

Original Article

Impact of Green Marketing Strategies on Consumer Purchasing Decisions in the Philippine FMCG Retail Sector: A Structural Equation Modelling Approach

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Abstract. Investigating the role of sustainability in consumer behavior, the present research examined the influence of green marketing strategies on purchase decisions in the fast-moving consumer goods (FMCG) retail sector in the Philippines, with particular attention to the mediating roles of perceived value, price sensitivity, and brand image. A quantitative, cross-sectional explanatory design was employed, and data were collected from 355 household consumers who purchased FMCG products in selected modern-trade supermarkets via a structured survey questionnaire. The hypothesized relationships among the constructs were analyzed using Structural Equation Modeling (SEM) in a two-stage procedure that included measurement and structural model assessment. The results revealed that green marketing has a significant positive effect on purchase decisions, perceived value, price sensitivity, and brand image. Furthermore, perceived value, price sensitivity, and brand image significantly influenced purchase decisions and mediated the relationship between green marketing and consumer buying behavior. These findings highlight green marketing as a strategic approach that not only advances environmental responsibility but also strengthens consumer response and competitive advantage in the FMCG sector.

Keywords: Green marketing; Fast-Moving Consumer Goods; Consumer purchasing decisions; Sustainability; Green marketing mix

Growing environmental degradation, climate change, resource depletion, and waste generation have intensified the global call for more sustainable patterns of production and consumption. The United Nations, through Sustainable Development Goal 12, emphasizes that responsible consumption and production are now central to long-term social and economic well-being, warning that if current lifestyles continue and the global population reaches 9.8 billion by 2050, the equivalent of almost three planets would be required to supply the natural resources needed to sustain present consumption patterns. The same global agenda also shows rising institutional attention to sustainability, with 530 policies on sustainable consumption and production reported across 71 countries as of 2024. In parallel, the United Nations Environment Programme has underscored the importance of consumer information and sustainable lifestyles, noting that retail and consumer-facing sectors are critical to environmental transition because more than 35% of food waste is generated at the retail and food service stages. These developments indicate that sustainability is no longer a peripheral concern but a defining global issue that increasingly shapes markets, policy, and consumer decision-making.

Within this global context, the fast-moving consumer goods (FMCG) retail sector has become a particularly important arena for sustainable marketing practice because FMCG products are purchased frequently, consumed rapidly, and distributed at scale. As a result, even small changes in product design, packaging, pricing, promotion, and distribution can produce meaningful environmental and behavioral effects. Evidence from consumer-packaged goods markets further suggests that sustainability-related product claims are increasingly influencing actual buying behavior rather than merely stated attitudes. A McKinsey and Nielsen analysis covering five years of sales data, 44,000 brands, and approximately 600,000 stock-keeping units across 32 consumer packaged goods categories found a clear positive relationship between consumer spending and products carrying sustainability-related claims on packaging. This suggests that environmental positioning has become commercially relevant in mainstream retail markets and not merely in niche green segments.

Against this background, green marketing has emerged as an important strategic response to growing consumer environmental awareness. Green marketing developed from the broader philosophy of societal marketing, which argues that marketing should not only satisfy customer needs and organizational objectives but also protect societal welfare and ecological balance. In this sense, green marketing extends beyond promotional claims to integrate environmental considerations into the entire marketing process. Contemporary scholarship views green marketing as a broad and evolving concept that encompasses environmentally responsible product development, sustainable packaging, resource-efficient production, ecological pricing, environmentally sensitive distribution, and promotional communication that informs consumers about environmental benefits and responsible consumption. Recent reviews further emphasize that green marketing is not simply a passing business trend but a strategic approach that contributes to sustainable development by aligning organizational goals with consumer needs and ecological preservation.

The green marketing mix is commonly discussed through the lens of the traditional 4Ps—product, price, place, and promotion—reframed around environmental responsibility. A green product is one whose design, materials, manufacturing, and disposal processes minimize harm to the natural environment. Green pricing reflects not only the monetary value of a product but also the environmental costs and benefits associated with production, recyclability, energy efficiency, and long-term use. Green place concerns the selection of logistics, distribution systems, and channel arrangements that reduce environmental damage and enable responsible handling, return, or reuse of products and packaging. Green promotion involves communicating environmental information, ecological claims, and sustainability-oriented messages to influence consumer awareness, attitudes, and purchase intentions. Taken together, these elements position green marketing as a multidimensional business strategy that seeks to create value for consumers while supporting environmental sustainability (Kotler, 2011; Delafrooz et al., 2014; Purwati et al., 2019; Silaban et al., 2021).

