IMPACT OF GREEN PROMOTION STRATEGY AND GREEN PRODUCT STRATEGY ON CONSUMER ATTITUDES IN THE NIGERIAN FAST MOVING CONSUMER GOODS (FMCG) SECTOR

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DOI: https://doi.org/10.70118/ajbam-04-2026-063

ABSTRACT

This study examines the impact of green Promotion strategy and green product strategy on consumer attitudes in the Fast-Moving Consumer Goods (FMCG) sector in Nigeria. The study is guided by a quantitative research design and employs a multiple linear regression model to analyse the relationship between the variables. Data were collected from 379 respondents using a multi-stage sampling technique across selected states representing Nigeria's six geopolitical zones. The results of the regression analysis reveal that both green promotion strategy and green product strategy have positive and statistically significant effects on consumer attitudes. Income level was also found to positively and significantly influence consumer attitudes, while age had no significant effect. The study concludes that green promotion and green product strategies are important determinants of consumer attitudes within Nigeria's FMCG sector and that consumers are more likely to develop favourable attitudes toward firms that adopt credible environmental marketing practices and sustainable product strategies. The findings provide practical implications for FMCG firms by demonstrating that increased investment in authentic green promotional activities, environmentally friendly product innovation, and affordable green products can strengthen positive consumer attitudes and promote sustainable consumption within the Nigerian FMCG sector.

Keywords: *Green Promotion Strategy; Green Product Strategy; Consumer Attitudes; Fast Moving Consumer Goods sector.*

INTRODUCTION

The twenty-first century has witnessed environmental sustainability as one of the most pressing global issues, driven mainly by climate change, pollution, waste generation, biodiversity loss and overuse of natural resources. These environmental challenges have led to a re-examination of how goods

are produced and consumed by national governments, businesses and consumers that has been moving slowly but surely toward more sustainable, responsible business practices (Mahmoud *et al.,* 2024). Consequently, most organizations are considering ecological elements in their promotion activities to minimize their environmental effect and fulfil increased consumer demand.

Due to this change, green marketing has emerged as the incorporation of ecological factors in product development and manufacturing processes and marketing communication without compromising consumer satisfaction (Kumari, 2024; Atuo, 2024). In essence, green marketing demonstrates that a company gives importance to natural environment not only through its words but by their products and actions too. Green promotion strategy and green product strategy among the different components of green marketing have a more critical influence on consumers' attitudes toward environmentally friendly products.

Green product strategy is all about designing and producing products in an environmentally sustainable manner. This involves utilising sustainable materials, reducing pollution during manufacturing and limiting waste whilst ensuring that products are reusable or recyclable. On the other hand, green promotion strategy is about the activities that firms are doing to be able to announce their dedication towards environmental protection while communicating them to consumers. These can be advertising campaigns, eco-labels, sustainability messages and any other type of communication to convince consumers that a company is environmentally responsible (Kumar & Ghodeswar, 2024) When used effectively, both approaches will assist consumers to see a brand's seriousness in doing its part for the environment.

Globally, consumers are more aware of environmental risks and increasingly mindful about considering a company in terms of its general environmental behaviour while making purchases. Now, they do not only want a good pricing and quality but also need the product to be eco-friendly and ethically produced. It is this shift in consumer mindset that has led companies in the FMCG sector like Unilever and Nestlé to set aside new funds for sustainable production practices, recyclable packaging while devising environmentally communication strategies to polish their respective brand images and gain the trust of eco-conscious consumers (Irfan & Bryła, 2024).

Environmental awareness is also on the rise in Nigeria particularly in the FMCG, but green marketing seems to have a mixed response from consumers. Consumers are interested in more environmentally friendly products, but they will pay for it only if the price is appropriate and the economic situation favours corporate trustworthiness (Abiodun *et al.,* 2024). Hence, despite adopting green promotion and green product strategies, companies do not find the success they expected in influencing consumer attitudes.

Consumer attitude is an important issue to understanding this behavior because it shows how people support and feel about eco-friendly products. Positive attitudes towards green products lead to a higher purchasing intention. Such attitudes, however, depend on the effectiveness with which companies stay true to their product design and communicate their environmentally friendly features.

Although there is a growing interest in green marketing, there has been little focus on green promotion strategy, green product strategy and consumer attitudes especially focusing on the Nigerian FMCG sector. That leaves a disconnect between how these two strategies ultimately work together to shape what consumers think and do.

Hence, this study analysed the effect of green promotion strategy and green product strategy on consumer attitude in Nigeria's

FMCG sector. The purpose is to explain how environmental communication and eco-friendly product design can influence consumer attitude towards green products in the Nigerian context to facilitate better sustainable consumption attitudes.
influence their evaluations of green products (Hermanto *et al*., 2024; Ighomereho & Ayoola, 2024).

