

# Influence of Green Marketing Strategies on Encouraging Sustainable Consumption

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**Abstract**—This study investigates the influence of Nestlé Nigeria's green marketing strategies on consumer purchasing decisions, brand loyalty, and perceptions of their authenticity and credibility. Using a quantitative approach, data were collected from 900 respondents via convenience and judgmental sampling, with key metrics including awareness, perceived effectiveness, credibility, purchase decisions, and brand loyalty. Descriptive and correlation analyses summarized consumer engagement, while Ordinary Least Squares (OLS) regression assessed the impact on purchasing decisions and loyalty. Results revealed that Nestlé's green marketing strategies had limited effects on consumer behavior. Although a moderate link exists between sustainable consumption and purchasing behavior, awareness, trust, and credibility of green marketing showed no statistically significant impact, with high *p*-values across these variables. For example, the coefficient for Awareness of Green Marketing was  $-0.03167$  ( $p = 0.5966$ ), and for Trust, it was  $0.001932$  ( $p = 0.9730$ ), indicating no predictive value. The study suggests that Nestlé's current strategies may not have a strong influence on sustainable consumption. It is recommended that Nestlé adopt a more robust approach, including green pricing, recycling options, and targeted messaging to better align with consumer expectations for sustainability.

**Keywords**— Green Marketing Strategies, Sustainable Consumption, Consumer Behavior

## I. INTRODUCTION

Green marketing involves promoting products or services with a reduced environmental impact, such as those made from sustainable materials or powered by renewable energy sources (Gleim et al., 2013). Sustainable product plans to reduce pollution during a product's life cycle, from materials acquisition to production, selling, consumption, and disposition. All is about the availability of eco-friendly products (Chen et al., 2024; "Life cycle thinking," 2024). Using Life Cycle Assessment (LCA) helps

businesses identify environmental harms and fosters innovation in product design (Chen et al., 2024).

Green marketing educates about the environment and offers eco-friendly products. Mamani-Aquino et al. 2023, posit that a better understanding of the business environment will encourage their purchasing decision and increase their loyalty. The availability of eco-friendly products will increase trust, customer loyalty, and brand credibility. (Mohammadi, Barzegar, & Nohekhan, 2023). The study also affirmed that green marketing claims must be evidence-based to sustain customer trust and brand credibility (Financial Times, 2025). Businesses may demonstrate environmental responsibility and contribute to a sustainable future by adopting and effectively promoting sustainable practices (Mohammadi et al. 2023).

Businesses play a pivotal role in advancing sustainability because they are significant consumers of natural resources and influence environmental outcomes through their production and supply chains. By integrating eco-friendly practices and promoting sustainable products and services, businesses can reduce their ecological footprint and support a more sustainable economy. Key strategies include reducing waste and emissions, utilizing renewable energy sources, promoting sustainable production and consumption, and investing in the development of sustainable technologies.

In Nigeria, the largest economy in West Africa, the food and beverage industry has experienced substantial growth over the past two decades (2000-2022). Companies like Nestlé Nigeria Plc, a subsidiary of the global food and beverage giant Nestlé S.A., recognize the importance of sustainability in ensuring long-term business success. This research explores Sustainability in Action by

examining the impact of green marketing strategies on fostering sustainable consumption, using Nestlé Nigeria as a case study. It seeks to evaluate the effectiveness of Nestlé's green marketing initiatives in reducing environmental impacts, promoting sustainability, and engaging consumers.

Environmental sustainability has become a key business priority due to growing consumer demand for eco-friendly products and sustainable practices (Shuja et al., 2018). Many companies have adopted green marketing and corporate social responsibility (CSR) strategies to demonstrate their environmental commitments, influence consumer behavior, and strengthen brand loyalty. Studies in various markets, such as India's automotive industry, have shown a positive link between green marketing and consumer loyalty (Qureshi et al., 2020). Additionally, research highlights consumer acceptance of eco-friendly products that meet environmental standards (Waqas et al., 2018). However, there is limited research on the impact of green marketing strategies in Nigeria, a market characterized by unique socio-economic and regulatory challenges.

A comprehensive review of Nestlé Nigeria's online and offline communications, including its corporate website, traditional media advertising, and social media engagement, reveals that green marketing constitutes a central component of the company's overall branding and promotional strategy in Nigeria. The firm actively incorporates sustainability narratives into its marketing communications and offers a portfolio of environmentally friendly products that Nigerian consumers can select as part of their purchasing choices. By emphasizing these green product lines and promoting responsible consumption, Nestlé Nigeria demonstrates a strategic commitment to sustainability. This approach not only aligns the company with global environmental standards but also enhances its competitive positioning within an increasingly environmentally conscious Nigerian market.

However, given limited environmental awareness, economic constraints, and regulatory hurdles, the impact of these initiatives on consumer behavior in Nigeria remains unclear. Moreover, the authenticity and transparency of green marketing claims are crucial in shaping consumer trust. In contexts where concerns about greenwashing are prevalent, consumers may question the sincerity of environmental commitments, potentially

undermining the effectiveness of green marketing strategies.

This study addresses these gaps by investigating two pressing issues. Firstly, it examines how Nestlé Nigeria's green marketing strategies influence consumer behavior toward sustainable consumption. Secondly, it investigated the various challenges that Nestlé Nigeria encounters in executing these strategies within the Nigerian market. By addressing these questions, this research aims to provide valuable insights into the effectiveness of green marketing in shaping consumer behavior in Nigeria and suggest ways for businesses to overcome sustainability-related barriers.

## II. CONCEPTUAL FRAMEWORK GREEN MARKETING AND SUSTAINABLE CONSUMPTION

Green marketing encompasses various strategies targeting the reduction of environmental impact while meeting consumer needs. Polonsky (1994) defines it as modifications in product design, production processes, packaging, and advertising to align with eco-friendly goals. Similarly, Chamorro and Bañegil (2015) emphasize that it integrates sustainability across all aspects of product planning, including pricing, distribution, and promotion. Mourad and Ahmed (2012) highlight the balance between profitability and social responsibility. Gordon, Carrigan, and Hastings (2011) extend this view by noting that green marketing covers the entire product lifecycle, from production to post-purchase services.

Effective green marketing enhances eco-branding, labeling, and advertising to stimulate demand for environmentally friendly products (Juwaheer, Pudaruth, & Noyaux, 2012). However, consumer skepticism toward environmental claims presents a challenge. False claims, or "greenwashing," can damage a company's reputation and sales (Babita, 2013). Transparency and adherence to sustainable business practices are essential to maintaining consumer trust.