Despite the growing literature on green marketing, significant conceptual and empirical gaps remain. Recent scholarship notes that the field still lacks a fully unified terminology and an updated, systematic understanding of how green marketing operates across contexts, sectors, and consumer groups. Existing findings are also not entirely consistent: while many studies report positive effects of green marketing on consumer attitudes and intentions, others suggest that environmental knowledge or favorable attitudes do not always translate into actual purchase behavior. This inconsistency underscores the enduring relevance of the well-documented attitude-behavior gap in green consumption and highlights the need for context-specific empirical analysis.

The gap is even more evident in developing-country settings, where sustainability concerns are filtered through economic constraints, cultural values, institutional support, and varying levels of consumer awareness. In the Philippine context, recent studies have examined sustainable purchasing behavior for green products among specific consumer groups and name-brand stores, showing that perceived value, environmental concern, and authority support influence intentions to buy green products. However, such studies typically focus on limited consumer segments, specific product contexts, or behavioral frameworks beyond the green marketing mix. Other Philippine-based research has explored green marketing primarily in relation to business sustainability and profitability among small and medium enterprises rather than consumer purchase decisions in FMCG retail. Consequently, there remains limited empirical evidence on how the green marketing mix—particularly green product, green price, green promotion, and green place—shapes consumer purchasing decisions in modern trade FMCG retail settings in the Philippines.

This gap is important because the Philippine retail environment presents a distinctive setting for green marketing research. The country's growing consumer market, increasing visibility of sustainability discourse, and expanding modern-trade retail sector create both opportunities and tensions for implementing green marketing. On the one hand, consumers are becoming more aware of environmental issues and are increasingly exposed to eco-friendly branding, packaging, and sustainability claims. On the other hand, actual purchase behavior may still be shaped by affordability concerns, perceived value, trust in green claims, and brand image. These contextual realities make it necessary to examine not only whether green marketing affects purchasing decisions but also the mechanisms by which these effects occur.

In response to these gaps, the present research investigates the impact of green marketing strategies on consumer purchasing decisions in the FMCG retail sector in the Philippines. Specifically, the study examines the green marketing mix across the dimensions of green product, green price, green promotion, and green place. It analyzes the roles of perceived value, price sensitivity, and brand image in shaping purchase decisions. By applying Structural Equation Modeling (SEM), the study seeks to provide a more comprehensive understanding of the direct and indirect relationships among these constructs. In doing so, the research contributes to the literature on green marketing and consumer behavior by offering evidence from a developing-country FMCG setting and generating insights relevant to both business practice and sustainable consumption policy.

Objectives

- To analyze the impact of green marketing strategies on consumer purchasing decisions.
- To develop a structural equation model (SEM) to elucidate the relationships among green marketing strategies, consumer awareness, perception, and purchasing decisions.

Literature Review

In a business-to-business setting, Gelderman et al. (2021) examined green marketing as an environmental exercise based on its effects on green consumer satisfaction and loyalty. The study was based on a quantitative approach to research. A simple random sampling procedure was used to obtain a sample of 148 respondents for the study, based on a survey research method. A questionnaire was used to gather data, which was then analyzed using correlation analysis and structural equation modelling. According to the survey, the most important factors influencing green customer satisfaction and loyalty were green product quality, green pricing, and corporate image. Furthermore, Milan, Juhi, and Chellasamy (2021) conducted research to find out how green marketing functions and what impact it has on Indian consumers' purchase decisions. Using an explanatory research design, the study employed both quantitative and qualitative methods. 86 respondents were selected at random and via a convenience sampling procedure to comprise the sample. A questionnaire was used to gather data, and regression analysis was used to analyze the data. The data used in this study also included qualitative category data, which illustrates customer traits and purchase patterns from interviews. The findings demonstrated that a product's environmental impact directly influences consumers' decisions. The study concluded that green marketing is now playing a more critical role in the shifting buying preferences of Indian consumers. In contrast, the green marketing orientation among small and medium-sized enterprises (SMEs) with a green approach to business was studied by Rajadurai, Zahari Esa, Bathmanathan, and Ishak (2021). The study was done among SMEs in Malaysia's building and energy sectors related to the variables of Green Marketing Orientation (GMO). The study employed a survey research methodology, with a sample of 300 respondents selected through simple random sampling. The data were obtained through a questionnaire and analyzed using the Heterotrait-Monotrait Ratio. The findings showed that proactive energy conservation, green supply chain management, and green marketing all improve consumer satisfaction. However, because they do not directly interact with customers, green strategic policy efforts and greening corporate processes have little effect on consumer satisfaction. Overall, it was found that green marketing helps Malaysian SMEs better serve their clients.

