



## Research on Factors Affecting University Students' Ability to Identify Greenwashing Practices in Hanoi

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### Abstract

Greenwashing has become an increasingly important issue in the context of growing environmental awareness and sustainable consumption trends. This paper reviews the major factors affecting university students' ability to identify greenwashing practices in Hanoi. Drawing upon previous studies and theoretical perspectives such as the Elaboration Likelihood Model, Cognitive Dissonance Theory, Signaling Theory, and the Affect-Reason-Involvement framework, the study examines the roles of environmental knowledge, environmental concern, consumer skepticism, and message characteristics in influencing greenwashing recognition. The paper adopts a conceptual review approach by synthesizing previous academic studies related to greenwashing, green marketing, and consumer behavior. The findings from the literature suggest that students with stronger environmental knowledge and higher levels of skepticism are generally more capable of critically evaluating environmental claims and identifying misleading green marketing practices. In contrast, vague claims, emotional appeals, and visual greenwashing strategies may reduce consumers' ability to distinguish genuine sustainability efforts from deceptive environmental communication. This study contributes to the literature on sustainable consumption and green marketing by providing a conceptual framework explaining university students' greenwashing recognition in the Vietnamese context. The paper also proposes several implications for educational institutions, policymakers, and businesses to improve environmental literacy, strengthen advertising transparency, and promote sustainable communication practices.

**Keywords:** Greenwashing, green marketing, university students, consumer skepticism, sustainable consumption.

### 1. Introduction

In recent years, environmental issues and sustainable development have attracted increasing attention from governments, businesses, and consumers worldwide. Along with this trend, companies have actively promoted green marketing activities in order to build environmentally friendly images and improve their competitive advantages. However, the rapid growth of green marketing has also led to the increasing prevalence of greenwashing practices, in which companies provide misleading or exaggerated environmental

claims regarding their products, services, or business activities (Mangini et al., 2020; Sun & Shi, 2022).

Greenwashing has become a significant concern because it may reduce consumer trust, damage corporate credibility, and negatively influence sustainable consumption behavior (Chen & Chang, 2013; Vilkaitė-Vaitonė, 2024). Previous studies have indicated that consumers who recognize greenwashing practices often develop negative attitudes toward companies and become more skeptical of environmental advertising claims (Apostolopoulos et al., 2025; Leonidou & Skarmas, 2017).

Among different consumer groups, university students are considered an important research subject because they are generally more environmentally aware and highly exposed to digital media platforms where green marketing messages are widely distributed (Li et al., 2025). In a rapidly developing city such as Hanoi, understanding the factors influencing students' ability to distinguish between genuine environmental practices and greenwashing strategies is increasingly important for promoting sustainable consumption and protecting consumers from misleading information.

Although previous studies have examined greenwashing and consumer responses to environmental claims, research focusing specifically on university students' ability to identify greenwashing practices in Vietnam remains limited. Most studies have concentrated on green purchase intention or green consumption behavior rather than consumers' capability to recognize misleading environmental communication. Therefore, this paper aims to review the major theoretical foundations and discuss the factors affecting university students' ability to identify greenwashing practices in Hanoi.

## **2. Literature Review and Theoretical Background**

### **2.1. Greenwashing Concept**

Greenwashing is commonly defined as the practice of misleading consumers regarding a company's environmental practices or the environmental benefits of a product or service (Chen & Chang, 2013; Mangini et al., 2020). Companies may use vague environmental claims, false information, eco-labels, green colors, or nature-related imagery to create the impression that their products are environmentally friendly, even when actual environmental benefits are limited or nonexistent (Schmuck et al., 2018; Parguel et al., 2015).

Previous studies have identified several forms of greenwashing, including vague claims, hidden trade-offs, false labels, and executional greenwashing, which relies heavily on visual communication rather than factual environmental evidence (Ende et al., 2023; Parguel et al., 2015). As consumers become increasingly concerned about sustainability, greenwashing has emerged as a major challenge for both businesses and policymakers.

### **2.2. Elaboration Likelihood Model (ELM)**

The Elaboration Likelihood Model (ELM), developed by Petty and Cacioppo (1986), explains how consumers process persuasive information through two different routes: the central route and the peripheral route. Consumers using the central route carefully analyze information and critically evaluate arguments, while those relying on the peripheral route are more likely to be influenced by superficial elements such as colors, images, or celebrity endorsements.