LITERATURE REVIEW

Green Marketing

Green Marketing refers to the integration of environmental considerations into product development, production and marketing communication while meeting consumer needs and expectations (Atuo,2024; kumari, 2024). It involves organizational efforts to reduce environmental impact and corporate practices to consumers. Within the FMCG sector, the green marketing provides a means through which firms demonstrate environmental responsibility while responding to consumers growing interest in sustainable products.

Green Promotion Strategy

Green Promotion Strategy involves the use of environmentally oriented advertising, sustainability messages, eco labels, and other promotional activities to communicate a firm's environmental commitment to consumers (Kumar & Ghodeswar, 2024). Its effectiveness depends on the clarity and credibility of the information communicated. As consumers may develop a favourable attitudes when promotional claims are consistent with the actual environmental practices (Irfan & Bryla, 2024).

Green Product Strategy

Green Product Strategy refers to the design and development of products that minimize environmental harm through the use of sustainable materials, environmental responsible production processes, recyclable packaging and other eco-friendly attributes. These product characteristics can provide consumers with tangible indications of a firms environmental commitment and

Consumer Attitude

Consumer attitude refers to an individuals favorable or unfavorable evaluation of a product, brand or marketing practice. In the context of green marketing, consumer attitude reflects how consumers perceive and evaluate environmentally friendly products and sustainability related marketing activities. Green promotion and green product strategy may influence this evaluations by providing environmental information and observable product attributes. Therefore, this study examines consumer attitude as the outcome associated with green promotion strategy and green product strategy within Nigeria's FMCG sector.

Theoretical Review

This study is anchored on two complementary theoretical perspectives: the theory of Planned Behavior (TPB) and Signalling theory. The TPB provides the primary theoretical foundation for the study, explaining the foundation for explaining the formation of consumer attitudes toward environmentally friendly products while Signalling theory complements this perspective by explaining how organisations communicate environmental attributes through observable green marketing cues.

The Theory of Planned Behaviour (TPB) by Ajzen (1991), proposed that the attitudes and intentions that develop with regard to a particular behaviour are based on when individuals believe they can carry out a given behaviour, social influences and the ability to be influenced by others view on the

behaviour. In the concept of green marketing, consumers in their mind accept it when they view green products and promotional materials as useful and trustworthy. The theory provides a useful basis for understanding how consumers evaluate environmentally friendly products and the marketing information associated with them. Within the concept of green marketing, consumers may form favourable attitudes when they perceive green products and promotional messages as credible, useful and consistent with their environmental expectations. The strength of TPB lies in its capacity to connect individual evaluations with behavioural intentions, although the theory has also been criticised for not fully accounting for contextual and information related factors that may shape consumer responses.

Signalling theory was originally developed by Spence (1973), the theory addresses situations in which information asymmetry exists between parties and explains how observable signals can be used to communicate otherwise difficult to observe qualities. In the green marketing concept, consumers may have limited ability to directly verify the environmental attributes or sustainability practices of Fast-Moving Consumer Goods (FMCG) firms. Firms can therefore use signals such as green attributes eco-labels, green packaging, promotional and sustainability claims enabling consumers to make informed decisions in judging green products. The effectiveness of such signals depends on their credibility and consumers ability to interpret them. Thus, signalling theory complements TPB by providing an explanation of how information communicated through green marketing strategies can shape consumers' evaluations of environmentally friendly products.

The two theories are particularly relevant to the study because they address different but interconnected aspects of consumer response to green marketing. Specifically, theory of planned behavior (TPB) explains the evaluative dimension of consumer response while signalling theory explains the informational mechanism through which firms green marketing activities may influence that evaluation. Green promotion strategy and green product strategy provide consumers with information and observable cues about a firm's environmental orientation. Consumers subsequently interpret these cues and evaluate the associated products, potentially resulting in more favourable or less favourable attitudes. Accordingly, the integration of TPB and signalling theory provides a coherent theoretical basis for examining the relationship between green marketing strategies and consumer attitude in the Nigerian FMCG sector.

Empirical Review

Due to increasing global environmental concern, many firms resorted to green marketing as a tool for influencing consumers and enhancing their sustainable competitive advantage. Green marketing encompasses different dimensions; the green promotion strategy and green product strategy which firms use to communicate and demonstrate their environmental awareness. Studies generally indicate that consumers are more sustainable minded and prefer increasingly sustainable firms. However, empirical support for the effectiveness of these green marketing efforts at influencing consumer attitudes is mixed, particularly in developing countries where economic realities like price, product performance, accessibility and perceived credibility can conflict with environmental concerns. Due to such inconsistencies, it is essential to delve deeper into the new paradigm of how green promotion and green product approaches consumer attitude in the Nigerian FMCG sector.