The study of Cabrera et al. (2025) established that memetic marketing significantly influences the spending behavior of business education students, particularly through its effects on brand recognition, purchase intention, and actual buying behavior on social media platforms such as TikTok and Facebook. Their findings further showed that video-based memes were especially effective because they combined humor, trendiness, and informativeness, making marketing messages more engaging and easier to remember among young consumers. These findings are important because they suggest that meme-based content is not only entertaining but also capable of shaping consumer attitudes and purchase-related decisions among students.

Finally, Ahmad, Ghazali, Abdullah, Nordin, Nasir, and Farid (2020) evaluated the effect of green marketing on consumers' purchase behavior through an empirical analysis. The study used a convenience sampling technique to select 300 respondents for quantitative research, gathering primary data through survey questionnaires. Regression analysis is the statistical method utilized in this investigation. The data analysis shows that eco-packaging and environmental advertising significantly influence consumer purchasing behavior, whereas eco-labeling and eco-branding do not. According to the study's findings, consumers respond favorably to environmentally friendly goods that are attractively packaged and promoted.

Concept of Green Marketing as a Modern Marketing Concept

According to Dixon-Ogbechi (2019), green marketing is a modern marketing philosophy and concept that channels marketing activities to protect the environment. Green marketing is the production and distribution of products to consumers who are mindful and conscious of their environmental impact while meeting their needs (Alabo & Anyasor, 2021). In other words, the concept of green marketing refers to processes and activities that involve the provision of environmentally friendly goods or services (Rex & Baumann, 2007, as cited in Alabo & Anyasor, 2021). Green marketing involves organizational operations that focus on changes in products, manufacturing techniques, supply and distribution, and on ensuring products meet customers' desires or needs (Alhamad, Junoh, Ahmad & Eneizan, 2019). It can also be referred to as environmental, ecological, or green marketing, which is founded on targeting consumer behavior that recognizes consumption that does not create waste or pollute the environment (Alhamad, Junoh, Ahmad, & Eneizan, 2019). Green marketing can also be considered as a movement promoting green consumption by organizations in terms of reflecting responsible business operations towards the society, thereby minimizing business negative effects on the natural environment (Alhamad, Junoh, Ahmad & Eneizan, 2019; Rahman & Nguyen-Viet, 2023). Iweama (2017) asserted that green marketing has become relevant for developing economies like Nigeria that are facing environmental challenges such as water pollution, desertification, deforestation etc, hence making it holistic for environmental considerations to be integrated across organizational stakeholders to go green. From the foregoing, it can be deduced that defining the concept of green marketing is not easy, as it must consider diverse, intersecting, and contradictory meanings (Iweama, 2017; Nguyen Viet, 2023; Wang, Liu & Pérez, 2023).

Green Marketing Mix Elements

Silaban et al. (2021) point out that the green marketing mix follows an environmentally friendly marketing process similar to traditional marketing mix elements, but emphasizes environmental protection and preservation. Purwanti, Abadi, and Suyanto (2019) explained green marketing based on marketing mix elements 4Ps that reflect the implementation of green values, standards, ethics, and morals, which are based on environmental sustainability. In essence, green marketing is the application of the marketing mix elements individually in an ecologically and environmentally conscious way, such that consumers can relate their purchasing behavior to goods or services. Delafrooz, Taleghani, and Nouri (2014) stated that green marketing tools that can enhance the impact of product, price, place, and promotion on consumer purchasing include ecological labeling, ecological branding, and environmental advertising. The green marketing mix components and fundamentals investigated for this current study include green place, green product, green pricing, and green promotions, which are coined in line with the application of green orientation into the 4Ps of the marketing mix (Eneizan et al., 2016; Silaban et al., 2021; Gelderman et al., 2021; Alabo & Anyasor, 2021; Nguyen-Viet, 2023) as elaborated in the following sections:

Green Product

Green Product refers to products whose manufacturing and production are eco-friendly and have minimal damaging effect to the environment (Eneizan et al., 2016). This means that the raw materials, inputs, processes, and developments for such products are based on resources that can be preserved and recycled. Purwanti et al (2019) stated that green products are ecological products that prioritize the long-term safety of users and the environment. Green products are made without wasting resources and do not involve cruelty to humans or animals. Additionally, green product quality is measured by how environmental features are reflected in the product. This is because consumers are influenced by knowledge of green product qualities such as non-polluting materials, recyclability, high energy savings, and the assurance of minimal negative impact on the environment (Gelderman et al., 2021). This argument is similarly put forward by Silaban et al. (2021) in terms of the fact that green products should not harm humans or the environment in any way.

Green Price

Green Pricing relates to affordable pricing that captures the value of preservation of the environment (Kotler & Armstrong, 2016). According to Silaban et al (2021), eco-friendly products are priced more cheaply than conventional products based on the cost of the product life cycle, which can be elongated due to the recyclability and reusability of the product. The authors mentioned examples of fuel-efficient cars and toxin-free products. Gelderman et al. (2021) argued otherwise based on the assertion that green products can be pricier due to the supplementary costs of environmental protection and the required cost of innovation. The authors, however, emphasized that consumers require price fairness based on their perception of environmental protection, matching the high price. Consumers are considered less price sensitive to green products based on the belief that they are contributing to sustainable development (Gelderman et al., 2021). The process of going green is considered high because of the technology and machinery required. In reality, the green pricing covers the economic and environmental costs of production and is captured in the final product price, which makes pricing in a premium form (Eneizan et al., 2016). According to Purwanti et al (2019), consumers are willing to pay a premium price for green products, so far there is a perception of additional value in terms of how the product is environmentally friendly.

Green Promotion

Green promotion involves marketing communication that instills eco-friendly language and information for green consumers (Kotler & Armstrong, 2016). According to Purwanti et al. (2019), green promotion entails special sales promotion that encourages consumers to eco-friendly products, which can be in the form of coupons, cash back, and special offers. Also, the use of green marketing advertising that promotes the company image as environmentally responsible and promotes a green lifestyle among consumers (Purwanti et al., 2021). In a similar line, Alabo and Anyasor (2021) explained green promotion in terms of the provision of information, persuasion, and reinforcement to consumers to purchase green products. It also relates to communication about environmentally friendly information about the product to the target audience. From a strategic point of view, organizations use green promotion to communicate the environmental benefits of using products, promoting environmental claims in product packaging, and publicizing environmental efforts (Eneizan et al., 2016). It is very important to be deliberate in green promotion as it provides a bridge in the *gap between the business organization and community in the form of public relations activities* (Eneizan et al., 2016). Despite the existing literature highlighting the importance and various aspects of green promotion, a significant research gap remains in the comprehensive understanding of its direct impact on consumer purchase decisions. While Kotler and Armstrong (2016) and Purwanti et al. (2019, 2021) emphasize the role of green promotion in appealing to eco-friendly consumers through sales promotions and advertising, and Alabo and Anyasor (2021) stress its role in information provision and persuasion, there is limited empirical evidence linking these promotional strategies to actual purchase decisions. Eneizan et al. (2016) discuss the strategic use of green promotion for public relations and environmental claims, yet the specific mechanisms through which these efforts translate into consumer buying behavior are underexplored. Therefore, further research is necessary to empirically test and validate the possible significant relationship between green promotion and consumer purchase decisions, thereby providing a more detailed understanding of how green promotional activities influence consumer behavior in the FMCG Modern Trade.

