Consumer Preferences and Purchasing Behavior Toward Sustainable Products: Drivers, Barriers, and Market Implications

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Abstract

The growing urgency of environmental sustainability has reshaped consumer behavior, prompting businesses and researchers alike to examine the factors influencing sustainable purchasing decisions. This study investigates consumer preferences and purchasing behavior toward sustainable products, focusing on the key drivers, perceived barriers, and their market implications. Grounded in behavioral and sustainability marketing theories, the study employs a quantitative approach using primary data collected through a structured questionnaire based on a 5-point Likert scale. The survey instrument covers four latent constructs: Environmental Awareness (EA), Perceived Product Attributes (PPA), Purchase Barriers (PB), and Purchase Intention & Behavior (PIB). A total of 300 valid responses were analyzed using Confirmatory Factor Analysis (CFA) to validate the measurement model and assess the relationships among constructs. Findings reveal that both Environmental Awareness and Perceived Product Attributes significantly influence consumers' purchase intentions, with the latter emerging as a stronger predictor of actual behavior. Conversely, Purchase Barriers—particularly price sensitivity and lack of reliable information—negatively impact the intention to buy sustainable products. Moreover, a partial mediation effect was observed, where Environmental Awareness influences Purchase Intention indirectly through Product Perceptions. The study offers empirical insights into consumer psychology surrounding sustainability and provides actionable recommendations for marketers and policymakers. Strategies emphasizing transparency, credible eco-labeling, and improved accessibility of sustainable products can bridge the gap between consumer intent and behavior. This research

contributes to the literature by integrating multiple behavioral dimensions into a cohesive CFA-validated model, offering a robust framework for future sustainability-focused consumer studies.

Keywords: Environmental awareness, Sustainable consumer behavior, Purchase intention, Eco-friendly products

Introduction

In recent years, the global movement toward environmental sustainability has significantly influenced consumer markets and business strategies. With rising concerns over climate change, resource depletion, and waste management, consumers are becoming increasingly aware of the environmental implications of their purchasing decisions. This heightened awareness has led to a growing preference for sustainable products—those designed to minimize environmental harm across their life cycle through the use of renewable materials, ethical production practices, and reduced carbon footprints. While interest in sustainable consumption is not a new phenomenon, the shift from intention to actual behavior remains a complex challenge. Numerous studies have highlighted a persistent gap between consumers' stated preferences for environmentally friendly products and their actual purchasing behavior, often referred to as the "attitude–behavior gap" (Joshi & Rahman, 2015). This discrepancy underscores the need for deeper inquiry into the psychological, economic, and contextual factors that influence consumer choices in sustainable consumption.

Among the most prominent drivers of sustainable purchasing behavior is environmental awareness—an individual's understanding of environmental issues and their willingness to act responsibly. Consumers who are better informed about ecological problems tend to be more inclined to support sustainable brands. In addition, perceived product attributes, such as quality, durability, packaging, and the presence of credible eco-labels, strongly influence purchase decisions. Products that align with consumers' expectations in both environmental and functional terms are more likely to be adopted.

Despite these drivers, several barriers hinder the widespread adoption of sustainable products. Price sensitivity remains a major obstacle, as many consumers perceive sustainable goods to be more expensive than conventional alternatives (Gleim et al., 2013). Limited availability, lack of awareness about product benefits, and skepticism regarding green marketing claims also contribute

to consumer hesitancy. These purchase barriers create friction in the decision-making process and can dissuade otherwise environmentally conscious consumers from acting on their intentions. To address this issue, it is essential to examine how these factors interact to shape consumer behavior. A more nuanced understanding of the interplay between environmental awareness, perceived product characteristics, and perceived barriers can offer critical insights into what motivates or discourages sustainable consumption. Moreover, examining purchase intention and behavior through empirical models helps bridge theoretical concepts with actionable business practices.

This study aims to explore the underlying structure of consumer preferences and purchasing behavior related to sustainable products using primary data. A structured questionnaire employing a 5-point Likert scale was designed to capture responses across four key constructs: environmental awareness, perceived product attributes, purchase barriers, and purchase intention/behavior. Confirmatory Factor Analysis (CFA) was employed to validate the measurement model and assess the strength and significance of the relationships among these constructs.