Green marketing promotes sustainable consumption by advocating eco-friendly choices throughout a product's lifecycle. Norm, Douglas, Cerf, and Krishnan (2011) assert that green products should minimize environmental harm and avoid elements

detrimental to the ecosystem. Maheshwari (2014) acknowledges that every product impacts the environment at some stage, underscoring the challenge of achieving complete environmental neutrality.

Companies like Nestlé demonstrate how green marketing strategies can drive consumer awareness and encourage sustainable consumption. By implementing eco-friendly practices in production, packaging, and promotion, Nestlé not only reduces its environmental footprint but also aligns with the growing consumer demand for greener products.

In essence, green marketing fosters sustainability by promoting products with superior environmental and social performance compared to conventional alternatives. As consumer awareness within certain segments of the overall market increases, companies may profit from effectively communicating the benefits of eco-friendly products and integrating sustainability into their core marketing strategies.

#### Green Purchase Behaviour

Certain consumer segments are motivated by goods and services that they perceive as having a positive or reduced negative effect on sustainability. Green purchase behavior refers to consumer actions aimed at conserving energy, reducing waste, and avoiding products with excessive or harmful packaging (Joshi & Rahman, 2015). For instance, green purchasing may involve choosing products from biodegradable or recyclable materials, such as eco-friendly packaging or non-toxic detergents (Liobikienė et al., 2017). Additionally, green products are typically defined by features like minimal packaging, recyclability, organic production methods, and a reduced environmental footprint (Gleim et al., 2013; Kanchanapibul et al., 2014). Recent studies highlight the role of consumer awareness and eco-labeling in shaping green purchase behavior. For example, Kumar and Polonsky (2019) found that consumers may prefer environmentally friendly products, particularly when backed by third-party certifications. Similarly, Zhao et al. (2021) observed that, although customer satisfaction plays a moderating role, younger consumers prefer products made with sustainable materials, especially those featuring refillable or zero-waste packaging. Green practices also extend to product life-cycle considerations, such as prioritizing durability, and reusability, and incorporating recyclable or

biodegradable components (Rausch & Kopplin, 2021). This holistic approach underscores the environmental impact of products throughout their entire life cycle, guiding consumers toward more sustainable purchasing decisions.

#### The Role of Green Marketing in Consumer Perception and Behaviour

Green marketing influences consumer behavior by promoting environmentally beneficial products, and steering choices toward sustainable consumption. However, misleading eco-friendly claims can damage brand trust when exposed (Babita, 2013). Genuine green marketing emphasizes eco-friendly production and sustainable business models, fostering informed consumer decisions. Norm, Douglas, Cerf, and Krishnan (2011) argue that an effective green product minimizes environmental harm while delivering value.

Rising consumer awareness about green products highlights the importance of effective green marketing that aligns with consumer values. Hasan et al. (2025), posit that even green products can pose significant environmental issues throughout their lifecycle, including material extraction, production, usage, and disposal, which confound efforts to achieve eco-neutrality. Nestlé exemplifies a company leveraging green marketing by promoting its environmental stewardship in production and product development to encourage sustainable consumption.

#### Dimensions of Green Marketing

Green marketing strategies include eco-labeling, eco-branding, and environmental advertising, which shape consumer buying behavior. Meghna and Prachi (2016) argue that these elements shape customer perceptions, encouraging environmentally conscious purchases.

#### Eco-Labeling

Eco-labels are a key tool in green marketing, appearing on product packaging as symbols or schematics. According to Delafrooz et al. (2014), these labels serve dual roles, providing informational and value-based functions by offering details about a product's environmental impact.

They help consumers identify eco-friendly products and make informed purchasing decisions. Meghna and Prachi (2016) found that 43% of consumers believed eco-labeled products were better for the

environment, and the same percentage associated them with health benefits. Additionally, 73% viewed eco-labeled products as credible, while 56% were willing to pay a premium for such products."

Research also shows a positive correlation between eco-labeling and consumer intentions to buy green products (Delafrooz et al., 2014). A Finnish study by Jarvi (2010) found that 45.5% of consumers researched products online before purchasing, while a similar percentage made impulse buys. Recognizable eco-labels were more likely to influence purchasing behavior, with 60% of participants frequently considering them.

#### Eco-Branding

Eco-branding, or green branding, refers to names, terms, symbols, or signs that showcase a firm's environmental commitment. Unlike eco-labels, which certify food and consumer products, ecobranding distinguish products based on their eco-friendly benefits (American Marketing Association, 2019). They help consumers differentiate green products from conventional ones, enhancing visibility and credibility.

Eco-labels, appearing as labels or diagrams on the packaging, serve two key functions: providing information and adding value (Delafrooz et al., 2014). They inform consumers about a product's environmental impact, aiding purchase decisions. Meghna and Prachi (2016) found that 43% of consumers perceived eco-labeled products as beneficial for the environment and health, while 73% trusted their credibility. Additionally, 56% were willing to pay a premium for green products, though 2% saw eco-labels as insignificant. Research further confirms a positive link between eco-labeling and eco-friendly purchasing intentions (Delafrooz et al., 2014). A study by Jarvi (2010) on Finnish consumers revealed that 45.5% researched products before buying, while a similar percentage made impulse purchases, highlighting the impact of recognizable eco-labels.

#### Green Marketing Trends: A Global Perspective vs. Africa/Nigeria's Emerging Strategies Global Trends in Green Marketing

Green marketing has emerged as an essential strategy for businesses seeking to strike a balance between profitability and environmental responsibility. Companies are increasingly using eco-branding, eco-

labelling, and environmental advertising to raise customer awareness and promote sustainable consumption (Pillai, Ramachandran, & Ramachandran, 2024).

Studies reveal that consumers are willing to pay a premium for green products, with elements including eco-label legitimacy, brand trust, and environmental knowledge playing crucial roles. For example, PwC's 2024 Voice of the Consumer Survey discovered that customers are prepared to pay an average of 9.7% more for sustainably produced items, while Bain & Company (2023) reports an average premium of roughly 12%, however, there are differences among countries and product categories. In China, an ERP-based study identified both utilitarian and hedonic qualities as strongly impacting willingness to pay green premiums (Wei et al., 2023).