Green Place

Green place, also known as the distribution of green products, was explained by Alabo and Anyasor (2021) as the selection of appropriate marketing channels that facilitate the flow of goods or services in a manner that reduces environmental damage. Hence, it relates to the management of transportation and logistics that minimizes emissions from the movement of raw materials and finished products (Alabo & Anyasor, 2021). The distribution of green products needs to be done in a way that integrates an attractive display of recycling and environmental protectionism (Purwanti et al., 2019). Green distribution involves activities that are related to monitoring and enhancing environmental outcomes in the supply and demand chain (Purwanti et al., 2019). This means that it has to do with partnering with marketing channels that can develop product reuse or disposal activities, as well as guaranteeing that customers are able to exchange or return recyclable items of purchase (Eneizan et al., 2016). While the current literature provides substantial insights into green place or distribution strategies, a notable gap remains in understanding the direct influence of these green distribution practices on consumer purchase decisions. Alabo and Anyasor (2021) discuss the selection of eco-friendly marketing channels and logistics management, emphasizing the reduction of environmental impact. Similarly, Purwanti et al. (2019) and Eneizan et al. (2016) highlight the importance of integrating environmental protectionism in product display, monitoring environmental outcomes in supply chains, and enabling recycling and disposal activities. However, there is a lack

of empirical research examining how these green distribution efforts directly affect consumers' purchasing behaviors. Consequently, further investigation is needed to empirically validate the hypothesis (H5) that there is a significant positive relationship between green marketing and consumer purchase decisions, with a focus on how green distribution practices influence consumer choices and preferences in the FMCG Retail System.

Concept of Consumer Purchasing Decisions

Kotler and Armstrong (2016) contended that a consumer's purchase decision is a reflection of their decisiveness during the purchasing process as well as the processes that precede and follow it. The dynamics and traits of consumer behaviour—including what they buy, how they buy, why they buy, and how they use or dispose of what they buy—are essentially the foundation of consumer purchasing and buying decisions (Dixon-Ogbechi, 2019; Quang, 2021 Silaban et al.2021) Consumers are known to be faced with myriads of determining factors in a purchasing decision state and managers and marketers need to know at every point how to influence consumer purchasing decision with the marketing mix elements of price, product, place and promotions (Wolok, 2019; Xue & Jo,2023). In this analysis of literature, the researcher formulates the hypothesis:

H¹. There is a significant positive relationship between Green Marketing and Consumer Purchase Decision

H². There is a significant positive relationship between Green Marketing and Perceived Value

H³. There is a significant positive relationship between Green Marketing and Price Sensitivity

H⁴. There is a significant positive relationship between Green Marketing and Brand Image

H⁵. There is a significant positive relationship between Perceived Value and Purchase Decision

H⁶. There is a significant positive relationship between Price Sensitivity and Consumer Purchase Decision

H⁷. There is a significant positive relationship between Brand Image and Consumer Purchase Decision

H⁸. There is a significant positive relationship between Green Marketing and Perceived Value in Consumer Purchase Decision

H⁹. There is a significant positive relationship between Green Marketing and Price Sensitivity in Consumer Purchase Decision

H¹⁰. There is a significant positive relationship between Green Marketing, Brand Image, and Consumer Purchase Decision

Theoretical Framework and Structural Model

Institutional theory, developed by Meyer and Rowan in the 1970s, interprets how organizations align with, relate to, and are influenced by their societal, state, national, and global environments. According to Pleasant, Pleasant, and Boyer (2018), institutional theory explains the connection between the timing of business organizations' greening strategies and their performance. It posits that various concepts and constructs become institutionalized to the extent that they are accepted as standards and practices (Pleasane et al., 2018). This theory emphasizes how external constraints impact an organization's policies, processes, and structure, leading to a high degree of similarity among businesses within an organizational field, irrespective of their direct relationships. The core idea of institutional theory is that many organizational practices are adopted and maintained due to social forces for legitimacy and conformity, rather than purely technical or economic reasons. This implies that organizations' decisions to adopt green practices are often driven by the need to conform to societal and environmental expectations (Wilardjo, 2016; Gelderman et al., 2021). Institutional theory is relevant, as it elucidates how green orientation is integrated into organizational and marketing practices, evolving into green marketing, in which organizations prioritize the ecological and environmental needs of individuals, groups, and society at large.