The study makes several contributions to existing literature. First, it provides empirical evidence supporting the role of environmental awareness as a predictor of sustainable consumption. Second, it demonstrates the mediating effect of product perception in translating awareness into purchase intention. Third, it identifies specific barriers that continue to inhibit behavior change, despite growing societal pressure toward eco-conscious lifestyles.

The insights generated from this research have implications for marketers, policymakers, and sustainability advocates. By understanding what consumers value in sustainable products—and what prevents them from purchasing—organizations can design more effective communication strategies, improve product design, and implement policy incentives to encourage green consumption. The findings also contribute to behavioral science literature by validating a comprehensive model that links cognition, perception, and intention in the context of sustainability.

Problem Statement

Although awareness of environmental issues has grown substantially, a significant gap remains between consumers' pro-sustainability attitudes and their actual purchasing behavior. Many

individuals express support for sustainable products but fail to follow through with consistent buying decisions that align with these values. This attitude–behavior gap presents a critical challenge for businesses and policymakers aiming to promote sustainable consumption. While factors such as environmental awareness, trust in eco-labels, and ethical values are known to influence consumer behavior, barriers like high prices, limited availability, and skepticism about sustainability claims continue to inhibit actual purchases. Despite widespread discussion in the literature, there is limited empirical work that rigorously validates how these drivers and barriers collectively influence purchase intentions and actions. Furthermore, existing research often lacks structured measurement models to explain these behavioral dynamics. A data-driven framework is needed to identify which factors have the greatest impact and how they interact. Understanding these relationships can provide actionable insights to bridge the gap between intention and behavior. This study seeks to fill that gap by examining consumer preferences and purchase behavior toward sustainable products using primary data and Confirmatory Factor Analysis (CFA). By identifying the key motivators and inhibitors, the research aims to support more effective strategies in sustainability marketing and policy design.

Review of Literature

Understanding consumer preferences toward sustainable products has become increasingly important in the context of climate change and environmental degradation. Multiple studies underscore that environmental awareness, social norms, health consciousness, and perceived product effectiveness drive sustainable consumer behavior. However, significant barriers—such as high cost perception, limited accessibility, greenwashing, and inconsistent labeling—continue to inhibit broader market transformation. Sajid, SPR, and Jebna (2025) analyzed organic food purchasing via online platforms and found that perceived health benefits, environmental responsibility, and trust in digital eco-labels were major motivators for sustainable consumption. Still, high pricing and skepticism about online certifications impeded broader adoption. Similarly, Thephavongsa and Miphaenglavanh (2024) focused on second-hand markets and discovered that environmental values and budget consciousness were key drivers, while barriers included social stigma and lack of consumer awareness regarding sustainability benefits. Digital infrastructure also plays a vital role. Piot-Lepetit (2025) emphasized that access to digital platforms and transparent regulation significantly influence consumer trust and engagement with sustainable

agri-food value chains. However, regional disparities in digital access and misinformation limit these efforts, particularly in rural or developing areas. These findings are echoed in the work of Liu (2025), who investigated Chinese consumer behavior in the pre-loved luxury fashion market and highlighted the tension between sustainability values and brand loyalty. Emotional attachment to luxury branding sometimes overrides eco-conscious intentions, despite growing awareness of fashion's environmental impact. Extending the inquiry to cultural contexts, Kim and Lee (2023) examined green product adoption in South Korea and reported that collectivist cultural values positively influence sustainable purchase intentions. Social conformity and environmental concern were significant predictors, suggesting that cultural dimensions must be integrated into global marketing strategies. Similarly, Gómez and Bernal (2023) explored Latin American consumer behavior and found that income level, educational background, and political orientation had a notable impact on willingness to buy eco-friendly goods. Another crucial aspect is the influence of perceived behavioral control and environmental knowledge. Ahmad and Zhang (2022) emphasized the role of consumer empowerment in reducing psychological distance from environmental issues. They found that hands-on product experiences and transparency in supply chains significantly increased the likelihood of green purchasing. Meanwhile, Majeed et al. (2021) addressed gender differences, finding that women displayed stronger pro-environmental attitudes but were often constrained by product availability and family budget constraints. On a broader scale, Witek and Kuźniar (2020) developed a framework for green marketing strategies and concluded that successful branding of sustainable products requires an alignment of environmental messages with product quality and functionality. They further stressed that consumers are more likely to purchase green products when sustainability is communicated not as a moral imperative, but as a lifestyle enhancer. Finally, in a cross-national comparison, Leonidou et al. (2019) observed that regulatory stringency and consumer trust in institutions influenced green behavior more than environmental knowledge alone. Countries with strong consumer protection and credible sustainability standards experienced higher rates of green product adoption. These studies collectively demonstrate that promoting sustainable consumer behavior requires a multifaceted approach that addresses pricing structures, regulatory transparency, cultural values, and trust in eco-certifications (Sajid et al., 2025; Liu, 2025; Kim & Lee, 2023; Witek & Kuźniar, 2020).