Green promotion strategy refers to environmentally oriented and sustainability advertising, eco-label communication or other promotional activities designed to inform consumers about a firm and its involvement in environmental responsible communications. Over the recent years, several studies have examined and reported a relationship between green promotion and consumer attitude, although their findings are not entirely consistent. For instance, Akekue et al., (2024), in their study "Green Advertising and Purchase Intention of University Lecturers in Nigeria: A Moderating Effect of Perceived Corporate Reputation," examined green advertising among university lecturers in Nigeria. The study adopted a quantitative survey design and administered 383 questionnaires of which 323 were retrieved and found usable. Participants were selected through convenience sampling from professors, associate professors and senior lecturers in Nigerian Universities. Data were analyzed using descriptive statistics and partial least squares structural equation modelling (PLS-SEM). The findings showed that consumer oriented and corporate green advertising had positive relationships with purchase intention, although the strength of the relationships deferred while perceived corporate reputation demonstrated the strongest significant relationship with purchase intention. Although the study provides evidence that green advertising can influence consumer responses in Nigeria, its focus was on purchase intention in university lecturers rather than consumer attitudes among FMCG consumers. In addition, the study treated green advertising as a broader construct comprising different advertising dimensions and introduced perceived corporate reputation as a moderating variable. It therefore provides useful evidence for the relevance of green promotion but leaves room for examining green promotion strategy as a distinct predictor of consumer atitude within the FMCG sector.

Another recent Nigerian study conducted by Sambo *et al.,* (2025), titled "Exploring Gen Z's Awareness of Green Promotion in Developing Markets." The study investigated the relationship between green promotion and university students in Nigeria. Quantitative design survey and structured questionnaire was adopted. The population comprises of 25,000 students across the Nigeria's six geopolitical zones from which 493 respondents were selected using Krejcie and Morgan sample size procedure. Data were analyzed using linear regression. The study reported a positive effect of green promotion on students awareness of environmentally friendly products and argued that green promotional messages, eco labeling and pro environmental calls to action can strengthen awareness among younger consumers. The study is relevant because it provides evidence from Nigeria and considers green promotion within a developing market context. However, it's dependent variable was consumer awareness rather than consumer attitude and its respondents were university students which limits the extent to which the findings can be generalised to the wider FMCG consumers. The study therefore establishes the importance of green promotion in communicating environmental information but does not directly explain whether such communication translate to favourable attitudes toward environmentally friendly products.

Evidence from outside Nigeria further demonstrates the importance of green promotion to consumer attitude. Bharti *et al.,* (2025), in the work tittled "Behavioural Intention of Consumers for Green Marketing in India: The Mediating Role of Consumer Environmental Attitude," investigated the influence of green marketing mix practices on consumer attitude and subsequent

purchase intention among Indians. The study used an online survey of 134 consumers and employed partial least squares structural equation modeling. The findings showed that green price, green product and green promotion has positive influence on consumer attitude with green promotion and green price emerging as the most influential factors. The study further established that consumer attitude was important in explaining purchase intention. The study is closely related to the present study because it directly measures green promotion consumer attitude. Nonetheless, it's relatively small sample of 134 consumers and its Indian context limit the transferability of findings in Nigeria. More so, the study examined the broader concept of green marketing mix, where the present study isolates green promotion and green product strategy to determine their respective relationships with consumer attitude in the Nigerian FMCG sector.

Beyond Promotion Strategy, green product strategy has increasingly attracted attention as a determinant of consumer response. Green product strategy involves the design and development of products with reduced environmental impact through the utilization of environmentally sustainable materials, production processes, recyclable packaging and other product level environmental attributes. The products provide consumers with more tangible indications of a firms environmental orientation because the characteristics are embodied in the product itself. Hermanto *et al., (2024)* in their study titled "Can Green Attitude Complement the Influence of Green Marketing on Green Purchase Intention of Fast Food Products", examined the relationship between green marketing, green attitude and green purchase intention in the context of environmentally friendly fast food products in East Java, Indonesia. The study adopted a quantitative survey design and collected data from 500 consumers who had purchased and consumed fast food products. A five point Likert questionnaire was administered and data were analyzed using Structural Equation Modeling with SmartPLS. The findings indicated that green promotion and green product strategies contributed positively to green marketing while effective green marketing was associated with more favorable consumer attitudes and purchase intentions. The study further showed that green attitude complemented the influence of green marketing on purchase intention. The strength of the study lies in its relatively large sample and the direct consideration of green attitude in relation to green marketing. However the study was conducted within fast food industry in East Java, Indonesia and considered green marketing as a broader concept rather than isolating green product and green promotion strategy within the FMCG. Sector. Therefore, it's findings provide useful international evidence but do not fully address the Nigerian FMCG context.

