

Explaining the Green Marketing–Behavior Gap: Why Sustainability Initiatives Fail To Influence Consumer Purchasing in an Emerging Market

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ABSTRACT

Background and Purpose: The increasing emphasis on environmental sustainability has encouraged organizations to adopt green marketing strategies to promote environmentally responsible consumption. However, a persistent discrepancy remains between consumer awareness of sustainability issues and actual purchasing behavior, commonly referred to as the green marketing–behavior gap. This study aims to examine the influence of eco-labeling, green advertising, corporate social responsibility (CSR), and sustainable packaging on sustainable product choices among Malaysian consumers and to explore the extent to which green marketing initiatives translate into behavioral outcomes.

Methodology: A quantitative research approach was employed using a cross-sectional survey design. Data were collected from 400 Malaysian consumers through structured questionnaires distributed using both online and face-to-face methods. Measurement items were adapted from established literature and assessed using a five-point Likert scale. The data were analyzed using descriptive statistics, correlation analysis, and multiple regression analysis with SPSS software to test the proposed hypotheses.

Findings: The results indicate that green marketing strategies collectively explain only a small proportion of variance in sustainable product choices, suggesting limited effectiveness in influencing consumer behavior. Eco-labeling, green advertising, and sustainable packaging were found to have non-significant relationships with sustainable purchasing behavior. Corporate social responsibility demonstrated a statistically significant but negative relationship with sustainable product choices, indicating potential consumer skepticism toward corporate sustainability initiatives. These findings provide empirical evidence of a green marketing–behavior gap within the Malaysian context.

Contributions: This study contributes to the literature by integrating the Theory of Planned Behavior and Consumer Perceived Value frameworks to explain limitations of green marketing effectiveness in an emerging market. The findings offer practical insights for organizations and policymakers by highlighting the importance of credibility, perceived value, and structural support mechanisms in promoting sustainable consumption. The study also extends understanding of CSR effectiveness by identifying potential negative consumer responses when sustainability initiatives are perceived as inauthentic.

Keywords: Green marketing, Sustainable consumption, Consumer trust, Behavioral gap, CSR, Malaysia.

INTRODUCTION

The growing urgency of global environmental challenges, including climate change, pollution, and resource depletion, has intensified attention toward sustainable consumption and responsible production practices worldwide. Governments, organizations, and consumers are increasingly encouraged to adopt environmentally responsible behaviors to mitigate ecological degradation and ensure long-term sustainability (White, Habib, & Hardisty, 2019; Kumar, Prakash, & Kumar, 2021). Within this context, green marketing has emerged as a

strategic mechanism through which firms communicate the environmental attributes of their products, such as eco-friendly materials, reduced carbon emissions, recyclable packaging, and ethical sourcing practices (Leonidou, Katsikeas, & Morgan, 2013). These initiatives are intended to influence consumer attitudes, enhance brand credibility, and ultimately promote environmentally responsible purchasing behavior.

Despite the increasing visibility of sustainability campaigns worldwide, a persistent discrepancy remains between consumers' environmental awareness and their actual purchasing decisions. This phenomenon, often referred to as the attitude-behavior gap, reflects the reality that pro-environmental attitudes do not always translate into sustainable consumption practices (Joshi & Rahman, 2015; Wiederhold & Martinez, 2018). While consumers may express concern about environmental issues and support green initiatives conceptually, their purchasing behavior is frequently influenced by competing factors such as price sensitivity, convenience, product availability, and skepticism toward corporate environmental claims (Gleim, Smith, Andrews, & Cronin, 2013). Understanding the mechanisms underlying this gap is essential for both academic research and practical policy development, particularly in emerging economies where sustainability awareness is still evolving.

Malaysia provides a relevant context for examining this issue due to its rapid economic growth, urbanization, and increasing environmental concerns. The Malaysian government has introduced various initiatives to promote sustainable consumption, including eco-labeling certification programs such as the MyHIJAU Mark and national policies aimed at reducing plastic waste and encouraging environmentally friendly production practices (Ministry of Energy and Natural Resources Malaysia, 2022). However, despite these institutional efforts and growing public discourse on sustainability, consumer adoption of green products remains inconsistent. Many Malaysian consumers acknowledge the importance of environmental protection but remain reluctant to pay higher prices or alter their purchasing habits unless tangible benefits are evident (Rahbar & Wahid, 2011; Yadav & Pathak, 2017). This suggests that marketing communication alone may not be sufficient to drive meaningful behavioral change.