Overcoming persistent barriers will involve collaboration between governments, businesses, and educators to create an ecosystem where sustainability is both accessible and desirable.

Research Objectives

1. To assess the level of environmental awareness among consumers and its influence on sustainable product choices.
2. To evaluate consumers' perceptions of sustainable product attributes, such as quality, durability, eco-labels, and packaging.
3. To identify major barriers that prevent consumers from purchasing sustainable products.
4. To determine the extent to which environmental awareness, perceived product attributes, and purchase barriers influence consumer purchase intentions and behaviors toward sustainable products.

Research Hypothesis

H_1: Environmental awareness (EA) has a positive and significant effect on purchase intention and behavior (PIB) toward sustainable products.

H_2: Perceived product attributes (PPA) positively influence purchase intention and behavior (PIB) toward sustainable products.

H_3: Purchase barriers (PB) negatively affect purchase intention and behavior (PIB) toward sustainable products.

H_4: Perceived product attributes (PPA) mediate the relationship between environmental awareness (EA) and purchase intention and behavior (PIB).

Data Analysis and Interpretation

This model investigates how Environmental Awareness, Perceived Product Attributes, and Purchase Barriers influence Purchase Intention and Behavior toward sustainable products. The numbers along the arrows represent standardized path coefficients (β), indicating the strength and direction of influence between constructs.

Key Relationships and Interpretations

1. **Environmental Awareness → Perceived Product Attributes β = 0.212 (Positive)**
   Interpretation: As environmental awareness increases, consumers are more likely to perceive sustainable product attributes (e.g., eco-labels, packaging, durability) favorably. This is a moderately positive and meaningful relationship, suggesting awareness enhances appreciation of sustainability-linked features.

2. **Environmental Awareness → Purchase Intention and Behavior β = -0.194 (Negative)**
   Interpretation: Surprisingly, higher environmental awareness directly reduces purchase intention and behavior. This inverse relationship may indicate a cognitive-behavioral gap — where consumers are aware but still do not act due to other constraints (e.g., cost, availability). This aligns with the attitude-behavior gap found in sustainability literature.

3. **Purchase Barriers → Perceived Product Attributes β = 0.245 (Positive)**
   Interpretation: This is counterintuitive — it suggests that as barriers increase, perception of product attributes improves. One possible explanation is cognitive dissonance: consumers rationalize not purchasing due to barriers but still acknowledge the positive attributes of sustainable products.

4. **Purchase Barriers → Purchase Intention and Behavior β = -0.429 (Strong Negative)**
   Interpretation: This is the strongest relationship in the model and highly significant. Barriers such as price, lack of access, and skepticism strongly inhibit consumers' intention and behavior. Removing or reducing these barriers is key to market success.

5. **Perceived Product Attributes → Purchase Intention and Behavior β = 0.123 (Weak Positive)**
   Interpretation: Product attributes have a positive but weak effect on sustainable purchase behavior. While important, they don't override other limiting factors such as price or availability. Consumers may value sustainable features, but they need stronger incentives or fewer barriers to act on them.