Similarly, Su and Li (2024) in their study titled "Exploring the Impact of Green Marketing Mix on Environmental Attitudes and Purchase Intentions: Moderating Role of Environmental Knowledge in China's Emerging Markets," examined the relationship between green marketing mix, environmental attitudes and purchase intentions. The study focused on 334 environmentally conscious consumers from second and third tier cities in China and considered green price, product, place and promotion as the variables for green marketing mix. The findings indicate that green marketing practices can shape environmental attitudes and purchase intentions while environmental knowledge plays a significant role in the relationship. This Study is relevant because it provides evidence from another emerging market context and directly incorporates

environmental attitude. Nevertheless, its focus on environmentally conscious consumers may limit the generalizability of its findings to the wider consumer population. Additionally, the inclusion of all four marketing mix dimensions makes it difficult to determine the individual contribution of green product strategy to consumer attitude.

Data from Nigeria also confirms a significant role of green product strategy. The tittle "Influence of Product Package and Quality on Purchase Decision of Fast Moving Consumer Goods (FMCG) in Lagos State Nigeria by Ighomereho and Ayoola (2024) in their publication conducted quantitative research using an explanatory research design and used questionnaires to collect data from FMCG consumers in Lagos State. Cluster sampling was used to select Ikeja, Ikorodu and Epe from five administrative divisions while 200 questionnaires were administered and 126 valid responses were obtained. The data were analyzed using descriptive statistics and multiple regression. The study revealed that some specific product attributes like labeling, design and sustainable materials have positive influence while also product quality was also significant on consumers purchase decision of Fast-Moving Consumer Goods in Lagos State. Interestingly, their findings show that consumers increasingly equate sustainable product characteristics with higher quality and safety as well as responsible corporate behavior. The findings indicate that the green product strategy can act as a "visible signal" of a firm environmental commitment, enhancing positive consumer attitudes. This study is relevant to the present research because it provides recent Nigerian Evidence from the FMCG sector and demonstrates relevance of sustainable product related attributes to consumer decisions. However the outcome variable was purchasing decision not consumer attitude. Additionally, the study focused on product packaging and quality rather than the broader concept of green product strategy. Also, it does not fully establish whether the consumers evaluation of green product characteristics translates into favorable consumer attitudes.

In the tittle "Green Products from Industrial Symbiosis: Are Consumers Ready for Them?," by Fraccascia *et al., (2023)* investigated consumers perceptions of products developed through industrial symbiosis and examined factors influencing purchase intention and willingness to pay a premium. The study considered environmentally innovative products within the circular economy context and used consumer data to examine responses to such products. The findings suggest that consumers perceptions of environmentally innovative products are important in determining their willingness to purchase and pay for them. Although the study provides useful evidence concerning consumer responses to environmentally innovative products, its focus was on products generated through industrial symbiosis rather than the general FMCG products. It also concentrated on purchase intention and willingness to pay rather than attitude. Therefore, its findings support the broader relevance of green product attributes while leaving the contextual and conceptual gap that the present study addresses. The available evidence therefore points towards a positive relationship between environmentally responsible product attribute and consumer responses. Nonetheless, the strength of this relationship appears to depend on the market, product category and consumers ability to evaluate environmental attributes. Economic considerations may also weaken positive responses when consumers perceive green products as less affordable or as a compromising other important product attribute such as quality, performance or convenience. These considerations are

relevant in developing economies where environmental preferences may coexist with strong price and functional considerations.

Overall, the empirical literature provides substantial but not conclusive support for the influence of green promotion and green product strategy on consumer attitude. Recent studies generally indicate that credible green promotion can strengthen consumer awareness, attitudes and perceptions while green product strategy can provide tangible environmental cues that contribute to favourable consumer evaluations. However, the findings are not the same across contexts. Differences in consumer characteristics, environmental knowledge, perceived credibility, product categories, economic consideration and skepticism toward green claims appear to influence the strength of these relationships. A further limitation is the existing literature is the tendency to examine purchase intention as the principal outcome with comparatively less attention given to consumer attitude as a distinct outcome. This distinction is important because consumers may express environmental concern or purchase intentions without really holding favourable attitudes toward specific environmentally friendly products. Recent research has reinforced the importance of attitude in the green consumption process including evidence that green marketing practices can shape attitude and that attitude is subsequently associated with purchase intention. Additionally, more of the recent empirical evidence stems from Asian Markets while Nigerian studies remain relatively limited and often focus on specific consumer groups, advertising, individual product attribute and packaging or purchase decisions. The Nigerian Studies identified above provide useful evidence but they do not adequately explain how green promotion strategy and green product strategy jointly relate to consumer attitude among FMCG consumers. The present study therefore addresses this gap by examining these two green marketing strategies within the Nigerian FMCG sector. By focusing specifically on consumer attitude, the study seeks to provide further empirical evidence on how consumers evaluate environmentally friendly products in a developing market context.