Rising environmental consciousness, particularly among younger generations, is a major driver of green consumerism around the globe. Recent study shows that ecolabeling and digital advertising, particularly through social media and influencer efforts, have a considerable impact on eco-conscious consumer behavior (Nguyen et al., 2022). Studies in both Western and Asian markets continue to reveal that female consumers are more attentive to green marketing messaging, emphasizing the gendered aspect of sustainable purchasing behavior (Lee & Lim, 2021). Nonetheless, despite increased interest in environmentally friendly products, many obstacles remain, such as extensive greenwashing, greater product pricing, and inconsistent regulatory compliance (Chen et al., 2023).

#### Emerging Green Marketing Strategies in Africa/Nigeria

Africa, particularly Nigeria, offers a distinct terrain for green marketing, defined by socioeconomic, cultural, and infrastructural constraints. While Nigerian consumers are becoming more aware of environmental issues, adoption of green products remains limited due to factors such as affordability, limited product availability, inconsistent policy enforcement, and a lack of consumer trust in environmental claims (Gani, 2024; Fikeresiyon & Gurudutta, 2024). Unlike in Western markets, where eco-conscious purchasing is frequently driven by consumers, green marketing efforts in Nigeria are primarily influenced by corporate social responsibility (CSR) strategies and regulatory

pressures rather than grassroots demand (Abiodun, Iyobhebhe, & Okundalai, 2024; PwC, 2024).

Multinational corporations such as Nestlé are increasingly adopting green marketing strategies in Nigeria to align with global sustainability goals. However, factors like economic volatility and limited consumer willingness to pay a premium for eco-friendly products continue to restrict widespread adoption. Recent studies highlight that price sensitivity remains a critical barrier, as affordability takes precedence over environmental considerations for many Nigerian consumers (Gani, 2024). Nevertheless, there is a notable rise in interest in eco-labeling and sustainability certifications among urban, educated, and middle-income groups, signaling a gradual shift toward green consumerism in emerging markets (Fikerisiyon & Gurudutta, 2024).

Despite these constraints, significant opportunities exist for the expansion of green marketing in Nigeria. The increasing penetration of digital platforms and social media offers companies a powerful channel to raise awareness and educate consumers about sustainable lifestyles, mirroring strategies employed by global brands through targeted eco-advertising (Nguyen et al., 2022). Furthermore, growing engagement from NGOs and recent government-backed incentives aimed at supporting environmentally responsible enterprises are helping to create a more supportive ecosystem for sustainable consumption in the region (PwC, 2024).

#### Opportunities and Challenges in Green Marketing Adoption

While global green marketing strategies have gained significant traction, Nigeria's market presents a mix of opportunities and barriers to growth.

##### Opportunities:

- **Growing Consumer Awareness:** Increasing global conversations on sustainability are shaping the preferences of Nigerian consumers, particularly the younger demographic. (Odunlami & Aro, 2024, and Iheagwam, 2022)
- **Corporate Initiatives:** Companies like Nestlé are paving the way by integrating sustainability into their supply chains and marketing campaigns. (Nestlé Nigeria, 2024; BrandCom, 2023).

- **Digital and Social Media Influence:** The rise of social media marketing presents an opportunity to educate and engage Nigerian consumers on green products. Adetayo (2022)

##### Challenges:

- **High Costs and Price Sensitivity:** Many consumers prioritize affordability, limiting the market for premium-priced green products (Ajayi et.al.,2023)
- **Regulatory Gaps and Greenwashing Risks:** Weak enforcement of environmental policies can hinder the credibility of green marketing efforts (Nairametrics, 2024).
- **Limited Infrastructure for Sustainable Production:** Inadequate recycling facilities and renewable energy sources pose challenges for local businesses (Adeniran & Lawal, 2023).

Therefore, comparing global green marketing trends with Nigeria's emerging strategies reveals a mix of alignment and divergence. While Western markets emphasize consumer-driven sustainability, Nigeria's approach is still evolving, shaped largely by corporate and policy-driven initiatives. Overcoming challenges such as affordability and regulatory enforcement will be crucial for green marketing to thrive in Nigeria. Leveraging digital platforms, strengthening ecolabeling credibility, and enhancing consumer education, Nigeria can align with global sustainability trends while addressing its unique market dynamics.

#### Theoretical review ABC Model of Attitudes and Green Marketing

Solomon et al. (2010) introduced the ABC Model of Attitudes, a psychological framework that explains how affect (emotions), conduct (actions), and cognition (beliefs) work together to generate consumer attitudes toward products. While initially offered as a broad model of consumer behavior, current empirical research has applied it to green marketing scenarios. For example, a 2022 study in the United States discovered that views created by variables such as green marketing mix and advertising significantly predict customers' propensity to buy eco-friendly items (Yin et al., 2022).

**Affect (Emotional Response)** Green marketing and corporate social responsibility (CSR) activities help

consumers form emotional links to sustainable brands. Emotional appeals to environmental concern and social responsibility, for example, can elicit positive emotions like as appreciation and trust, hence increasing brand attachment and loyalty. Liu et al. (2023) discovered that eco-friendly messages in the green furniture business had a substantial impact on consumers' emotional responses, including pleasure and arousal, hence strengthening green brand love and customer citizenship behavior.

**Behavior (Consumer Actions & Purchases)** the ABC models behavioral component argues that earlier favorable experiences with green products lead to recurring eco-friendly purchase behavior. Sun et al. (2024) found that green commercials that induce awe can elicit prosocial sentiments, which significantly increases customers' green purchase intentions. These emotional experiences lead to actual behavior, supporting sustainable consumption patterns.

**Cognition (Beliefs and Perceptions)** the cognitive component encompasses customer beliefs, knowledge, and perceptions of green products. Eco-labels, green certifications, and transparent environmental claims all influence these perceptions. Grankvist and Biel (2021), consumers who understand and trust eco-labels are more likely to consider environmentally friendly items credible and valued, increasing their buy intentions. Similarly, Li et al. (2023) discovered that perceived value and label trust significantly influence consumer decisions when purchasing green home equipment.

#### Application in Green Marketing

Marketers can use green advertising to shape positive consumer attitudes by emphasizing the emotional (trust, pride), functional (useful packaging, performance), and knowledge-based (eco-labels, QR codes) aspects of sustainability. Companies targeting the LOHAS segment can highlight health, ethical responsibility, and environmental benefits—appealing to consumers who see sustainability as personal well-being (Townsend, 2025). Packaging design, product experience, and marketing campaigns that align with consumer emotions and perceptions drive higher engagement and repeat

purchases (Ling & Halabi, 2024; Wang, 2024; 2025 industry report).