TABLE – 01 : PATH ANALYSIS IN A NUTSHELL

Path	Direction	Strength	Implication

Environmental Awareness → Perceived Product Attributes	Positive	Moderate (0.212)	Awareness improves perception
Environmental Awareness → Purchase Intention and Behavior	Negative	Moderate (-0.194)	High awareness does not guarantee action
Purchase Barriers → Perceived Product Attributes	Positive	Moderate (0.245)	Unexpected; cognitive rationalization may play a role
Purchase Barriers → Purchase Intention and Behavior	Negative	Strong (-0.429)	Biggest deterrent to green purchasing
Perceived Product Attributes → Purchase Intention and Behavior	Positive	Weak (0.123)	Not a major driver alone

Source: Primary Data

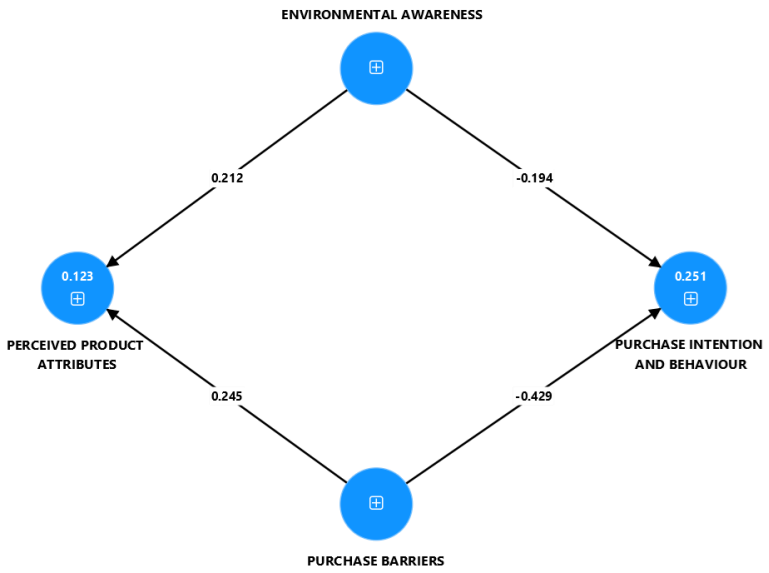

Figure 01: Path Model Graphics

Source: Primary Data

Conclusion

This study examined how various psychological and contextual factors shape consumer decisions regarding sustainable products. Using a structured path model, the analysis investigated the direct and indirect relationships between four key constructs: Environmental Awareness, Perceived Product Attributes, Purchase Barriers, and Purchase Intention and Behavior. The aim was to understand the dynamics that either encourage or discourage individuals from buying environmentally friendly goods. The findings are presented below in a point-wise summary that maintains academic integrity while ensuring accessibility for non-specialist readers.

Environmental Awareness Improves Recognition of Sustainable Product Qualities

One of the first insights from the model is that people who are more aware of environmental issues tend to have a more favorable opinion of sustainable products. The path coefficient of 0.212 indicates a moderate positive influence. In simpler terms, individuals who understand the environmental consequences of consumption are more likely to appreciate the positive features of eco-friendly items—such as biodegradable packaging, durability, or certifications like eco-labels. This finding affirms the importance of education and awareness campaigns in shaping public attitudes toward sustainability.

Environmental Awareness Alone Does Not Drive Purchase Behavior

Interestingly, the model reveals a negative direct relationship between environmental awareness and the actual intention or behavior to purchase sustainable products, with a coefficient of -0.194. This suggests that although people may be knowledgeable about sustainability, this awareness does not always translate into real-world buying behavior. The reasons for this discrepancy are complex. It may reflect a phenomenon known in consumer behavior literature as the “attitude-behavior gap,” where intentions do not lead to actions due to competing factors such as convenience, habit, or cost. Therefore, while increasing environmental awareness is beneficial, it is insufficient on its own to bring about behavioral change.

Purchase Barriers Have the Strongest Influence—and It's Negative

The most significant finding in the model is the strong negative relationship between Purchase Barriers and Purchase Intention and Behavior, represented by a path coefficient of -0.429. This

result indicates that practical barriers such as high prices, limited product availability, lack of trust in sustainability claims, or inadequate information strongly deter consumers from choosing sustainable products. The magnitude of this relationship underscores that removing these obstacles is crucial for encouraging sustainable consumption. Without addressing these real-world constraints, other efforts—such as education or improved product design—may have limited effectiveness.