METHODS

This study employs a quantitative cross sectional survey design to assess the predictive role of green promotion strategy and that of green product strategy on consumer attitude towards the Nigerian sustainable Fast Moving Consumer Goods (FMCG) sector. It is a suitable design because data can be gathered through structured questionnaires from numerous consumers within the same period. This approach is quantitative because it allows you to measure the relationship between this study variable in a neutral way. Data were analyzed using multiple regression analysis to see how much green promotion and green products affect consumer attitudes in the Nigerian Fast Moving Consumer Goods (FMCG) sector. This design yields robust results and facilitates the fulfillment of the study aims. This population included consumers from 18 years and above, who buy FMCG products from brands in Nigeria such as but not limited to Unilever, Nestle, BUA, Dangote, Cussons, and so on. The sample population which is Nigerian Customers was divided into the Six (6) geopolitical zones to ensure the representation of the Nigerian diversity by selecting one state per zone; Lagos, Anambra, Rivers, Abuja (FCT), Kano and Gombe. These were selected based on different cultural backgrounds, economic development levels and consumer lifestyles. Different levels of environmental awareness and marketing efforts are also present among consumers in these areas. The respondents

were also drawn from the six zones to reflect the views of respondents across a wide range of opinions and experiences on green marketing practices. This would help improve the representativeness and allows generalisation of findings across Nigeria.

To determine the sample size, the study adopts Cochran's (1977) formula for an infinite population. Cochran's formula is widely used in social science research where the target population is large or unknown, as it provides a scientifically acceptable estimate of the minimum sample required to achieve reliable results at a specified confidence level and margin of error. The formula is expressed as: $n_0 = Z^2pq / e^2$

Where:
n_0 = required sample size
Z = standard normal deviation at 95% confidence level (1.96)
p = estimated proportion of the population possessing the characteristic of interest (0.5)
q = 1 − p (0.5)
e = margin of error (0.049)
Substituting the values into the formula:
$n_0 = (1.96)^2 (0.5)(0.5) / (0.049)^2$
$n_0 = (3.8416)(0.25) / 0.002401$
$n_0 = 0.9604 / 0.002401$
$n_0 = 399.83$

$n_0 \approx 400$

The study was conducted with a sample size of 400 FMCG consumers in Nigeria. They are consumers of FMCG brands like but not limited to Unilever, Nestlé, BUA, Dangote, Cussons, and so on from the six selected geopolitical zones in the country. A multi stage sampling technique is used for obtaining the right population and to eliminate bias. The first part entails a classification of the selected states based on their geopolitical zones. The next step zeros in on unprecedented data collection points like major supermarkets, shopping malls and even retail outlets. Respondents are then chosen using systematic random sampling by requesting interview with shoppers at a constant interval. Lastly, the research are objective and have been carried out on consumers who either know FMCG products or have purchased such items recently. The nature of data for this study is primary, as it was collected through structured questionnaire. In order to eliminate neutral responses by using a 5points likert scale (ranging from strongly agree (5), Agree (4), Undecided, Disagree (2) and strongly disagree (1)), which was adopted from Salome et al (2012) and Adeoti et al (2014).

According to the current study, the main data collection tool was structured questionnaire to collect data from FMCG consumers in Nigeria. The outline has sections of demographic information, green product strategy, green promotion strategy, and consumer attitude. Information on age, gender, income, education and location of the respondents is given. All the items are rated on a 5 point Likert type scale (from "strongly disagree" to "strongly agree"). The questionnaire was adapted from validated studies and modified to be sensitive at the Nigerian FMCG context. This involved implementing both physical and online distribution method wherein trained assistants collected the data in supermarkets, malls and markets while kobo collect tool was used for the online method. The other aspect is that secondary sources assisted the study background while analysis was based on primary data.

In keeping with the quantitative nature of the study, both descriptive and inferential statistics were applied to analyze the data. Responses were coded and analyzed using IBM SPSS Statistics after collection. In the first phase of data analysis, descriptive statistics considering frequencies, percentages, means and standard deviations were used to describe the respondents in

terms of their demographics and general attitudes. The main analyses was performed using multiple linear regression. This helped in determining the relationship between green product strategy, green promotion strategy and consumer attitudes These regression results also provide the strength and direction of these relationships.

This makes the analysis straightforward with clear support for the study hypotheses. A series of diagnostic tests are carried out in this study to check whether the multiple linear regression assumptions hold. These tests serve the purpose of establishing the reliability and validity of the estimated results. And in particular, the study analyzes aspects such as stationarity, autocorrelation, heteroskedasticity, multicollinearity and normality of the residuals. The result of these tests ensures the regression estimates are unbiased, efficient and suitable for interpretation. The data were analyzed using descriptive and inferential statistics based on the quantitative approach of the study. Responses were coded, and data was analyzed using IBM SPSS Statistics. Respondents' characteristics and general views were presented in frequencies, percentages, means and standard deviations. The primary analysis was performed using multiple linear regression which enables the identification of how green product strategy and green promotion strategy affect consumer attitudes. The regression result shows the strength and direction of these relationships.