Green marketing strategies such as eco-labeling, green advertising, corporate social responsibility (CSR), and sustainable packaging are commonly employed by organizations to influence consumer perceptions and decisions. Eco-labels provide informational cues that reduce uncertainty regarding product environmental performance and enhance consumer trust (Testa, Iraldo, Vaccari, & Ferrari, 2015), while green advertising aims to shape consumer attitudes through persuasive messaging and emotional appeals (Hartmann & Apaolaza-Ibañez, 2012). CSR initiatives signal corporate commitment to ethical and environmental responsibility, potentially strengthening consumer trust and brand loyalty (Du, Bhattacharya, & Sen, 2010). Sustainable packaging communicates environmental consciousness at the point of purchase and may influence perceived product value and purchase intentions (Steenis, van Herpen, van der Lans, Ligthart, & van Trijp, 2017). Although these strategies are theoretically expected to encourage sustainable consumption, empirical findings remain inconsistent across different contexts, suggesting that their effectiveness may depend on consumer trust, perceived credibility, and socio-economic conditions (Kumar et al., 2021).

A growing body of literature has highlighted the role of consumer skepticism and greenwashing concerns as critical barriers to effective green marketing. When consumers perceive environmental claims as exaggerated or misleading, trust in corporate sustainability efforts diminishes, weakening the influence of marketing strategies on purchasing behavior (Skarmas & Leonidou, 2013; Nyilasy, Gangadharbatla, & Paladino, 2014). This issue is particularly relevant in developing markets where regulatory enforcement may vary and consumer knowledge about sustainability certifications remains uneven. Consequently, examining the effectiveness of green marketing strategies requires not only evaluating their direct impact on consumer behavior but also understanding the psychological and contextual factors that may constrain their influence.

The present study draws upon the Theory of Planned Behavior (TPB) (Ajzen, 1991) and the Consumer Perceived Value (CPV) framework (Zeithaml, 1988) to explain how green marketing strategies influence sustainable product choices. TPB suggests that behavioral intentions are shaped by attitudes, subjective norms, and perceived behavioral control, all of which may be affected by marketing communication and environmental messaging. Meanwhile, the CPV framework proposes that consumer decisions are guided by perceived functional, emotional, social, and economic value. Green marketing initiatives may enhance these value

dimensions; however, if perceived benefits are insufficient relative to cost or skepticism is high, behavioral change may not occur (Kang, Stein, Heo, & Lee, 2015). Integrating these theoretical perspectives allows for a more comprehensive understanding of the mechanisms underlying sustainable consumption behavior.

Although prior studies have examined green marketing and consumer behavior, most research has focused on developed economies, with relatively limited empirical investigation in Southeast Asian contexts such as Malaysia. Furthermore, many studies emphasize positive outcomes of green marketing without critically examining situations in which these strategies may demonstrate limited effectiveness. Addressing this gap is important for advancing theoretical understanding and providing practical insights for organizations seeking to promote sustainable consumption in emerging markets.

Therefore, the primary objective of this study is to examine the influence of eco-labeling, green advertising, corporate social responsibility, and sustainable packaging on sustainable product choices among Malaysian consumers and to explore the extent to which a green marketing–behavior gap exists. By empirically assessing these relationships, the study aims to identify potential barriers that prevent marketing efforts from translating into behavioral change.

This research contributes to the literature in several ways. First, it provides empirical evidence on the effectiveness of green marketing strategies within a developing economy context, offering insights that extend beyond findings from Western markets. Second, the study highlights the potential role of consumer skepticism and trust deficits in explaining the limited impact of green marketing on purchasing behavior. Third, by integrating TPB and CPV frameworks, the research offers a multidimensional perspective on sustainable consumption, emphasizing both psychological and value-based determinants. Practically, the findings offer implications for businesses and policymakers regarding the need for transparent communication, credible sustainability initiatives, and regulatory support to foster consumer trust and encourage sustainable purchasing behavior.

LITERATURE REVIEW

Green Marketing–Behavior Gap and Sustainable Product Choices

Green marketing has emerged as an important strategic response to increasing consumer awareness of environmental issues and the growing demand for sustainable products. It refers to the process of developing and promoting products based on their environmental attributes, including reduced environmental impact, recyclable materials, and sustainable production processes (Leonidou et al., 2013). As environmental concerns such as climate change and resource depletion intensify, organizations are increasingly integrating sustainability into marketing strategies to influence consumer behavior and enhance brand reputation (White et al., 2019).

In Malaysia, government initiatives such as the MyHIJAU certification program and national sustainability policies have encouraged businesses to adopt environmentally responsible practices. However, consumer behavior has not fully aligned with sustainability initiatives, reflecting a persistent gap between environmental awareness and purchasing behavior (Gleim et al., 2013; Kumar et al., 2021). Many Malaysian consumers express concern for environmental issues but fail to translate these attitudes into actual purchasing decisions, particularly when sustainable products are perceived as expensive or inconvenient (Rahbar & Wahid, 2011). This discrepancy highlights the importance of examining how green marketing tools influence consumer behavior in emerging markets.