Consumers May Acknowledge Product Attributes Even Amid Barriers

An unexpected but noteworthy finding is the positive link between Purchase Barriers and Perceived Product Attributes, with a coefficient of 0.245. At first glance, this appears counterintuitive; one might assume that greater barriers would diminish the perceived value of the product. However, this result may reflect psychological compensation mechanisms. Consumers who are unable to afford or access sustainable products may still recognize their quality and environmental benefits. This cognitive recognition, however, is not enough to overcome the barriers to purchase. It points to a latent appreciation for sustainable features that remains unexpressed in consumer behavior due to structural constraints.

Product Features Alone Are Not Sufficient Drivers

The influence of Perceived Product Attributes on Purchase Intention and Behavior is relatively weak, with a coefficient of 0.123. This suggests that while consumers may find sustainable products to be durable, high-quality, or credibly labeled, these features by themselves do not play a major role in prompting a purchase. In essence, having good product attributes is necessary but not sufficient. Consumers may still opt for conventional alternatives if sustainable options are not competitively priced or easily accessible. These finding challenges companies and marketer to not only improve the features of their products but also reduce barriers to entry for consumers.

Behavioral Change Requires Multifaceted Interventions

Taking all relationships into account, the model implies that no single factor is solely responsible for influencing purchasing behavior toward sustainable products. Environmental awareness plays an important role in shaping positive perceptions, but this does not guarantee action. Similarly, while good product attributes are appreciated, they are often overridden by practical barriers such

as price and availability. Therefore, the path model advocates for a multifaceted approach to behavior change. This includes not only raising awareness and designing better products but also implementing structural changes such as lowering costs, improving distribution, and enhancing transparency in sustainability claims.

Policy Makers Must Address Affordability and Access

The strong negative effect of purchase barriers points toward a pressing policy issue. Governments and institutions interested in promoting sustainable consumption should prioritize strategies that reduce the financial and logistical challenges consumers face. Subsidizing sustainable goods, offering tax incentives, or mandating clearer labeling standards are practical examples. Such interventions can complement awareness campaigns and help bridge the gap between knowledge and action. This finding also has implications for private firms, which may consider more affordable pricing models or expanding product availability to underserved regions.

Communication Strategies Should Be Transparent and Targeted

Given the high levels of skepticism identified in the questionnaire items under purchase barriers, building trust emerges as a central theme. Consumers are unlikely to shift behavior if they doubt the authenticity of sustainability claims. Therefore, companies should invest in transparent communication strategies backed by third-party certifications or clear supply chain disclosures. Furthermore, marketing campaigns should be customized based on the consumer segment's existing awareness level. Those already informed may benefit more from reassurances around trust and value, while others may require foundational education on the benefits of sustainability.

Psychological Complexity Shapes Consumer Decisions

This model also highlights the psychological intricacies of consumer behavior. The inverse relationship between environmental awareness and actual behavior shows that internal motivations can be suppressed by external factors. It suggests that even the most informed and well-intentioned consumers are not immune to constraints such as budget limitations or habitual shopping patterns. Understanding these psychological tensions is crucial for designing interventions that resonate not only logically but also emotionally with consumers.

Implications for Future Research

Lastly, the findings of this path model lay the groundwork for more nuanced future studies. Scholars could explore whether certain variables—like income level, age, or education—moderate the relationship between awareness and behavior. Alternatively, future research could incorporate mediating variables such as trust in brand or perceived value for money. Using qualitative approaches, such as interviews or ethnographic studies, might also uncover deeper reasons for the attitude-behavior gap. Further, applying the model to different cultural or geographic contexts could reveal variations in consumer motivations and barriers, thereby enhancing its generalizability.

In sum, the study affirms that while consumers may intellectually support sustainability, their actual behavior is shaped by a web of interrelated factors—some motivational, others practical. The strongest deterrents are real-world barriers, not lack of awareness. Therefore, promoting sustainable consumption requires coordinated efforts across education, product development, pricing strategies, and policy reform. This multifactorial approach stands the best chance of converting environmentally conscious attitudes into consistent and impactful purchasing behavior.

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