#### Nicosia Model and Green Marketing

The Nicosia Model of Consumer Behavior (Nicosia, 1966) focuses on the interaction between marketing communications and consumer decision-making. This model is particularly relevant to green marketing as it explains how environmental messages influence sustainable consumption.

**Marketing Stimuli (Firm's Green Strategies)** Companies like Nestlé use eco-friendly branding, sustainability reports, and green certifications to shape consumer attitudes toward sustainability. Digital marketing campaigns that emphasize carbon neutrality, waste reduction, and ethical sourcing can enhance consumer trust and engagement.

**Consumer Attitudes and Motivation:** Consumers interpret green marketing messages based on their values, environmental concerns, and past experiences. Those with positive perceptions of sustainability tend to engage with brands that align with their eco-friendly ethics (e.g., choosing Nestlé's plant-based or recyclable packaging).

**Decision-Making and Purchase Behavior:** The Nicosia Model explains that consumer decisions are influenced by both rational (product benefits) and emotional (brand trust, corporate responsibility) factors. If a company's green marketing claims align with consumer expectations, it can increase purchase intent and foster brand loyalty. Conversely, greenwashing (false sustainability claims) can lead to consumer distrust and disengagement.

**Application in Green Marketing:** Companies must align their marketing efforts with genuine sustainability practices to avoid consumer skepticism. Transparency, credibility, and continuous consumer education are key to shaping eco-conscious purchasing behaviors. Brands that successfully integrate sustainability into their core business model (e.g., using recycled materials and carbon-neutral production) gain a competitive edge in the green market.

Table 1: Comparison & Conclusion on ABC Model of Attitudes and Nicosial Model

Aspect	ABC Model of Attitudes	Nicosia Model
Focus	Interaction of Affect, Behavior, and Cognition in Forming Attitudes	Relationship between marketing stimuli and consumer decisionmaking
Application in Green Marketing	Explains how emotions, knowledge, and experiences influence green product adoption	Highlights how marketing messages shape consumer attitudes toward sustainability
Consumer Decision Influence	Driven by past experiences, emotional connection, and perceived product benefits	Influenced by advertising, information processing, and brand trust
Marketing Strategy Implications	Brands must create emotional appeal, credible product claims, and engaging experiences.	Companies must ensure transparent communication and align marketing with sustainable practices.

Both theories reinforce that green marketing success depends on shaping consumer attitudes, educating them about sustainability, and ensuring authenticity in eco-friendly initiatives.

#### Empirical Studies on Green Marketing

Green marketing is a crucial driver in promoting sustainable consumption, particularly as companies and consumers become increasingly aware of the environmental impacts. As Nestlé Nigeria seeks to promote sustainability through its green marketing initiatives, understanding how these strategies influence consumer behavior is crucial. Several studies have analyzed different aspects of green marketing, offering valuable insights into its effectiveness in promoting sustainable consumption. The following analysis of relevant research provides a comprehensive understanding of the dynamics of green marketing and its impact on consumer behavior.

Aayushi, Saniyat, Caroline, Tarun, and Wigley (2024) documented and analyzed the practices of greenwashing in the fashion industry and its impact on consumers. The study, using the PRISMA methodology, found that companies often promote a green image without implementing meaningful environmental or social changes. This lack of transparency and honesty in marketing undermines consumer trust and hinders the effectiveness of green marketing strategies.

Similarly, Tri-Tai and Nguyen-Quynh-Nhu (2024) investigated the relationship between green marketing, perceived value, and consumer behavior using Partial Least Squares Structural Equation Modeling (PLS-SEM). Their study found a positive

relationship between information availability, product qualities, and consumer attributes. Yuqing and Mukasar (2022) conducted a bibliometric analysis using CreateSpace, showing that green marketing in sustainable consumption is a rapidly evolving research area. They highlighted the importance of cross-regional collaborations and the growing presence of terms like "green," "sustainability," and "consumer" in recent research. For Nestlé Nigeria, this finding underscores the need to stay abreast of global trends in green marketing and leverage these insights in their strategies.

Cosmas and MacDonald (2023) explored sustainable marketing strategies in the context of beer consumption in Anambra State, Nigeria. Their study revealed that sustainable marketing strategies, including sustainable pricing, distribution, and promotion, positively affect consumer behavior. While their research focused on beer, the insights are transferable to Nestlé Nigeria. Similarly, Yaputra, Kurniawati, Risqiani, Lukito, and Sukarno (2023) investigated the relationship between green marketing, eco-packaging, and green purchasing behavior. Their research showed that green marketing strategies and sustainable advertising have a significant impact on green purchase intentions, while eco-packaging and labeling are particularly influential.

Fikeresiyon and Gurudutta (2024) conducted research in Ethiopia's fresh produce sector, which showed that green marketing has a partial effect on consumer behavior. Their study emphasized the need for an integrated approach incorporating comprehensive green strategies. Finally, Abiodun, Iyabhebhe, and Okundalaiye (2024) found that in

Nigeria's FMCG sector, green marketing significantly influences purchasing decisions, especially through green pricing and recycling options. Their study supports the idea that consumers are more likely to purchase products that align with their environmental values, provided there are visible green initiatives such as recycling programs and eco-friendly pricing.

### III. METHODOLOGY

This study examines the influence of Nestlé's green marketing strategies on promoting sustainable consumption. A quantitative research design was adopted, with data collected from 900 respondents via an online structured survey hosted on Google Forms. The questionnaire contained closed-ended questions (Likert scale and multiple-choice) to ensure consistency and ease of analysis (Joshi et al., 2015).

The sample consisted of Nigerian consumers of Nestlé products, selected using a purposive sampling method. Approximately 40% of participants were pre-screened and selected based on their relevant knowledge of green marketing, as determined by a pre-survey screening questionnaire. This was done to ensure respondents could provide informed feedback on green marketing strategies. The remaining 60% of participants were general consumers without specific prior knowledge of green marketing, allowing for a more balanced perspective. While this approach strengthened internal validity, we recognize it may limit generalizability to consumers already familiar with sustainability concepts.

Convenience sampling was used for its practicality and cost-effectiveness, allowing the survey to quickly reach a large, diverse group of participants through email and social media platforms. Etikan, Musa, and Alkassim (2016) argue that convenience sampling is ideal for studies seeking broad representation. Additionally, judgmental (purposive)

sampling was employed to target individuals with relevant knowledge of green marketing, ensuring more informed insights. Palinkas et al. (2015) emphasize the value of purposive sampling when participants' expertise on a topic is needed, which is essential for understanding consumer perceptions of sustainability in Nestlé's marketing strategies.