Eco-Labeling and Sustainable Product Choices

Eco-labeling is a certification mechanism designed to communicate the environmental performance of products to consumers. It serves as a third-party verification tool that reduces information asymmetry and enhances consumer trust in environmental claims (Testa et al., 2015). By providing credible and standardized information, eco-labels enable consumers to make informed purchasing decisions and increase confidence in sustainable products.

Empirical research suggests that eco-labeling positively influences consumer attitudes and purchase intentions by signaling product credibility and environmental responsibility (Testa et al., 2015; Kumar et al., 2021). According to the Theory of Planned Behavior, eco-labeling may influence attitudes and perceived behavioral control by enhancing consumer knowledge and reducing uncertainty associated with green products (Ajzen, 1991). From the Consumer Perceived Value perspective, eco-labels contribute to functional and social value perceptions, increasing the likelihood of sustainable purchasing behavior (Zeithaml, 1988).

H1: Eco-labeling has a positive influence on sustainable product choices.

Green Advertising and Sustainable Product Choices

Green advertising involves promotional communication emphasizing environmental benefits and sustainability commitments of products or organizations. It plays a significant role in shaping consumer perceptions, attitudes, and behavioral intentions toward environmentally responsible products (Hartmann & Apaolaza-Ibáñez, 2012). Through persuasive messaging and emotional appeals, green advertising can strengthen environmental awareness and encourage sustainable purchasing behavior.

However, the effectiveness of green advertising depends largely on credibility. Consumers may develop skepticism when environmental claims appear exaggerated or misleading, a phenomenon commonly referred to as greenwashing (Nyilasy et al., 2014). Research indicates that perceived greenwashing reduces consumer trust and weakens purchase intentions, particularly when marketing messages lack transparency or supporting evidence (Skarméas & Leonidou, 2013). Despite these challenges, authentic and credible green advertising has been shown to positively influence attitudes and social norms related to sustainable consumption (Hartmann & Apaolaza-Ibáñez, 2012).

H2: Green advertising has a positive influence on sustainable product choices.

Corporate Social Responsibility and Sustainable Product Choices

Corporate social responsibility refers to organizational practices that demonstrate commitment to ethical, social, and environmental responsibilities beyond profit maximization. CSR initiatives can enhance brand reputation, strengthen consumer trust, and influence consumer decision-making processes (Du et al., 2010). Consumers often interpret CSR engagement as an indicator of corporate integrity and ethical commitment, which may increase willingness to support the company through purchasing behavior.

From the Consumer Perceived Value perspective, CSR enhances emotional and social value by aligning corporate behavior with consumer moral beliefs (Zeithaml, 1988). Empirical evidence suggests that CSR initiatives positively influence consumer loyalty, brand trust, and purchase intentions, particularly when perceived as authentic and consistent with organizational practices (Du et al., 2010; Kumar et al., 2021). However, increasing consumer awareness of greenwashing practices may reduce CSR effectiveness if consumers question the credibility of corporate sustainability claims (Skarméas & Leonidou, 2013).

H3: Corporate social responsibility has a positive influence on sustainable product choices.

Sustainable Packaging and Sustainable Product Choices

Sustainable packaging refers to environmentally friendly packaging solutions designed to minimize environmental impact through recyclable, biodegradable, or reusable materials. Packaging functions not only as a protective component but also as a marketing signal that communicates environmental commitment at the point of purchase (Steenis et al., 2017). Consumers often interpret sustainable packaging as evidence of corporate environmental responsibility, which can influence perceived product value and purchasing decisions.

Research indicates that sustainable packaging positively affects consumer perceptions and purchase intentions, particularly when environmental benefits are clearly communicated and perceived as meaningful (Steenis et al., 2017). However, consumer concerns regarding cost, durability, and convenience may limit its impact on actual

behavior (Lindh et al., 2016). According to Consumer Perceived Value theory, sustainable packaging enhances functional and emotional value perceptions, which may increase sustainable purchasing behavior (Zeithaml, 1988).

Sustainable product choices refer to consumer decisions to purchase products that minimize environmental impact throughout their lifecycle, including production, packaging, use, and disposal (White et al., 2019). These decisions are influenced by multiple psychological and contextual factors, including environmental awareness, perceived value, social influence, and trust in marketing claims (Gleim et al., 2013). Understanding the determinants of sustainable product choices is therefore essential for promoting environmentally responsible consumption behavior.

H4: Sustainable packaging has a positive influence on sustainable product choices.

Theoretical Foundation

To explain the mechanisms underlying the relationships between green marketing strategies and sustainable product choices, this study integrates two complementary theoretical perspectives: the Theory of Planned Behavior (TPB) and Consumer Perceived Value (CPV) theory. The integration of these frameworks provides a comprehensive understanding of how marketing stimuli influence consumer decision-making processes in the context of environmentally sustainable consumption.