In the context of greenwashing, consumers with greater motivation and environmental knowledge are more likely to process environmental claims through the central route and critically evaluate green marketing messages (Neureiter et al., 2024). In contrast, consumers relying on peripheral cues may be more vulnerable to misleading environmental communication (Schmuck et al., 2018).

### **2.3. Cognitive Dissonance Theory**

Cognitive Dissonance Theory, proposed by Festinger (1957), suggests that individuals experience psychological discomfort when they encounter information that conflicts with their existing beliefs or

attitudes. In the context of greenwashing, consumers may feel disappointed or distrustful when they discover that companies they previously believed to be environmentally responsible are actually engaging in misleading environmental practices.

This theory helps explain why consumers often develop skepticism and negative attitudes toward brands after recognizing greenwashing activities (Andreoli et al., 2025).

#### 2.4. Consumer Skepticism and Greenwashing Recognition

Consumer skepticism refers to consumers' tendency to question or doubt advertising claims (Leonidou & Skarmeas, 2017). Previous studies have shown that skepticism plays an important role in helping consumers critically evaluate environmental claims and identify misleading information (Apostolopoulos et al., 2025; Khoirina et al., 2025).

Consumers with higher skepticism are less likely to trust green advertising without evidence and are more capable of detecting greenwashing practices. Therefore, skepticism is considered one of the most important psychological mechanisms influencing greenwashing recognition.

**Table 1. Summary of Previous Studies on Greenwashing Recognition**

Authors	Research Focus	Main Findings
Chen and Chang (2013)	Greenwashing and green trust	Greenwashing negatively affects consumer trust and increases perceived risk.
Mangini et al. (2020)	Greenwashing and consumer behavior	Misleading environmental claims influence consumer attitudes and purchase intentions.
Sun and Shi (2022)	Greenwashing perception	Consumers who perceive greenwashing tend to reduce green purchasing intentions.
Schmuck et al. (2018)	Green advertising and emotional appeals	Emotional green advertising may mislead consumers and influence environmental perceptions.
Parguel et al. (2015)	Executorial greenwashing	Natural imagery and green visual elements may create misleading environmental impressions.
Leonidou and Skarmeas (2017)	Consumer skepticism	Consumer skepticism improves critical evaluation of environmental claims.
Apostolopoulos et al. (2025)	Greenwashing awareness	Awareness of greenwashing positively affects consumers' ability to identify misleading environmental information.
Neureiter and Matthes (2023)	Environmental advertising	Consumers with stronger environmental knowledge are more capable of detecting greenwashing practices.
Li et al. (2025)	Greenwashing on social media	Social media communication may increase exposure to sophisticated greenwashing strategies.
Khoirina et al. (2025)	Consumer skepticism literature review	Skepticism plays an important role in evaluating green advertising and corporate environmental claims.

Source: Compiled by the authors

### 3. Methodology

This study adopts a conceptual review approach to examine the factors affecting university students' ability to identify greenwashing practices in Hanoi. Instead of collecting primary survey data, the paper systematically reviews and synthesizes previous academic studies related to greenwashing, environmental knowledge, consumer skepticism, and sustainable consumption behavior.

Relevant studies were collected from academic databases such as Scopus, Google Scholar, and ScienceDirect. The review focused on identifying the major factors influencing consumers' ability to recognize greenwashing practices, particularly among young consumers and university students.

Based on the synthesis of previous literature, this paper proposes a conceptual framework explaining the relationships among environmental knowledge, environmental concern, message characteristics, consumer skepticism, and university students' ability to recognize greenwashing practices.

**Table 2. Main Theoretical Foundations and Their Applications**

Theory	Main Idea	Application in This Study
Elaboration Likelihood Model (ELM)	Consumers process information through central and peripheral routes.	Explains how students evaluate environmental claims and identify misleading green messages.
Cognitive Dissonance Theory (CDT)	Individuals experience psychological discomfort when information conflicts with their beliefs.	Explains consumers' negative reactions after discovering greenwashing practices.
Affect-Reason-Involvement (ARI) Framework	Consumer responses are influenced by both rational thinking and emotional reactions.	Explains how emotional appeals and analytical thinking affect greenwashing recognition.
Signaling Theory	Consumers rely on signals such as labels, visuals, and corporate reputation to evaluate products.	Explains how green labels, natural imagery, and brand reputation influence environmental perceptions.
Attribution Theory	Consumers attempt to determine the motives behind corporate actions and communications.	Explains how students evaluate the credibility and sincerity of corporate environmental claims.