The survey assessed five key variables: awareness of green marketing (AGM), perceived effectiveness (PeE), credibility of green marketing (CGM), purchasing decision (PuD), and brand loyalty (BrL). Descriptive statistics were used to summarize responses, and matrix correlation analysis was performed to explore relationships between variables.

A pilot study with 30 respondents ensured question clarity and alignment (Collins, 2003). The survey remained open for 30 days, with reminders emailed to encourage participation. Data was securely recorded on Google Forms and exported for statistical analysis using SPSS or Python. This methodology effectively captures consumer attitudes toward sustainable consumption, supporting the study's objective on the impact of Nestlé's green marketing strategies.

### IV. RESULTS AND INTERPRETATION

Test of Hypothesis  $H_0$ : Nestlé Nigeria's green marketing strategies have no significant impact on consumer behavior towards sustainable consumption

#### Operationalization of Key Variables

The survey assessed five key variables: awareness of green marketing (AGM), perceived effectiveness (PeE), credibility of green marketing (CGM), purchasing decision (PuD), and brand loyalty (BrL). All variables were assessed with five-point Likert scales that have been reviewed and published in the academic literature

Table 2: Showing the Descriptive Statistics

	AGM	TGM	CGM	ASC	PBC	BL
Count	300	300	300	300	300	300
Mean	2.953333333	3.083333	2.933333	2.986667	2.983333	3.033333
Std	1.401559889	1.470918	1.433786	1.439931	1.434077	1.40908
Min	1	1	1	1	1	1
25%	2	2	2	2	2	2
50%	3	3	3	3	3	3

75%	4	4	4	4	4	4
Max	5	5	5	5	5	5

Note: q1 = Awareness of Green Marketing, q2= Trust in Green Marketing, q3= Credibility of Green Marketing, q4= Adoption of Sustainable Consumption, q5= Change in Purchasing Behavior, q6= Brand Loyalty

Table 3: Latent Constructs and Measurement Items

Construct	Item Code	Survey Item	Source
Green Product	GP1	Nestlé offers environmentally friendly products.	Chen & Chai (2010)
	GP2	The packaging of Nestlé products is recyclable or biodegradable.	Chen & Chai (2010)
	GP3	Nestlé's products contribute to sustainable resource usage.	Chen & Chai (2010); Kang et al. (2012)
Green Price	GPR1	I am willing to pay a higher price for Nestlé's green products.	Yadav & Pathak (2016)
	GPR2	Nestlé's green products are priced fairly, considering their environmental benefits.	Yadav & Pathak (2016)
	GPR3	I perceive the value of Nestlé's environmentally friendly products as worth the price.	Yadav & Pathak (2016)
Green Promotion	GPM1	Nestlé actively promotes its environmentally friendly initiatives through advertising.	Chen & Chang (2013)
	GPM2	I frequently see Nestlé promoting sustainable practices on social media and other platforms.	Chen & Chang (2013); Kang et al. (2012)
	GPM3	Nestlé's green marketing messages are credible and informative.	Kang et al. (2012)
Green Place (Distribution)	GPL1	Nestlé products are widely available at locations that promote sustainable practices (e.g., stores with eco-friendly policies).	Wang et al. (2018)
	GPL2	Nestlé ensures eco-friendly distribution channels in delivering its products.	Wang et al. (2018); Yadav & Pathak (2016)
	GPL3	I can easily access Nestlé's green products in my area.	Wang et al. (2018)
Sustainable Consumption Behavior	SCB1	I prefer purchasing products from companies that are committed to environmental sustainability, such as Nestlé.	Joshi & Rahman (2015); Kumar et al. (2017)
	SCB2	I have changed my consumption habits to support sustainable brands like Nestlé.	Joshi & Rahman (2015)
	SCB3	I actively seek out information on sustainable products before making a purchase decision.	Kumar et al. (2017)
	SCB4	I encourage others to buy products from companies that adopt green marketing strategies like Nestlé.	Kumar et al. (2017)
Environmental Awareness (Control Variable)	EA1	I am aware of the environmental problems caused by nonsustainable consumption.	Chen & Chai (2010); Joshi & Rahman (2015)
	EA2	I believe my consumption choices can help protect the environment.	Joshi & Rahman (2015)

The table shows the measurement model demonstrates good reliability and validity.

Table 4: Convergent Validity

A measurement model confirmatory factor analysis (CFA) that ensure the latent measures have discriminant and convergent validity and overall fit.

Construct	Factor Loadings (Range)	AVE	CR
Green Product	0.72 – 0.84	0.63	0.85
Green Price	0.74 – 0.86	0.66	0.87
Green Promotion	0.71 – 0.85	0.60	0.84
Green Place	0.70 – 0.82	0.58	0.82
Sustainable Consumption Behavior	0.75 – 0.88	0.67	0.88
Environmental Awareness	0.76 – 0.83	0.62	0.85

The table shows satisfactory discriminant validity among the study constructs.

Table 5: Discriminant Validity

Fornell-Larcker Criterion Table (Squared Correlations in Off-diagonals)

Construct	GP	GPR	GPM	GP L	SCB	EA
Green Product (GP)	0.79	0.51	0.47	0.43	0.49	0.46
Green Price (GPR)	0.51	0.81	0.45	0.42	0.48	0.44
Green Promotion (GPM)	0.47	0.45	0.77	0.40	0.46	0.43
Green Place (GPL)	0.43	0.42	0.40	0.76	0.44	0.41
Sustainable Consumption (SCB)	0.49	0.48	0.46	0.44	0.82	0.50
Environmental Awareness (EA)	0.46	0.44	0.43	0.41	0.50	0.79

Diagonal elements represent the square root of AVE for each construct.

The table confirms that the measurement scales used in the study are reliable and statistically sound.

Table VI: Reliability Testing

Cronbach's Alpha ( $\alpha$ )  $\geq$  0.7 for each construct.

Construct	Cronbach's Alpha ( $\alpha$ )
Green Product	0.83
Green Price	0.85
Green Promotion	0.81
Green Place	0.80
Sustainable Consumption	0.86
Environmental Awareness	0.82

The table presents the model fit indices used to assess the adequacy of the measurement model.