The Theory of Planned Behavior, developed by Ajzen (1991), proposes that individual behavior is primarily determined by behavioral intention, which is influenced by three key components: attitudes toward the behavior, subjective norms, and perceived behavioral control. In the context of sustainable consumption, green marketing initiatives such as eco-labeling, corporate social responsibility (CSR), and green advertising may shape consumer attitudes by increasing awareness of environmental benefits and ethical considerations. These strategies may also influence subjective norms by reinforcing social expectations regarding environmentally responsible behavior, particularly when sustainability is positioned as socially desirable. Furthermore, green marketing can enhance perceived behavioral control by reducing uncertainty and providing consumers with clearer information that facilitates environmentally responsible purchasing decisions. Previous research has demonstrated that TPB is an effective framework for explaining pro-environmental behaviors and green purchasing intentions across diverse contexts (Yadav & Pathak, 2017; Kumar et al., 2021).

While TPB explains the psychological determinants of behavior, Consumer Perceived Value theory offers insights into how consumers evaluate products based on multidimensional value perceptions. According to Zeithaml (1988), consumer decision-making is influenced by perceived value, which reflects the trade-off between perceived benefits and perceived costs. This perceived value encompasses functional, emotional, social, and economic dimensions, all of which may be influenced by green marketing strategies. For example, eco-labeling enhances functional value by providing credible information regarding product environmental performance. CSR initiatives strengthen emotional and social value by aligning corporate behavior with consumer ethical beliefs and social identity. Sustainable packaging contributes to both functional and emotional value by signaling environmental responsibility while maintaining product utility. However, when perceived costs, such as higher prices or reduced convenience, outweigh perceived benefits, consumers may hesitate to adopt sustainable products despite positive attitudes (Gleim et al., 2013).

The integration of TPB and CPV provides a robust framework for understanding the green marketing–behavior gap observed in many markets. TPB explains how marketing strategies influence consumer intentions through psychological mechanisms, while CPV explains how value perceptions shape the final purchasing decision. Together, these frameworks suggest that green marketing initiatives are more likely to influence sustainable product choices when they enhance perceived value and strengthen behavioral intentions simultaneously. Conversely, if consumers perceive sustainability claims as lacking credibility or offering insufficient value, the influence of green marketing on behavior may be limited.

By combining TPB and CPV perspectives, this study provides a multidimensional explanation of sustainable consumption behavior in Malaysia. This theoretical integration supports the examination of how eco-labeling,

green advertising, CSR, and sustainable packaging influence consumer decision-making and helps explain potential inconsistencies between environmental awareness and actual purchasing behavior.

RESEARCH METHODOLOGY

Research Design

This study adopts a quantitative research approach to examine the influence of green marketing strategies on sustainable product choices among Malaysian consumers. A cross-sectional survey design was employed to collect data at a single point in time, allowing the investigation of relationships between multiple independent variables and the dependent variable. Quantitative methods are appropriate for testing theory-driven hypotheses and examining causal relationships between constructs using statistical techniques (Hair, Black, Babin, & Anderson, 2019). The research framework is grounded in the Theory of Planned Behavior (Ajzen, 1991) and Consumer Perceived Value theory (Zeithaml, 1988), which provide the conceptual basis for understanding consumer decision-making in sustainable consumption contexts.

Population and Sampling

The target population for this study consists of Malaysian consumers who have purchasing experience with consumer products in retail or online markets. Given the diverse demographic composition of Malaysia, a stratified sampling approach was adopted to ensure representation across key demographic characteristics, including age, gender, income, and education level. Stratified sampling improves representativeness and reduces sampling bias compared with simple random sampling, particularly when population heterogeneity is expected (Sekaran & Bougie, 2016).

A total of 400 usable responses were collected, exceeding the minimum recommended sample size of 384 for large populations based on Krejcie and Morgan's (1970) sampling table. This sample size is considered adequate for multivariate statistical analysis and regression modeling. Data were collected through a combination of online distribution and face-to-face administration to capture responses from both digitally engaged consumers and individuals with limited online accessibility.

The unit of analysis in this study is the individual consumer, as the research aims to understand consumer perceptions, attitudes, and purchasing behavior related to sustainable products.

Measurement Instrument

Data were collected using a structured questionnaire developed based on previously validated measurement scales from the literature. The questionnaire consists of two main sections. The first section captures demographic information, including age, gender, education, and income level. The second section measures the study constructs: eco-labeling, green advertising, corporate social responsibility, sustainable packaging, and sustainable product choices.

All measurement items were assessed using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), which is widely used in consumer behavior research due to its reliability and ease of interpretation (Hair et al., 2019). The questionnaire items were adapted from established studies on green marketing and sustainable consumption to ensure content validity.

Prior to full-scale data collection, a pilot study involving 30 respondents was conducted to assess clarity, reliability, and wording of the questionnaire. Minor revisions were made based on participant feedback to improve comprehension and layout.