Source: Compiled by the authors

### 4. Conceptual Framework and Proposed Relationships

#### 4.1. Environmental Knowledge

Environmental knowledge refers to consumers' understanding of environmental issues, sustainability, and ecological impacts (Putra & Kopot, 2026). Previous studies indicate that consumers with greater environmental knowledge are more capable of critically evaluating environmental claims and identifying misleading green marketing messages (Neureiter & Matthes, 2023).

Consumers with high environmental knowledge are more likely to analyze environmental information through the central route of the ELM model, which improves their ability to recognize greenwashing practices.

**Proposition 1:** Environmental knowledge positively influences university students' ability to identify greenwashing practices.

## 4.2. Environmental Concern

Environmental concern reflects consumers' awareness of environmental problems and their willingness to support environmentally responsible activities (Wei et al., 2017). Consumers with stronger environmental concern tend to pay more attention to environmental information and are generally more cautious toward corporate green claims (Pham & Barretta, 2024).

However, previous studies also suggest that emotional appeals and attractive environmental imagery may reduce consumers' critical evaluation of green advertising messages (Schmuck et al., 2018).

**Proposition 2:** Environmental concern positively influences university students' ability to critically evaluate environmental claims and recognize greenwashing practices.

## 4.3. Message Characteristics

The characteristics of green marketing messages significantly influence consumers' perceptions and evaluations of environmental claims. Vague claims such as "eco-friendly" or "natural" are often more difficult for consumers to evaluate because they lack clear definitions or supporting evidence (Parguel et al., 2015).

In addition, executional greenwashing, which relies heavily on visual elements such as green colors, natural landscapes, and eco-friendly packaging, may influence consumers through emotional and peripheral cues rather than factual environmental information (Boncinelli et al., 2023).

**Proposition 3:** University students are more likely to recognize false environmental claims than vague or image-based greenwashing practices.

## 4.4. Consumer Skepticism

Consumer skepticism acts as a psychological filter that helps consumers critically evaluate advertising claims (Leonidou & Skarmeas, 2017). Previous studies have shown that skeptical consumers are less likely to accept environmental claims without verification and are more capable of identifying misleading environmental communication (Khoirina et al., 2025).

Consumers with higher skepticism tend to examine environmental information more carefully and are therefore more resistant to greenwashing strategies.

**Proposition 4:** Consumer skepticism positively influences university students' ability to identify greenwashing practices.

## 5. Discussion

The theoretical analysis suggests that university students' ability to recognize greenwashing practices is influenced by both rational and emotional factors. Although students are generally considered environmentally aware consumers, they may still be vulnerable to sophisticated greenwashing strategies, particularly those using visual communication and social media platforms.

The increasing use of digital marketing and influencer advertising allows companies to spread green marketing messages rapidly, making it more difficult for consumers to distinguish between genuine environmental responsibility and misleading environmental communication (Li et al., 2025).

Corporate reputation may also create a halo effect, causing consumers to trust environmental claims made by well-known companies even when evidence is insufficient (Goldsmith et al., 2000; Musgrove et al., 2018). Furthermore, the lack of strict regulations and standardized eco-label systems in developing countries may increase consumer confusion regarding environmental claims.

In the Vietnamese context, environmental education related to greenwashing remains relatively limited. As a result, many university students may possess general environmental awareness but still lack the critical evaluation skills necessary to recognize sophisticated greenwashing practices.

## 6. Conclusion and Recommendations

### 6.1. Conclusion

This conceptual paper reviewed the major factors affecting university students' ability to identify greenwashing practices in Hanoi. The analysis indicates that environmental knowledge, environmental concern, message characteristics, and consumer skepticism are important determinants influencing greenwashing recognition.

Although university students are relatively educated consumers, they may still be influenced by vague environmental claims, emotional appeals, and image-based greenwashing strategies. Therefore, improving students' environmental literacy and critical thinking skills is essential for promoting sustainable consumption behavior.

### 6.2. Recommendations

For educational institutions, universities should integrate sustainable consumption and greenwashing-related topics into teaching programs and extracurricular activities in order to improve students' environmental literacy and analytical thinking skills.

For policymakers, clearer environmental advertising regulations and stricter monitoring systems are necessary to reduce misleading green marketing practices and protect consumers from false environmental claims.

For businesses, companies should focus on transparent environmental communication and genuine sustainability practices rather than relying on symbolic green marketing tactics. Long-term consumer trust can only be achieved through honesty, accountability, and verifiable environmental commitments.

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