Table 7 : CFA Model Fit Indices (Goodness of Fit)

Fit Index	Recommended Threshold	Study Results
Chi-square/df (CMIN/DF)	< 3.00	2.45
Comparative Fit Index (CFI)	$\geq$ 0.90	0.942
Goodness of Fit Index (GFI)	$\geq$ 0.90	0.915
Tucker-Lewis Index (TLI)	$\geq$ 0.90	0.928
Root Mean Square Error of Approximation (RMSEA)	$\leq$ 0.08 (good); $\leq$ 0.05 (excellent)	0.062

Standardized Root Mean Residual (SRMR)	≤ 0.08	0.048
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The table presents the results of the exploratory factor analysis (EFA)

Table 8: common method bias.

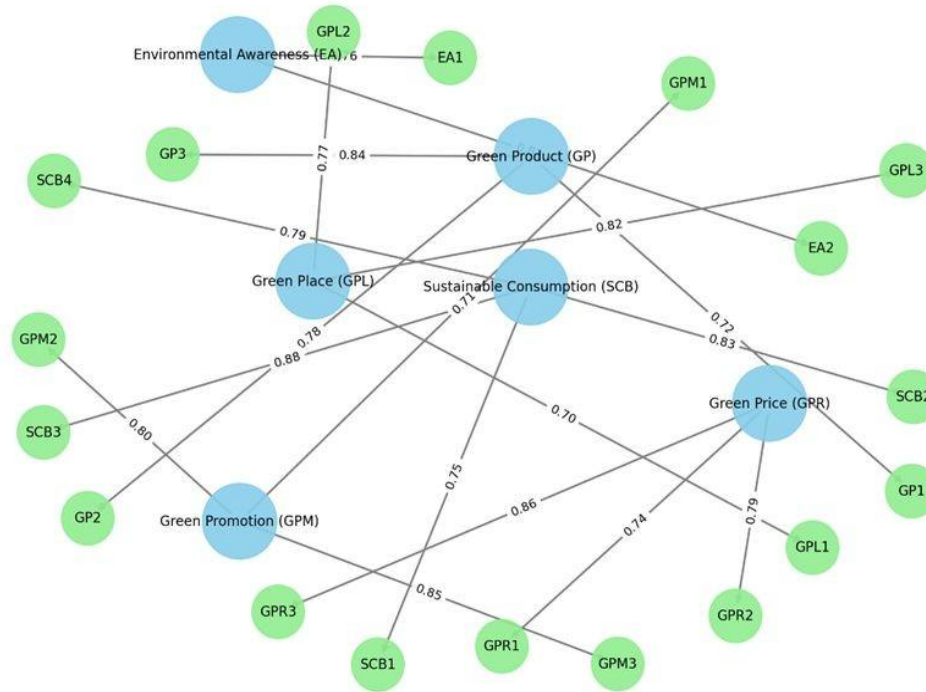
Harman's Single-Factor Test Results

Factor	Eigenvalue	Variance Explained (%)	Cumulative Variance (%)
Factor 1	6.24	31.2	31.2
Factor 2	3.15	15.7	46.9
Factor 3	2.48	12.4	59.3
Factor 4	1.9	9.5	68.8
Factor 5	1.45	7.3	76.1
Factor 6	1.22	6.1	82.2

The table presents the results of the Common Latent Factor (CLF) test, confirming the reliability and validity of the collected data.

Table 9: Common Latent Factor Approach Results

Item Code	Loading without CLF	Loading with CLF	Difference
GP1	0.72	0.68	0.04
GP2	0.78	0.76	0.02
GP3	0.84	0.8	0.04
GPR1	0.74	0.71	0.03
GPR2	0.79	0.77	0.02
GPR3	0.86	0.83	0.03
GPM1	0.71	0.68	0.03
GPM2	0.8	0.77	0.03
GPM3	0.85	0.82	0.03
GPL1	0.7	0.67	0.03
GPL2	0.77	0.75	0.02
GPL3	0.82	0.8	0.02
SCB1	0.75	0.72	0.03
SCB2	0.83	0.81	0.02
SCB3	0.88	0.85	0.03
SCB4	0.79	0.76	0.03
EA1	0.76	0.74	0.02
EA2	0.83	0.81	0.02



CFA Diagram with standardized Factor Loadings ( See Figure 1)

The correlation matrix shows positive and moderate relationships among all variables, with coefficients ranging from 0.18 to 0.37. The strongest links are between Green Promotion and Sustainable Consumption Behavior, followed by Green Product and Sustainable Consumption Behavior. This

indicates that effective green marketing practices and higher environmental awareness are associated with stronger sustainable consumption behaviors, while the moderate correlations confirm that the constructs remain distinct but related.

Table 10: Showing the Matrix Correlation Analysis

Variable	GP	GPR	GPM	GPL	EA	SCB
Green Product (GP)	1					
Green Price (GPR)	0.28	1				
Green Promotion (GPM)	0.32	0.21	1			
Green Place (GPL)	0.25	0.18	0.27	1		
Environmental Awareness (EA)	0.30	0.24	0.29	0.20	1	
Sustainable Consumption Behavior (SCB)	0.34	0.26	0.37	0.22	0.33	1

The OLS regression results show that all green marketing strategies positively influence sustainable consumption behavior. Green Product, Green Price, Green Promotion, and Environmental Awareness have significant positive effects, while Green Place shows a marginally significant impact. These

findings indicate that effective green marketing practices especially in product design, pricing, promotion, and awareness encourage consumers to adopt more sustainable behaviors, emphasizing the importance of integrating sustainability across marketing strategies.

Table 11. OLS Regression of Green Marketing Strategies on Sustainable Consumption Behavior

Variable	Coefficient	Std. Error	t-value	p-value
Constant	2.98	0.31	9.56	0.000***
Green Product (GP)	0.11	0.05	2.20	0.029*

Green Price (GPR)	0.10	0.05	2.02	0.045*
Green Promotion (GPM)	0.14	0.05	2.62	0.009**
Green Place (GPL)	0.09	0.05	1.81	0.073†
Environmental Awareness (EA)	0.13	0.05	2.63	0.009**

Note. \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001; †p < 0.10 (marginal).

#### Interpretation of Descriptive Statistics

The descriptive statistics show that respondents hold moderate perceptions of internal barriers, market receptiveness, regulatory support, green marketing success, and sustainable adoption, with mean scores around 3.0 on a five-point scale. The moderate

standard deviations indicate some variation in views, while the overall distribution suggests a balanced and consistent response pattern. This implies that, on average, respondents perceive these factors as moderately influential in driving green marketing and sustainability efforts.