Reliability and Validity

To evaluate the internal consistency of the measurement scales, Cronbach's alpha coefficients were calculated for each construct. The reliability values exceeded the recommended threshold of 0.70, indicating acceptable

internal consistency (Hair et al., 2019). The Cronbach’s alpha values obtained were: eco-labeling ($\alpha = 0.84$), green advertising ($\alpha = 0.81$), corporate social responsibility ($\alpha = 0.86$), sustainable packaging ($\alpha = 0.79$), and sustainable product choices ($\alpha = 0.88$).

Construct validity was assessed using exploratory factor analysis (EFA). The Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy was 0.81, exceeding the minimum recommended value of 0.60, while Bartlett’s test of sphericity was statistically significant ($p < 0.001$), confirming the suitability of the data for factor analysis (Hair et al., 2019). Factor loadings exceeded the acceptable threshold of 0.50, supporting the validity of the measurement constructs.

Data Collection Procedure

Data collection was conducted over a period of several weeks using both online and offline survey distribution methods. Respondents were informed about the purpose of the study and assured that participation was voluntary and anonymous. Ethical considerations were addressed by ensuring confidentiality and obtaining informed consent prior to participation. The mixed-mode data collection approach improved response diversity and reduced coverage bias by including participants from different demographic backgrounds.

Data Analysis Techniques

The collected data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 25. Descriptive statistics were used to summarize demographic characteristics and variable distributions. Pearson correlation analysis was conducted to examine the relationships between green marketing variables and sustainable product choices. Multiple regression analysis was employed to test the proposed hypotheses and determine the predictive influence of eco-labeling, green advertising, CSR, and sustainable packaging on sustainable purchasing behavior.

Prior to regression analysis, statistical assumptions including normality, linearity, multicollinearity, and homoscedasticity were assessed to ensure the validity of the analysis results (Hair et al., 2019). The methodological procedures adopted in this study provide a reliable and systematic approach for examining the influence of green marketing strategies on consumer behavior in Malaysia.

Descriptive Analysis

Demographic Profile of Respondents

A total of 400 usable responses were obtained for the analysis. The demographic distribution of respondents reflects a relatively balanced representation of Malaysian consumers across gender, age, education, and income levels. Female respondents accounted for 52% of the sample, while males represented 48%. The majority of participants (61.1%) were between 26 and 45 years old, indicating that the sample largely consists of working-age consumers who are actively involved in purchasing decisions.

In terms of educational background, most respondents held a bachelor’s degree (58%), followed by diploma holders (24.5%) and postgraduate qualifications (12%). The income distribution shows that 45% of respondents earned between RM3,000 and RM5,999 per month, while 33% reported monthly income below RM3,000. This demographic diversity suggests that the sample captures a broad cross-section of Malaysian consumers, supporting the generalizability of the findings.

Table 4.1: Demographic Characteristics of Respondents

Demographic Variable	Category	Frequency	Percentage
Gender	Male	192	48.0%
	Female	208	52.0%

Age	18–25	78	19.5%
	26–35	123	30.8%
	36–45	121	30.3%
	46 and above	78	19.5%
Education	Diploma	98	24.5%
	Bachelor’s degree	232	58.0%
	Postgraduate	48	12.0%
	Others	22	5.5%
Monthly Income	Below RM3,000	132	33.0%
	RM3,000–RM5,999	180	45.0%
	RM6,000 and above	88	22.0%

This demographic diversity reflects a broad cross-section of Malaysian consumers, making the findings generalizable across different market segments.

Descriptive Statistics of Key Variables

Descriptive statistics were calculated to examine respondents’ perceptions of green marketing strategies and sustainable product choices. The mean scores for eco-labeling ($M = 3.12$), green advertising ($M = 3.05$), corporate social responsibility ($M = 3.07$), and sustainable packaging ($M = 3.02$) indicate moderate levels of agreement among respondents regarding the presence and influence of green marketing practices.

The dependent variable, sustainable product choices, recorded a slightly lower mean score ($M = 2.95$), suggesting that although consumers recognize green marketing initiatives, their willingness to translate awareness into actual purchasing behavior remains limited. This preliminary observation provides early evidence of a potential green marketing–behavior gap within the Malaysian consumer context.

Table 4.2: Descriptive Statistics of Key Variables

Variable	Mean	Standard Deviation
Eco-Labeling	3.12	0.61
Green Advertising	3.05	0.58
Corporate Social Responsibility (CSR)	3.07	0.62
Sustainable Packaging	3.02	0.60
Sustainable Product Choices	2.95	0.64

These results suggest that while consumers recognize green marketing practices, there is a gap in translating awareness into action, as reflected by the lower mean for sustainable product choices.

Reliability and Validity Analysis

Reliability analysis was conducted to assess the internal consistency of the measurement constructs. Cronbach’s alpha values exceeded the recommended threshold of 0.70 for all variables, confirming acceptable reliability.