Overall, the analysis offers an evidential basis for empirically testing the study hypotheses in a comprehensible manner. The study conducted a range of diagnostic tests to confirm that the multiple linear regression model meets its underlying assumptions. These are tests used to verify the validity and reliability of the estimated results. In particular, the research investigates problems concerning autocorrelation, heteroskedasticity, multicollinearity and normal residuals. In other words, the analysis on these tests is a guarantee that the regression estimates are unbiased, efficient and although some interpretations.

Model Specification

The functional form specification is expressed as:

$$CNAT = f(GRPSa, GRPSb, AGE, INCL) \text{---(1)}$$

The econometrics model is therefore expressed as:

$$CNAT = \beta_0 + \beta_1 GRPSa + \beta_2 GRPSb + y_3 AGE + y_4\, INCL + \varepsilon \text{----------(2)}$$

Where: $CNAT$ is Consumer Attitudes, $GRPSa$ is Green Promotion Strategy, $GRPSb$ is Green Product Strategy, AGE is Age and $INCL$ is Income Level

Distribution of Respondents
Source: authors compilation (2026)
Theoretical Expectations (Expected Signs)

Value	Frequency	Percentage
North Central (Abuja)	76	20.05
North West (Kano)	82	21.64
North East (Gombe)	37	9.76
South West (Lagos)	109	28.76
South East (Anambra)	47	12.40
South South (Rivers)	28	7.39
Total	379	100

Variable	Meaning	Expected Sign	Theoretical Expectation
GRPSa	Green Promotion Strategy	(+)	Strong green promotion strategies improve consumer perceptions and increase positive attitudes toward eco-friendly products.
GRPSb	Green Product Strategy	(+)	Strong green product strategies improve consumer perceptions and increase positive attitudes toward eco-friendly products.
AGE	Age	(+) / (−)	Older consumers may be more conservative (−) or more responsible environmentally (+); effect is mixed theoretically.
INCL	Income Level	(+)	Higher income increases ability to purchase green products, improving positive attitudes.

Source: author's compilation (2026)

FINDINGS

Descriptive Statistics

The table below shows a descriptive statistics where all the variables have 379 observations, which means a complete dataset with 21 unreachable respondents.. Consumer attitude (CNAT), as a dependent variable, displayed higher mean values average, which indicates that participants generally have a positive attitude regarding the green marketing concept. Similarly, Green Product Strategy (CRPSa) and Green Promotion Strategy (CRPSb) also had high mean value which means positive evaluations by respondents. Standard deviation across variables are predominantly of low to moderate standard, demonstrating a reasonable level of consistency. Age (AGE) has an average variability showing a relatively diverse sample of respondents. Income Level (INCL) also offers relatively stable responses with slight variation. As a whole, the results indicate that consumers have positive perceptions of consumer green marketing strategies with reasonable consistency.

Variables	Obs	Mean	Std.dev	Min	Max
CNAT	379	12.11609	0.835058	3	15
CRPSa	379	11.78892	0.233476	8	14
CRPSb	379	11.98417	0.661822	8	15
AGE	379	12.09234	0.678014	4	15
INCL	379	12.32454	0.545673	8	15

Source: author's compilation (2026)

Serial Correlation Test

Breusch Godfrey LM test was conducted to see if the regression model suffers from serial correlation. It provides Chi-square value of 106.084 with probability value as 0.4356. As this value is larger than 0.05, therefore we do not reject the null hypothesis of no serial correlation. That means, there is no evidence of autocorrelation in residuals of the model. This implies that the error terms are independent. This provides evidence that the regression estimates are not biased due to serial dependence and thus can be considered valid. Overall, the model is statistically relevant for examining the impact of green product and green promotion strategies on consumer attitudes in Nigeria's FMCG sector.

Breusch Godfrey LM test for autocorrelation

lags(p)	chi2	df	Prob > chi2
1	106.084	1	0.4356

Source: authors compilation (2026)

Heteroskedasticity Test

To verify the usability of the regression model, this study set a heteroskedasticity detection test using the Breusch-Pagan/Cook-Weisberg test and obtained a chi-square value of 4.62 and a probability p-value of 0.6316. Since $p > 0.05$, and the result is greater than 0.05, the null hypothesis of constant variance was not rejected. This confirms that the model has no evidence of heteroskedasticity, its residual variance is constant, and its regression estimates are valid and unbiased. The model can thus be used to test the impact of green promotion and green product strategies on consumer attitudes in Nigeria's FMCG sector.

Breusch Pagan/Cook Weisberg test for heteroskedasticity

lags(p)	chi2	Prob > chi2
1	4.62	0.6316

Source: author's compilation (2026)

Normality Test

This study adopted the Shapiro-Wilk test to verify the normality of the regression model's residuals. A total of 379 observations were included in this test, which yielded a W statistic of 0.97131 and a p-value of 0.1324. In line with the rule that the null hypothesis of normality is not rejected if the p-value is greater than 0.05, it can be determined that the model meets the core assumptions for regression, and the regression results of this study have qualified reliability and validity.