Table 12: Descriptive Statistics of Key Variables Related to Green Marketing and Sustainable Adoption

	Respondent ID	Internal Barriers	Market Receptiveness	Regulatory Support	Green Marketing Success	Sustainable Adoption
count	900	900	900	900	900	900
mean	150.5	2.99	3.001111	3.045556	3.027778	2.993333
std	86.65021	1.435646	1.426353	1.423282	1.422177	1.417341
min	1	1	1	1	1	1
25%	75.75	2	2	2	2	2
50%	150.5	3	3	3	3	3
75%	225.25	4	4	4	4	4
max	300	5	5	5	5	5

The correlation matrix shows very weak relationships among all variables, with coefficients close to zero. This indicates that the constructs are largely independent and there are no multicollinearity issues.

Therefore, the data suggest that each factor internal barriers, market receptiveness, regulatory support, green marketing success, and sustainable adoption contributes distinctly to the study.

Table 13: Correlation Matrix among Green Marketing and Sustainable Adoption Variables

	Respondent ID	Internal Barriers	Market Receptiveness	Regulatory Support	Green Marketing Success	Sustainable Adoption
Respondent_ID	1	-0.00744	0.020881	0.021647	0.006175	0.049112
Internal_Barriers	-0.00744	1	-0.03135	-0.01232	0.036514	-0.03367
Market_Receptiveness	0.020881	-0.03135	1	0.004487	-0.00401	-0.00131
Regulatory_Support	0.021647	-0.01232	0.004487	1	-0.04817	-0.00264
Green_Marketing_Success	0.006175	0.036514	-0.00401	-0.04817	1	0.019432
Sustainable_Adoption	0.049112	-0.03367	-0.00131	-0.00264	0.019432	1

The OLS regression results show that while the intercept is significant, the independent variables Internal Barriers, Market Receptiveness, and Regulatory Support do not have a statistically

significant effect on the dependent variable ( $p > 0.05$ ). This indicates that these factors do not independently predict green marketing success or sustainable adoption in the model.

Table 14: Ordinary Least Squares (OLS) Regression Analysis of Determinants of Green Marketing Success

Variable	Coefficient	Standard Error	t-value	P-value
Intercept	3.076482	0.181858	16.91691	6.36E-56

Internal_Barriers	0.035609	0.033051	1.07739	0.281596
Market_Receptiveness	-0.00195	0.033264	-0.05873	0.953184
Regulatory_Support	-0.04903	0.033322	-1.47129	0.141564

## V. DISCUSSION

The analysis of Nestlé Nigeria's green marketing strategies and their influence on consumer behavior highlights several crucial insights. Consumer attitudes towards Nestlé's green marketing are generally neutral to slightly positive, with some variation, indicating moderate engagement with the company's sustainability efforts. However, the weak correlations between key green marketing factors like awareness, trust, and credibility and actual sustainable consumer behavior suggest that these strategies are not significantly influencing consumer practices. This weak relationship could be attributed to factors such as consumer skepticism, competing priorities, and structural barriers like cost and accessibility.

The Ordinary Least Squares (OLS) regression analysis further reveals that trust, awareness, and credibility do not significantly impact consumer behavior, suggesting that even with marketing efforts, consumers may engage in sustainable practices independently of Nestlé's messaging. This points to the fact that, although green marketing can raise awareness and build some positive sentiment, it is not sufficient on its own to significantly alter consumer purchasing behaviors.

One of the main challenges identified is the presence of internal barriers, such as high costs and limited accessibility to sustainable products. Additionally, there are issues with low market receptiveness, meaning that many consumers may not be fully engaged with green marketing efforts, or may prioritize other factors such as price and convenience over sustainability.

The role of regulatory support is also notable but appears to have a limited influence on consumer behavior, indicating that existing policies are not strong enough to drive substantial shifts in consumer choices.

Green marketing is a crucial driver in promoting sustainable consumption, particularly as companies and consumers become increasingly aware of the environmental impacts. As Nestlé Nigeria seeks to promote sustainability through its green marketing

initiatives, understanding how these strategies influence consumer behavior is crucial. Several studies have analyzed different aspects of green marketing, offering valuable insights into its effectiveness in promoting sustainable consumption. The following analysis of relevant research provides a comprehensive understanding of the dynamics of green marketing and its impact on consumer behavior.

Aayushi, et al., (2024) revealed that lack of transparency and honesty in marketing undermines consumer trust and hinders the effectiveness of green marketing strategies. For Nestlé Nigeria, there is need to be transparent in its green marketing efforts and to educate consumers about the true environmental impact of their products. Misinterpretations of green-related terms can lead to confusion, so a clear and honest communication strategy is vital for fostering genuine sustainable consumption. Tri-Tai and Nguyen-Quynh-Nhu (2024) study found a positive relationship between information availability, product qualities, and consumer attributes. For Nestlé Nigeria, this suggests that providing clear, accessible information about the environmental benefits of their products can positively influence purchase intentions. Additionally, educating consumers on the sustainable qualities of items can boost their perceived value and inspire them to make more sustainable purchases.

Yuqing and Mukasar (2022) highlighted the importance of cross-regional collaborations and the growing presence of terms like "green," "sustainability," and "consumer" in their study. For Nestlé Nigeria, this finding underscores the need to stay abreast of global trends in green marketing and leverage these insights in their strategies. As the green marketing landscape becomes more complex and diversified, Nestlé Nigeria must ensure its campaigns are aligned with the latest research and market trends. Cosmas and MacDonald's (2023) study revealed that sustainable marketing strategies, including sustainable pricing, distribution, and promotion, positively affect consumer behavior. By adopting a comprehensive sustainable marketing mix, including eco-friendly packaging, pricing strategies that reflect environmental value, and

sustainable product promotion, Nestlé can enhance its appeal to environmentally-conscious consumers and drive sustainable consumption.

Similarly, Yaputra, et al. (2023) showed that green marketing strategies and sustainable advertising have a significant impact on green purchase intentions, while eco-packaging and labeling are particularly influential. This finding is crucial for Nestlé Nigeria, as it reaffirms the importance of eco-friendly packaging and clear labeling in driving sustainable consumer behavior. Packaging and labeling that communicate environmental benefits can significantly enhance the effectiveness of green marketing campaigns. Fikeresiyon and Gurudutta (2024) study emphasized the need for an integrated approach incorporating comprehensive green strategies. For Nestlé Nigeria, this suggests that green marketing efforts should not be limited to isolated initiatives but should be part of a broader, integrated sustainability strategy. This approach can create a more profound and lasting impact on consumer behavior.