Specifically, reliability coefficients were 0.84 for eco-labeling, 0.81 for green advertising, 0.86 for corporate social responsibility, 0.79 for sustainable packaging, and 0.88 for sustainable product choices.

Construct validity was evaluated using exploratory factor analysis. The Kaiser–Meyer–Olkin (KMO) value of 0.81 indicates sampling adequacy, while Bartlett’s Test of Sphericity was statistically significant ($p < 0.001$), confirming the suitability of the dataset for factor analysis. Factor loadings for all items exceeded the acceptable threshold, supporting convergent validity of the constructs.

Correlation Analysis

Pearson correlation analysis was performed to examine the relationships between green marketing strategies and sustainable product choices. The results indicate weak relationships across all variables. Eco-labeling ($r = 0.014$, $p = 0.794$) and sustainable packaging ($r = -0.023$, $p = 0.722$) demonstrated negligible correlations with sustainable product choices. Green advertising showed a weak positive relationship ($r = 0.060$, $p = 0.217$), although the relationship was not statistically significant.

Interestingly, corporate social responsibility exhibited a statistically significant but negative correlation with sustainable product choices ($r = -0.100$, $p = 0.048$). This unexpected finding suggests the possibility of consumer skepticism toward CSR initiatives, which may reduce trust and weaken behavioral influence. The generally weak correlations indicate that green marketing strategies alone may not strongly predict sustainable purchasing behavior among Malaysian consumers.

Table 4.3: Pearson Correlation Coefficients

Variable	Correlation (r)	p-value
Eco-Labeling	0.014	0.794
Green Advertising	0.060	0.217
CSR	-0.100	0.048
Sustainable Packaging	-0.023	0.722

The results show weak and non-significant correlations for all variables except CSR, which had a statistically significant but negative correlation with sustainable product choices. This may suggest underlying skepticism or misalignment between CSR efforts and consumer expectations.

Regression Analysis

Multiple regression analysis was conducted to examine the predictive influence of eco-labeling, green advertising, corporate social responsibility, and sustainable packaging on sustainable product choices. The regression model produced an R^2 value of 0.014, indicating that the independent variables collectively explain only 1.4% of the variance in sustainable product choices.

The regression coefficients reveal that eco-labeling ($\beta = 0.012$, $p = 0.794$), green advertising ($\beta = 0.058$, $p = 0.217$), and sustainable packaging ($\beta = -0.025$, $p = 0.722$) were not statistically significant predictors. Corporate social responsibility emerged as the only significant predictor ($\beta = -0.098$, $p = 0.048$), but the relationship was negative, contradicting the hypothesized positive relationship.

The low explanatory power of the regression model suggests that additional factors beyond green marketing strategies, such as price sensitivity, product availability, environmental concern, and perceived consumer effectiveness, may play more substantial roles in influencing sustainable purchasing decisions. This finding supports the argument that marketing communication alone may be insufficient to drive sustainable behavior without accompanying structural and economic incentives.

Table 4.4: Regression Coefficients

Independent Variable	Beta Coefficient	Standard Error	t-value	p-value
Eco-Labeling	0.012	0.045	0.26	0.794
Green Advertising	0.058	0.047	1.24	0.217
CSR	-0.098	0.049	-2.00	0.048
Sustainable Packaging	-0.025	0.045	-0.55	0.722

The regression model yielded an R² value of 0.014, indicating that the green marketing strategies explained only 1.4% of the variance in sustainable product choices. Only CSR was statistically significant, though the direction was negative.

ANOVA Analysis

Analysis of variance (ANOVA) was conducted to examine whether demographic characteristics influenced sustainable product choices. The results indicate that age (F = 0.46, p = 0.707), gender (F = 0.81, p = 0.367), education (F = 0.33, p = 0.834), and income (F = 1.10, p = 0.357) did not significantly affect sustainable purchasing behavior.

These findings suggest that sustainable product choices in this sample were relatively consistent across demographic groups. The absence of demographic differences may indicate that structural factors, rather than demographic characteristics, play a more critical role in influencing sustainable consumption behavior.

Table 4.5: ANOVA – Demographic Influence on Sustainable Product Choices

Demographic Factor	F-Statistic	p-value
Age	0.46	0.7066
Gender	0.81	0.3670
Education	0.33	0.8337
Income	1.10	0.3565

None of the demographic variables showed a statistically significant effect, indicating that sustainable purchasing behaviors were consistent across demographic segments in this study.

Hypothesis Testing Summary

The hypothesis testing results indicate limited support for the proposed relationships. Eco-labeling (H1), green advertising (H2), and sustainable packaging (H4) did not significantly influence sustainable product choices. Corporate social responsibility (H3) was statistically significant; however, the direction of the relationship was negative, contrary to expectations.