ABC Model

ABC model of attitudes: The model emphasizes the interrelationships among knowing, feeling, and doing. Highly experienced researchers agree that an attitude has three components: affect, behavior, and cognition. The affect category refers to the emotions and feelings of people towards an object, for instance, a product. Behavior relates to the actions and intentions of an attitude towards an object or product, which can be favorable or unfavorable, and cognition can be explained as the beliefs a consumer has about the attitude object, which can be negative or positive (Solomon et al., 2010). "The consumers' attitudes affect their thoughts and feelings and thus influence behavior such as purchasing behaviors" (cited, Picket-Baker and Ozaki, 2008; Ajzen, 2005). The experience of the green products could result in positive or negative feelings towards them, which could influence the behavior of the consumer, whether to purchase the eco-friendly products or not. Picket-Baker and Ozaki (2008, p. 289) found in their research that environmentally conscious consumers were likely to choose or purchase brands they knew were produced by companies whose goods and production methods were more "environmentally friendly". The experience and satisfaction with green products have a great impact on consumers' feelings and actions. For instance, LOHAS have a more positive attitude towards eco-friendly products and believe that these products are

healthy (Solomon et al., 2009, 2008). The explanations of the ABC model by some researchers are linked to our proposed model, in which consumer attitude towards an object (eco-friendly products), specifically FMCG. The experiential hierarchy of effects means that “consumers act based on their emotional reactions. “Although the factors of beliefs and behavior are recognized as playing a part, a consumer's overall evaluation of an attitude object is considered by many to be the core of an attitude.” (Solomon et al., 2010). So according to this perspective “attitudes can be strongly influenced by intangible product attributes such as package design, and by consumers' reactions to accompanying stimuli such advertising and even the brand name” (Solomon et al., 2010).

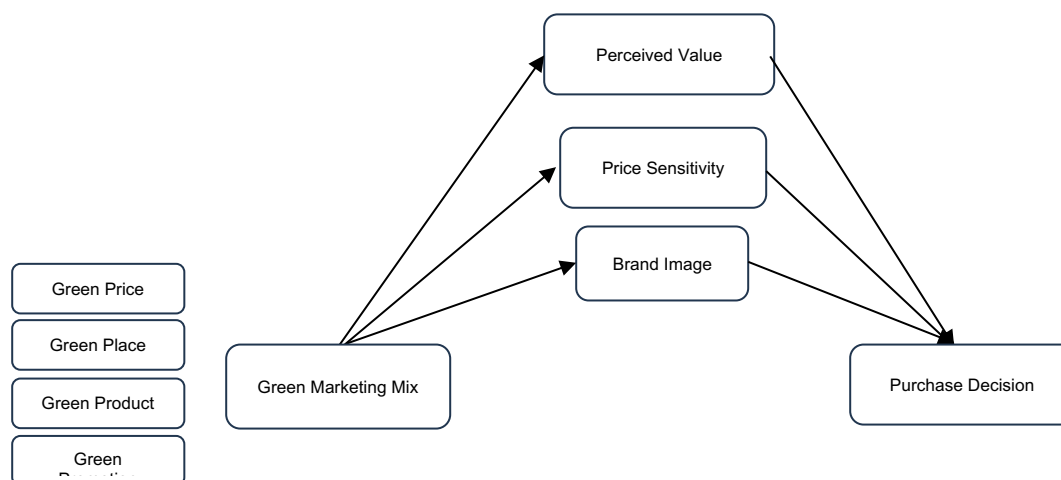


Figure. 1: Investigating the Impact of Green Marketing Strategies on Consumer Purchasing Decisions in the FMCG- Retail Sector in the Philippines: A Structural Equation Modeling Approach

Methodology

Research Design

This study employed a quantitative, cross-sectional explanatory design to examine the effect of green marketing strategies on consumer purchasing decisions in the FMCG retail sector in selected modern-trade supermarkets in the Philippines. Structural Equation Modeling (SEM) was used because it is well-suited to testing hypothesized relationships among latent constructs measured with multiple indicators.

Research Instrument

Data were collected using a structured questionnaire adapted from the work of Odiah (2017) and Ayo Mofoluwake Folasayo (2024). The instrument assessed the study variables related to green marketing strategies and consumer purchasing decisions, consistent with established quantitative measurement procedures. A 4-point Likert-type scale was employed to capture respondents' level of agreement with each item, thereby facilitating clearer response differentiation and reducing the tendency toward neutral answers.