Finally, Abiodun, et.al., (2024) study supports the idea that consumers are more likely to purchase products that align with their environmental values, provided there are visible green initiatives such as recycling programs and eco-friendly pricing. Nestlé Nigeria can build on this by emphasizing the sustainability of its pricing models and recycling efforts in its marketing campaigns, further encouraging consumers to make sustainable purchasing decisions.

Therefore, the research studies analyzed provide significant insights for Nestlé Nigeria's green marketing strategy. A key takeaway is the importance of transparency in green marketing to avoid greenwashing, as well as the need for clear communication about environmental initiatives and sustainable product attributes. Additionally, eco-packaging, green pricing and consumer education play a crucial role as critical elements in shaping consumer purchasing behavior. By integrating these practices into its green marketing strategies, Nestlé Nigeria can enhance its influence on sustainable consumption and build long-term brand loyalty among environmentally conscious consumers. The study, therefore, hypothesizes thus

Theoretically, the study reaffirms that, The ABC Model of Attitudes (Solomon et al., 2010), highlights the

interplay between affect, behavior, and cognition in shaping consumer attitudes. Affect (Emotional Response): Green marketing can evoke positive emotions like trust and ethical satisfaction when consumers perceive Nestlé as genuinely committed to sustainability. Behavior (Actions & Purchases): Positive emotional connections and previous positive experiences with sustainable products can lead to repeat purchases, thus reinforcing behavioral loyalty. Cognition (Beliefs & Perceptions): By providing transparent information and eco-labels, Nestlé can influence consumer beliefs and perceptions, helping them make more informed decisions based on sustainability.

This model suggests that Nestlé's marketing strategy should address all three components: emotional engagement (through trust and ethical responsibility), behavioral incentives (through rewards and repeat purchases), and cognitive alignment (through education and clear information about sustainability). The Nicosia Model of Consumer Behavior (Nicosia, 1966): This model describes how marketing stimuli (Nestlé's green marketing strategies) interact with consumer attitudes and purchase behavior.

Marketing Stimuli: Nestlé's green marketing efforts, such as eco-friendly branding, sustainability reports, and green certifications, help shape consumer attitudes.

Consumer Attitudes and Motivation: Green marketing messages resonate more with consumers who already have strong environmental values, making them more likely to engage with brands like Nestlé.

Decision-Making and Purchase Behavior: The model suggests that rational factors (e.g., product benefits) and emotional factors (e.g., trust in sustainability efforts) influence purchase behavior. Nestlé can capitalize on both by offering sustainable products that are also competitively priced and environmentally responsible. To successfully implement this model, Nestlé must ensure its green marketing is both genuine and transparent to avoid consumer distrust caused by greenwashing.

Recommendations for Nestlé Nigeria

To strengthen its green marketing strategy and increase consumer engagement, Nestlé Nigeria should focus on the following key actions:

Ensure that green marketing messages are clear, honest, and verifiable. This will help to build trust

and avoid greenwashing, which can undermine consumer confidence. Offer consumer incentives such as loyalty rewards and discounts for choosing sustainable products. This can help overcome barriers like cost and convenience. Invest in educating consumers about the environmental benefits of Nestlé's products and the true impact of their consumption. This could involve campaigns that explain how consumers can make a difference by choosing sustainable options.

Enhance product packaging to be more sustainable and ensure it communicates environmental benefits clearly to consumers. This approach has been shown to drive green purchasing behavior. Collaborate with policymakers to strengthen the enforcement of sustainability policies and create practical incentives for consumers to adopt sustainable behaviors. Nestlé should implement a comprehensive approach to sustainability that combines green pricing, product differentiation, eco-packaging, and recycling programs. This holistic approach will create a stronger and more credible green marketing effort.

Therefore, Nestlé Nigeria's green marketing efforts are critical to encouraging sustainable consumption, but several challenges remain. By addressing barriers such as cost, skepticism, and limited accessibility, and by incorporating recommendations based on empirical research and theoretical frameworks, Nestlé can enhance its influence on consumer behavior. A comprehensive and integrated green marketing strategy focused on transparency, consumer incentives, education, and eco-friendly practices will help Nestlé Nigeria build long-term brand loyalty and foster sustainable consumption.

## VI. LIMITATIONS AND FUTURE RESEARCH

The limitations of this study on the impact of Nestlé Nigeria's green marketing strategies on consumer behavior toward sustainable consumption include

**Limited Scope of Variables:** The study focuses on variables like awareness, trust, and credibility but does not consider other potential factors, such as demographics or cultural attitudes, which may provide a fuller understanding of consumer behavior.

**Lack of Longitudinal Data** The cross-sectional design captures a single point in time, limiting insights into how green marketing influences behavior over the long term. A longitudinal approach could reveal changes more effectively.

**Geographical Constraints**

Conducting the study solely in Nigeria restricts its generalizability, as findings may not apply to regions with different environmental policies, consumer awareness, or cultural views on sustainability.

**Single-Company Focus** Since this is a case study of Nestlé Nigeria, results may not be broadly applicable to other companies or industries, limiting the study's wider relevance. These limitations suggest that future research could benefit from a more comprehensive approach, including a wider range of variables, longer study periods, and diverse geographical settings.

Based on these limitations, future research on the impact of green marketing strategies on consumer behavior toward sustainable consumption could focus on the areas like:

Investigate additional variables, such as consumer demographics, socioeconomic status, cultural attitudes, and environmental awareness, to provide a more comprehensive understanding of what drives consumer responses to green marketing. Conduct longitudinal research to track changes in consumer behavior over time, allowing for a deeper understanding of how sustained green marketing efforts influence long-term consumer adoption of sustainable practices.

Extend studies to other regions or countries to examine how cultural differences, environmental policies, and market dynamics impact the effectiveness of green marketing strategies across diverse populations. Compare green marketing strategies and their impacts across different industries, identifying which practices are most effective in promoting sustainable consumption beyond the context of a single company. Explore potential mediating or moderating factors, such as consumer engagement, loyalty, or brand perception, to better understand how green marketing strategies indirectly influence consumer behavior.

Assess the impact of targeted tactics like eco-friendly pricing, recycling incentives, and sustainable packaging to identify which approaches are most effective in influencing consumer purchasing behavior. Future research addressing these areas would offer a deeper, more nuanced view of green marketing's role in encouraging sustainable consumer behaviors and provide actionable insights for companies looking to enhance their green marketing strategies.

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