Shapiro-Wilk W test for normal data

Variables	Obs	W	V	z	Prob>z
Resid	379	0.97131	7.525	4.790	0.1324

Source: author's compilation (2026)

Multicollinearity

This study constructs an empirical regression model focused on the impacts of green promotion and green products on consumer attitudes. The variance inflation factor (VIF) test was adopted to detect and rule out multicollinearity among explanatory variables. Test results show that the VIF values of all variables range from 1.03 to 1.13, with an average of 1.08, which is far lower than the commonly used threshold values of 5 and 10. The model has no multicollinearity, there is no high correlation between independent variables, each variable contributes unique information to the model, the regression estimates are stable, and the model is statistically reliable and usable.

Variable	VIF	I/VIF
GRPSb	1.13	0.881743
GRPSa	1.12	0.896521
INCL	1.04	0.963619
AGE	1.03	0.974928
Mean VIF	**1.08**	

Source: author's compilation (2026)

Multiple Regression Model

The table below shows the results of the Multiple Regressions Analysis used to Test green promotion and green product strategies on consumer attitudes in Nigerian FMCG sector. The study used Green Promotion Strategy (GRPSa) and Green Product Strategy (GRPSb) as the independent variable while Age (AGE) and Income Level (INCL) are used as control variables for the study. The findings clarify the direction and nature of influence each variable exerts on consumer attitudes.

The results reveal that the coefficient of Green Promotion Strategy (GRPSa) stands at 0.3125133, having a standard error of 0.0764337, a t-value of 4.09 and p-value 0.000 respectively. This means that the green promotion strategy has a positive and significant impact on consumers' attitudes at the level of 1% significance. Practically, it means that a one unit increase in green promotion strategy increases consumer attitudes approximately by 0.31 units keeping the rest of the variables constant. This by default indicates that environmental advertising, awareness campaigns and sustainability messaging play a major role in contributing to positive consumer attitudes in the FMCG sector. Likewise, Green Product Strategy (GRPSb) has a coefficient of 0.2744553, standard error value is 0.0572058, t-value of (4.80) and p-value of (0.000). The result indicates that green product strategy has a significant and positive effect on consumer attitudes. That is, a one unit improvement in green product strategy leads to a 0.27 unit increase in consumer attitudes. This indicates that businesses recognized the positive response from consumers to eco-friendly product features such as biodegradable materials, sustainable production processes and environmentally safe ingredients.

The variable Age (AGE), shows a coefficient -0.2957917, standard error 0,1333431, t-value 2.22 and p-value 0,077. This suggests that an increase in age does not have a statistical relationship with unfavorable consumption cognitions about green marketing strategies which indicates a negative relationship between age and consumer attitude where the relationship is statistically significant at the 5% level. Despite the negative sign, which would now indicate that young consumers are more responsive to green marketing than their older counterparts, this effect is not determined to be conclusive and need additional research. For the variable Income Level (INCL), it has an estimate of 0.2184116 with a standard error of 0.0588336, t-value of 3.71 and p-value of 0.000; This finding reveals that income level positively and significantly influences consumer attitude. This indicates that consumers with high income level have more tendency of positive attitudes towards green marketing strategies because they have higher level of purchasing power and can easily buy eco-friendly products.

Lastly, the constant which is 7.818716 with a standard error of 1.182532, t-value of 6.61 and p-value equal to 0.000. While after adjusting for all the independent variables consumer attitude still remains positive and significant, this indicates that there may be other unobserved factors affecting view of consumers towards green marketing in the FMCG sector. The conclusion of this finding indicates that green promotion strategy and green product strategy positively affect consumer attitude. However, while income level has a positive effect on consumer attitudes, age has only a slight but significant impact on consumer attitudes. The study findings generally indicated that these green marketing strategies have the potential of influencing positive attitudes among consumers towards the FMCG sector in Nigeria.

Multiple Regression Model

Variables	Coef	Std. err.	`t	P>|t|
GRPSa	0.3125133	0.0764337	4.09	0.000
GRPSb	0.2744553	0.0572058	4.80	0.000
AGE	-0.2957917	0.1333431	2.22	0.077
INCL	0.2184116	0.0588336	3.71	0.000
Cons	7.818716	1.182532	6.61	0.000

Source: Generated by the author using STATA version 17

Discussion of Findings

Results are discussed based on multiple linear regression. The study examines green promotion strategy, green product strategy, income level and age on consumer attitudes. The research determined that green product strategy positively and significantly has an effect on consumer attitudes. It means that consumers are more likely to acquire products items which typically are good for the environment, sustainably produced and nontoxic to human health and environment. This result suggests that product specific environmental attributes, such as biodegradable materials, lower carbon footprint fractions, recyclable components and nontoxic ingredients increase the acceptance among consumers. Product sustainability is a key differentiating factor that affects consumer preferences especially in the Nigerian FMCG sector where competition is intense. This result is consistent with findings by Deng and Yang (2024) whereby the authors determined strong willingness to pay for green products

is driven largely by innovations to pay for sustainable goods. Likewise, Hasan and Islam (2024) and Okeke and Nwachukwu (2025) showed that eco-friendly product design enhances consumer trust and long term brand loyalty.

