchasing decisions is more mediated by feelings of betrayal.

Table 5. Path Coefficients

Hypothesis	Variable Influence	Sample (O)	T statistics (|O/STDEV|)	P values	Information
H1	X → Y (*Greenwashing* Perception → Buying Decisions)	-0.144	1.918	0.028	Supported
H2	X → Z (*Greenwashing* Perception → Feelings of Betrayal)	0.801	25.314	0.000	Supported

Hypothesis	Variable Influence	Sample (O)	T statistics (|O/STDEV|)	P values	Information
H3	Z → Y (Feelings of Betrayal → Purchase Decision)	-0.636	9.242	0.000	Supported
H4	X → Z → Y (Indirect: *Greenwashing* → Betrayed → Buying)	-0.509	9.702	0.000	Supported
H5	M x X → Y (Moderation of Environmental Responsibility)	0.110	1.477	0.070	Not Supported/Rejected

Source: Primary Data Processed with SmartPLS 4.0 (2025)

Based on the test results:

1. Hypothesis 1 (H1) states that consumer perception of greenwashing has a negative effect on the decision to buy green products. The results showed that the effect was negative and significant (β = -0.144, p = 0.028), so this hypothesis is supported. This means that the stronger the consumer's perception of Greenwashing practices, the lower their tendency to buy eco-friendly products.
2. Hypothesis 2 (H2) suggests that the perception of Greenwashing has a positive and significant influence on feelings of betrayal (β = 0.801, p = 0.000), so this hypothesis is supported. This shows that the higher the perception of Greenwashing consumers feels, the higher the level of feelings of betrayal that arises.
3. Hypothesis 3 (H3) tests the influence of feelings of betrayal on purchasing decisions. The results of the analysis showed a negative and significant influence (β = -0.636, p = 0.000), so this hypothesis is supported. This means a high feeling of betrayal lowers the consumer's intention or decision to buy green products.
4. Hypothesis 4 (H4) examines the mediating effect of feelings of betrayal in the influence of Greenwashing perception on purchasing decisions. The results showed a negative and significant influence of mediation (β = -0.509, p = 0.000), so this hypothesis is supported. This means that the perception of Greenwashing influences purchasing decisions indirectly through an increase in feelings of betrayal.
5. Hypothesis 5 (H5) tests the role of consumer environmental responsibility moderation in the influence of Greenwashing perception on purchasing decisions. The results showed that the influence was not significant (β = 0.110, p = 0.070), so this hypothesis is not supported. This means that the level of consumer environmental responsibility does not moderate the influence of Greenwashing perceptions on purchasing decisions.

Greenwashing Perceptions and Purchasing Decisions

The findings that perceptions of Greenwashing lower purchasing decisions support the previous literature (Chen & Chang, 2013; Ahmed et al., 2020; Hung & Chang, 2024). Consumers who perceive sustainability claims as inauthentic are likely to experience decreased trust and increased skepticism, which ultimately weakens brand loyalty. In the context of bottled drinking water, this negative perception is reinforced using single-use plastics, which contradicts environmental claims.

Perception of Greenwashing and Feeling of Betrayal

These results show that Greenwashing not only creates skepticism but also gives rise to a strong feeling of betrayal (Lu et al., 2022; Nguyen et al., 2021). Feelings of betrayal arise when consumers become aware of a misalignment between brand promises and real practices. This supports the concept of psychological contract breach, where consumers feel their ethical values are being violated.

The Effect of Feeling of Betrayal on Purchase Decisions

The negative effect of feeling of betrayal on purchasing decisions is in line with the Tarabieh studies, 2021 and Zhang et al., 2024. This confirms that negative emotions play a key role as a key mechanism that explains why Greenwashing decreases the intention to buy green products. In other words, the feeling of betrayal serves as a psychological bridge between the perception of Greenwashing and a decline in purchasing decisions. Within the framework of the Theory of Planned Behavior (Ajzen, 1991), behavioral intentions are formed by cognitive and affective evaluations of the company's credibility. Therefore, negative emotions arising from feelings of betrayal are a crucial determinant that hinders the purchase of green products. Although companies can conduct educational campaigns and waste management programs, their effectiveness is largely determined by the consistency between the communication message and the real consumer experience. This mismatch reinforces the perception of non-authentication, which ultimately reduces trust and purchase intent.

In terms of respondent profiles, descriptive analysis shows that most respondents are women (64%). Based on the literature, women generally have higher environmental concerns and ethical consumption orientation than men, so they are more sensitive to the incompatibility of sustainability claims with real practices. Previous studies have shown that women are more careful in assessing the credibility of green marketing and are quicker to recognize indications of greenwashing, which then triggers negative emotional responses and reinforces feelings of betrayal. Consistency of these findings with Gender Socialization Theory (Eagly, 1987; Zelezny et al., 2023) as well as empirical evidence support from Hung and Chang (2024) confirm that the dominance of female respondents in this study reinforces the validity of feelings of betrayal as a key emotional mechanism that bridges the relationship between Greenwashing perceptions and green product purchase decisions.

The Role of Environmental Responsibility Moderation

The insignificance of the role of environmental responsibility as a moderator shows that even consumers who have a high level of concern for environmental issues remain vulnerable to the negative impacts of Greenwashing. These findings contradict the study of Bulut et al., 2021) which found the protective effect of environmental responsibility, but is consistent with Hung & Chang, 2024 who stated that the perception of greenwashing tends to be more dominant in shaping consumer decisions. This shows that when the perception of Greenwashing is already too strong, internal consumer factors are not enough to neutralize the impact.

Theoretical and Practical Implications

Theoretically, this study expands the Theory of Planned Behavior by adding the emotional dimension, namely the feeling of betrayal, as a significant mediating variable.

This provides a new understanding that purchase intent is not only influenced by rational factors, but also emotional responses to the credibility of brand claims.

Practically, the results of this study emphasize the importance of transparency in sustainability communication. Companies need to ensure that green claims are backed by real evidence, not just a marketing strategy. For regulators, these results indicate the need for stricter oversight policies of environmental claims, for example through independent labeling or certification standards.

CONCLUSION

This study shows that the perception of Greenwashing has a negative influence on the purchase decision of green products. The impact is significantly mediated by the feeling of betrayal, which confirms that consumers not only assess environmental claims rationally, but also respond to them emotionally. These results expand the framework of the Theory of Planned Behavior by including the psychological aspect, where feelings of betrayal become an important mechanism that explains the decline in purchase intent when consumers encounter inauthentic sustainability claims. In practical terms, the study emphasizes that the credibility of sustainability communication is essential for companies to maintain consumer trust. Companies need to avoid the practice of greenwashing and prove green claims with concrete actions, while regulators need to strengthen certification systems and oversight of environmental claims. The limitation of this study is that it focuses on one type of product and location (bottled drinking water in Jakarta). Further studies can extend the context to other product categories as well as include additional psychological variables such as consumer skepticism and brand trust to enrich understanding of the dynamics of green consumption.

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