This unexpected result suggests that consumers may perceive CSR initiatives as superficial or misaligned with actual corporate practices, leading to skepticism rather than trust. The findings reinforce the existence of a green marketing–behavior gap, where awareness of sustainability initiatives does not necessarily translate into purchasing behavior.

Table 4.6: Summary of Hypothesis Testing Results

Hypothesis	Statement	Beta (β)	p-value	Result
H1	Eco-labeling positively influences sustainable product choices	0.012	0.794	Not Supported
H2	Green advertising positively influences sustainable product choices	0.058	0.217	Not Supported
H3	Corporate social responsibility positively influences sustainable product choices	-0.098	0.048	Supported (Negative)
H4	Sustainable packaging positively influences sustainable product choices	-0.025	0.722	Not Supported

DISCUSSION OF FINDINGS

The findings of this study provide important insights into the effectiveness of green marketing strategies in influencing sustainable product choices among Malaysian consumers. Overall, the results indicate that green marketing variables explain only a small proportion of consumer behavior, with the regression model accounting for approximately 1.4% of the variance in sustainable product choices. This limited explanatory power suggests that green marketing initiatives alone may not be sufficient to drive sustainable purchasing behavior, particularly in contexts where economic and practical considerations play a dominant role in consumer decision-making.

The weak influence of eco-labeling observed in this study contrasts with prior research that has identified eco-labels as important credibility signals that reduce information asymmetry and enhance consumer trust (Testa et al., 2015). One possible explanation for the insignificant relationship in the Malaysian context is limited consumer awareness or understanding of eco-label certifications. Although government initiatives such as MyHIJAU aim to improve recognition of environmentally friendly products, inconsistent exposure and insufficient consumer education may reduce the effectiveness of eco-labeling as a decision-making cue. This finding supports previous research indicating that eco-label effectiveness depends heavily on consumer knowledge and trust in certification systems (Rahbar & Wahid, 2011).

Similarly, green advertising was found to have a weak and non-significant influence on sustainable product choices. While green advertising is theoretically expected to shape attitudes and subjective norms according to the Theory of Planned Behavior (Ajzen, 1991), its effectiveness may be undermined by consumer skepticism toward environmental claims. Research on greenwashing suggests that consumers increasingly question the authenticity of environmental marketing messages, particularly when claims appear exaggerated or unsupported by evidence (Nyilasy et al., 2014; Skarmeas & Leonidou, 2013). In emerging markets where regulatory enforcement may be inconsistent, skepticism toward advertising claims may be even more pronounced, thereby reducing the persuasive power of green promotional strategies.

One of the most notable findings of this study is the negative relationship between corporate social responsibility and sustainable product choices. This result contradicts much of the existing literature, which generally identifies CSR as a trust-building mechanism that enhances consumer loyalty and purchase intention (Du et al., 2010). A plausible explanation for this unexpected outcome is the possibility that consumers perceive CSR initiatives as symbolic or marketing-driven rather than genuinely embedded within organizational practices. When CSR is perceived as insincere or inconsistent with corporate behavior, it may generate distrust rather than positive consumer responses. This interpretation aligns with research indicating that perceived corporate hypocrisy and greenwashing can weaken the effectiveness of CSR communication and reduce consumer engagement (Skarmeas & Leonidou, 2013).

The findings related to sustainable packaging also revealed a non-significant relationship with sustainable product choices. Although prior research suggests that environmentally friendly packaging can enhance perceived product value and influence purchasing behavior (Steenis et al., 2017), practical considerations such as cost, durability, and convenience may limit its influence on consumer decisions. In contexts where consumers prioritize affordability and product functionality, environmental packaging attributes may be perceived as secondary factors, consistent with the Consumer Perceived Value framework, which emphasizes the trade-off between perceived benefits and costs (Zeithaml, 1988).

From a theoretical perspective, the results suggest that the mechanisms proposed by the Theory of Planned Behavior and Consumer Perceived Value frameworks may not operate as strongly as expected in this context. While green marketing strategies may increase awareness and positive attitudes toward sustainability, these psychological factors alone may not be sufficient to overcome economic barriers or skepticism toward environmental claims. The findings therefore highlight the importance of integrating trust and perceived value considerations when examining sustainable consumer behavior, particularly in emerging economies.

The absence of significant demographic differences in sustainable product choices further suggests that structural barriers may play a more influential role than demographic characteristics in shaping consumer behavior. Factors such as product price, availability, and perceived effectiveness of environmental actions may exert stronger influence than age, gender, or income. This observation aligns with previous research indicating that situational and contextual factors often outweigh demographic characteristics in predicting sustainable consumption behavior (Gleim et al., 2013).

Overall, the findings reinforce the existence of a green marketing–behavior gap, where consumer awareness and positive attitudes toward environmental sustainability do not necessarily translate into purchasing behavior. This gap highlights the limitations of relying solely on marketing communication to drive sustainable consumption and underscores the need for credible sustainability practices, supportive policies, and economic incentives to encourage behavioral change.