Reliability Assessment

In the assessment of the measurement model for the reliability and validity of the constructs, partial least squares-structural equation modeling was used to observe the indicators of each construct, specifically in the green marketing mix dimensions (four dimensions). In the initial analysis of the results for reliability, all composite reliability scores of the latent variables including Cronbach's Alpha were greater than the 0.70 threshold and further satisfied the ideal value of the average variance extracted (AVEs) and full collinearity VIFs where all values in the are found to be in the acceptable range of lower than 5.0 and lower than 5.0 for the full collinearity VIFs (acceptable if <5.0; ideal <3.3). Assuring the discriminant validity of the measurement model, the researcher further observed the Fornell and Larcker Criterion (F&L Criterion) and found issues between promotion and place. Further issues in the observation of the heterotrait monotrait (HTMT) ratios were observed where several ratios between items between place and other dimensions of the green marketing mix, and place to value and price sensitivity, since the values were still above the value of .90 (good if <0.90; best if <0.85).

Item Deletion for the Improvement of Reliability and Discriminant Validity

To address issues of discriminant validity and reliability, the researcher examined cross-loadings and removed

indicators from the green marketing mix dimensions (product, price, promotion, and place). Through the item deletion process, the researchers were able to establish reliability and discriminant validity for the study's measurement model (Cohen et al., 2003; Farrell, 2010)

The factor load of each latent variable and its corresponding average variance extracted (AVE) are presented in Table 2. Latent variables must have a value of at least 0.5 and be significant (p-value ≤ 0.05), and AVE values must be equal to or greater than 0.5 (Fawad, 2021). Based on the results of this study, all latent variables' factor loadings and AVEs met the requirements for convergent validity.

Table 1. Convergent Validity and Reliability Measures

Construct/Item (Reflective)		Item Loading	p-value	AVE	CR	CA
Green Marketing Mix						
Product						
	Prod 1	0.873	<0.001	0.512	0.880	0.840
	Prod 2	-	-			
	Prod 3	0.859	<0.001			
	Prod 4	0.796	<0.001			
Price						
	Prce 1	-	-	0.631	0.872	0.805
	Prce 2	0.916	<0.001			
	Prce 3	0.916	<0.001			
	Prce 4	-	-			
Promotion						
	Prom 1	0.959	<0.001	0.712	0.881	0.798
	Prom 2	0.959	<0.001			
	Prom 3	-	-			
	Prom 4	-	-			
Place						
	Plce 1	-	-	0.785	0.880	0.726
	Plce 2	-	-			
	Plce 3	0.913	<0.001			
	Plce 4	0.913	<0.001			
Value						
	V1	0.876	<0.001	0.598	0.937	0.925
	V2	0.922	<0.001			
	V3	0.870	<0.001			
	V4	0.851	<0.001			
Price Sensitivity						
	S1	0.842	<0.001	0.684	0.867	0.769
	S2	0.808	<0.001			
	S3	0.822	<0.001			
	S4	0.895	<0.001			
Brand Image						
	B1	0.857	<0.001	0.650	0.881	0.821
	B2	0.765	<0.001			
	B3	0.923	<0.001			
	B4	0.875	<0.001			
Purchase Decision						
	PD1	0.926	<0.001	0.686	0.868	0.771
	PD2	0.958	<0.001			
	PD3	0.923	<0.001			
	PD4	0.954	<0.001			

Respondents and Sampling

The respondents were 355 household consumers who purchased FMCG products in selected modern-trade retail supermarkets in the Philippines. The study used stratified random sampling to improve the representativeness of the sample and to ensure inclusion of relevant consumer subgroups. The sample size was considered adequate for SEM analysis.

Data Collection Procedure

Data were collected through a survey administered to eligible respondents in selected supermarkets. Before participation, respondents were informed of the purpose of the study, the voluntary nature of participation, and the confidentiality of their responses. Completed questionnaires were checked for completeness, and only valid

responses were included in the analysis.

Data Analysis

The data were analyzed using the standard two-stage SEM procedure. First, the measurement model was assessed to examine the adequacy, reliability, and validity of the indicators. Second, the structural model was estimated to test the hypothesized effects of green marketing strategies on consumer purchasing decisions. Prior to analysis, the data were screened for missing values, inconsistent responses, and outliers.

Ethical Considerations

Ethical approval will be obtained from the relevant institutional review board (IRB). Informed consent will be obtained from all respondents, ensuring their anonymity and confidentiality. Participants will be informed.

Results and Discussion

The results of this study were analyzed in two stages. The first stage assessed the reliability and discriminant validity of the constructs, and the second stage assessed the structural equation model and analyzed the relationships among the hypotheses. The analysis of data for this study applied the disjoint two-stage approach since one of the constructs [*green marketing mix*] was observed with three (4) dimensions (Rasoolimanesh, 2021).