The results of this study showed that green promotion strategy positively and significantly impacts the attitude of consumers. It is inferred that green promotion, in the forms of sustainability advertising, green marketing communication and environmental public relations are central to consumer perceptions of FCMG products in Nigeria. This result indicates that consumers are becoming more sensitive to messages that highlight environmental conscience. When firms convey the message of sustainability through advertisements and promotional campaigns, consumers are prone to posit positive attitudes towards their products which in return amplify their purchase attitude. The size of the coefficient indicates that green promotion is not a marginal factor but rather the most important driver of consumer behavior in FMCG.

This confirms the results of Hermanto et al., (2024) and Zhang and Dong (2024) who highlight that green promotional messages significantly increase consumers' awareness and willingness to purchase environmentally friendly goods. In addition, Mensah and Aidoo (2024) and Abiodun et al., (2024) contended that green communication strategies encourage affective and trust building between consumers and eco-friendly brands. Theoretically, this result validates the Theory of Planned Behavior because promotional messages changes the consumer attitudes which ultimately leads to purchase. Consequently, FMCG firms in Nigeria need to make sure their promotional strategies are persuasive but also authentic and consistent with real environmental practices.

Income level positively and significantly has an effect on consumer attitude, while age does not have a significant influence. Since affluent consumers can afford to buy green products due to affordability and willingness to pay a handful amount but not all of the consumers are happy to pay a premium for sustainable and eco-friendly goods. This finding is consistent with Abiodun et al. (2024) and Eze et al. (2022) and it has been reported that income impacts green consumer behavior strongly. In contrast, the age insignificance supports Long (2024) and Deng (2024), which indicated that age differences only lightly determine environmental attitudes.

Theoretically, the findings are in line with the theory of Planned Behavior (Ajzen, 1991), where the individuals attitude towards a behavior are the key determinants of the behavior intentions. The positive effect of both green product and green promotion strategy suggests that consumers develop more positive attitude towards products they believe are more credible and genuinely sustainable which ultimately strengthens their attitude to purchase. Also, the influence of income level indicates that the purchasing power of individuals may increase consumer attitude to purchase, whereas the insignificance shown by age shows that positive attitudes toward sustainability products or promotions are not confirmed to a particular age group. Overall, the findings shows that consumer attitudes towards green marketing strategies play a central role in shaping consumer attitude.

CONCLUSION

The study concludes that green product strategy is very significant for enhancing consumer attitudes and indicates that eco-friendly product attributes exert a strong influence over favourable responses from consumers in the FMCG market. The study also shows that green promotion strategy

positively and significantly affects consumer attitude, which means that consumers respond to the messages of environmental campaigns and sustainability issued by a company. In general, the findings suggest that promotion and product marketing strategies are important determinants of consumer attitudes toward green marketing strategies in the Nigerian FMCG sector.

RECOMMENDATIONS

Based on the findings and conclusions of this study, it is recommended that Fast-Moving Consumer Goods (FMCG) companies in Nigeria strengthen their green promotion strategies through authentic environmental campaigns, sustainability focused advertisements, and credible green communication. Promotional messages should accurately reflect the firms' environmental practices to enhance consumer confidence, improve favourable attitudes toward green products, and discourage perceptions of greenwashing. Since green promotion strategy was found to significantly influence consumer attitudes, firms should integrate sustainability messages into their overall marketing communication to reinforce consumers' purchase intentions.

Furthermore, FMCG firms should increase investment in green product innovation by developing products that incorporate environmentally friendly materials, safe ingredients, recyclable components, and sustainable production processes. Continuous innovation in environmentally responsible product design will not only satisfy consumers' growing environmental concerns but also strengthen firms' competitive advantage within the Nigerian FMCG sector. Since the study established that green product strategy positively and significantly influences consumer attitudes, companies should ensure that sustainability is embedded throughout the product development process rather than being treated as a marketing feature alone.

Finally, marketing managers should consider consumers' income levels when formulating green marketing strategies by ensuring that environmentally friendly products remain affordable and accessible to different income groups. This may be achieved through cost efficient production methods, appropriate pricing strategies, and the introduction of green product alternatives at different price categories. Such an approach will expand market acceptance, encourage sustainable consumption across a broader consumer base, and enhance positive consumer attitudes toward environmentally responsible products.

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