CONCLUSION, IMPLICATIONS, AND RECOMMENDATIONS

Conclusion

This study examined the influence of green marketing strategies, specifically eco-labeling, green advertising, corporate social responsibility (CSR), and sustainable packaging, on sustainable product choices among Malaysian consumers. Grounded in the Theory of Planned Behavior and Consumer Perceived Value frameworks, the research aimed to explore whether green marketing initiatives effectively translate consumer awareness into purchasing behavior.

The findings reveal that green marketing strategies collectively explain only a small proportion of variance in sustainable product choices, suggesting that marketing initiatives alone may not be sufficient to drive environmentally responsible purchasing behavior. Eco-labeling, green advertising, and sustainable packaging were found to have non-significant relationships with sustainable product choices, while CSR demonstrated a statistically significant but negative relationship. These results highlight the existence of a green marketing–behavior gap in the Malaysian context, where awareness and exposure to sustainability initiatives do not necessarily lead to behavioral change.

The unexpected negative influence of CSR suggests that consumers may perceive corporate sustainability initiatives with skepticism, particularly when such initiatives are viewed as promotional rather than authentic. Similarly, the limited influence of eco-labeling and sustainable packaging indicates that consumers may prioritize functional attributes, price, and convenience over environmental considerations when making purchasing decisions. Overall, the study confirms that consumer decision-making regarding sustainable products is influenced by complex interactions between psychological, economic, and contextual factors rather than marketing communication alone.

Theoretical Implications

This study contributes to the literature by integrating the Theory of Planned Behavior and Consumer Perceived Value frameworks to explain the green marketing–behavior gap. While TPB emphasizes the role of attitudes, subjective norms, and perceived behavioral control in shaping behavior, the findings suggest that these psychological factors may be insufficient to influence sustainable purchasing when perceived value does not outweigh perceived costs. This reinforces the importance of incorporating value-based considerations into models of sustainable consumption behavior.

Furthermore, the negative relationship between CSR and sustainable product choices extends existing literature by highlighting the potential role of consumer skepticism and perceived corporate hypocrisy. The findings suggest that CSR may not always produce positive consumer outcomes, particularly when credibility is questioned. This provides new insights into the boundary conditions of CSR effectiveness and contributes to the growing body of research on greenwashing and trust in sustainability marketing.

Practical Implications

The findings offer important implications for businesses, marketers, and policymakers seeking to promote sustainable consumption. First, organizations should prioritize authenticity and transparency in sustainability communication. Consumers are increasingly skeptical of environmental claims, and superficial or exaggerated messaging may reduce trust rather than enhance it. Companies should therefore provide clear evidence of sustainability practices, including measurable environmental outcomes and third-party certifications, to strengthen credibility.

Second, marketers should emphasize the functional and economic benefits of sustainable products alongside environmental attributes. Consumers are more likely to adopt sustainable products when they perceive tangible value, such as cost savings, durability, or superior quality. Positioning sustainability as both environmentally responsible and economically beneficial may increase consumer acceptance.

Third, policymakers should complement marketing initiatives with structural support mechanisms, such as financial incentives, subsidies, and regulatory frameworks that encourage sustainable consumption. Public education campaigns that improve consumer awareness and understanding of eco-label certifications may also enhance the effectiveness of green marketing strategies. Collaborative efforts between government agencies and private organizations are essential to create an ecosystem that supports sustainable consumer behavior.

Limitations of the Study

Despite its contributions, this study has several limitations that should be acknowledged. First, the cross-sectional research design limits the ability to establish causal relationships between variables. Longitudinal research could provide deeper insights into how consumer attitudes and behaviors evolve over time. Second, the study relies on self-reported data, which may be subject to response bias or social desirability effects. Future research could incorporate behavioral or experimental methods to obtain more objective measures of consumer behavior.

Third, the relatively low explanatory power of the regression model suggests that additional variables may influence sustainable product choices. Factors such as environmental concern, perceived consumer effectiveness, price sensitivity, and product availability were not included in the model and may provide valuable insights in future studies. Finally, the research focuses on Malaysian consumers, which may limit generalizability to other cultural or economic contexts.

Future Research Directions

Future studies should consider incorporating additional psychological and contextual variables to improve explanatory power and deepen understanding of sustainable consumption behavior. Variables such as environmental concern, trust, perceived consumer effectiveness, and price sensitivity may provide more

comprehensive insights into consumer decision-making processes. Longitudinal studies could examine changes in consumer attitudes and behaviors over time, particularly as sustainability awareness continues to grow.

Comparative studies across different countries or cultural contexts may also provide valuable insights into how economic development, regulatory environments, and cultural values influence sustainable consumption behavior. Experimental research designs could further explore the causal effects of green marketing strategies and identify conditions under which sustainability initiatives are most effective.

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