Measurement Model Assessment Results

This research was conducted in the Philippines, where 355 consumers of FMCG, who are either male or female and are over the age of 18, participated in the survey. In Table 2, using WARP PLS 8.0, the researchers calculated the model fit and quality indices for the structural equation model (SEM). Also, the general results of the calculation in Table 2 showed the average path coefficient (APC=0.477), Average R-squared (ARS=0.642), and the Average Adjusted R-squared (AARS=0.641), with an acceptable p-value of <0.001. The Average Block VIF (AVIF=2.969) and Average Full Collinearity Coefficient (AFVIF=2.697) showed acceptable results between the ideal value of ≤ 3.3 and the acceptable value of ≤ 5 , *signifying that there is no pathological collinearity, and no common bias is observed in the model*. Results of this study, as shown in Table 2, also indicated that the model had a large effect size, exceeding the Tenenhaus GOF threshold of 0.36 (GOF = 0.697). Results also illustrated an acceptable coefficient (acceptable if ≥ 0.9 , ideally if =1) on Simpson's Paradox Ratio (SPR=1.000), R-squared Contribution Ratio (RSCR=1.000) and likewise showed an acceptable value greater than 0.7 (>0.7) on Statistical Suppression Ratio (SSR=1.000) and an acceptable Nonlinear Bivariate Causality Direction Ratio (NLBCDR=1.000) of greater than or equal to 0.7 (≥ 0.7).

Table 2. Model Fit and Quality Indices

Index	Coefficient
Average Path Coefficient (APC)	= 0.477, P<0.001
Average R-squared (ARS)	= 0.642, P<0.001
Average Adjusted R-squared (AARS)	= 0.641, P<0.001
Average Block VIF (AVIF)	= 2.884, acceptable if ≤ 5 , ideally ≤ 3.3
Average Full Collinearity (AFVIF)	= 2.969, acceptable if ≤ 5 , ideally ≤ 3.3
Tenenhaus GoF (GoF)	= 0.697, small >0.1 , medium >0.25 , large ≥ 0.36
Simpson's Paradox Ratio (SPR)	= 1.000, acceptable if ≥ 0.7 , ideally = 1
R-Squared Contribution Ratio (RSCR)	= 1.000, acceptable if ≥ 0.9 , ideally = 1
Statistical Suppression Ratio (SSR)	= 1.000, acceptable if >0.7
Nonlinear Bivariate Causality Direction Ratio (NLBCDR)	= 1.000, acceptable if ≥ 0.7

The matrix provides strong evidence of discriminant validity based on the Fornell-Larcker criterion, because for each construct, the square root of the AVE (diagonal elements) is greater than its correlations with all other constructs (off-diagonal elements). Specifically, product (0.825), price (0.916), promotion (0.959), place (0.913), perceived value (0.880), price sensitivity (0.842), brand image (0.857), and purchase decision (0.941) all exceed their corresponding inter-construct correlations, indicating that each latent variable shares more variance with its own indicators than with other constructs. Although several associations are moderately high—such as price with perceived value (0.706), perceived value with purchase decision (0.708), and price sensitivity with brand image (0.702)—none of these exceed the relevant diagonal values, suggesting that conceptual overlap is present but still within acceptable limits. Overall, the results indicate that the reflective constructs are empirically distinct and that the measurement model demonstrates acceptable discriminant validity, supporting progression to structural model interpretation; however, as good practice in contemporary PLS-SEM, this conclusion should also be

corroborated with HTMT ratios for a more stringent assessment.

Convergent Validity and Reliability Measures

To ensure that statements intended for a particular construct are not confused with those of another construct in this study's instrument, discriminant validity was established. The Fornell-Larcker (F-L) criterion was calculated and further validated by examining the heterotrait-monotrait (HTMT) ratios. In the observation of the F-L criterion, Fawad (2021) emphasized that discriminant validity requires that the square roots of the average variance extracted (AVEs) presented diagonally in Table 4 be higher than the off-diagonal coefficients. Based on the results of this study, all latent variables possess discriminant validity.

Table 3. *Discriminant Validity Using Fornell-Larcker Criterion of Reflective Constructs*

	prd	prc	prm	plc	pv	ps	bi	pd
prd	0.825							
prc	0.561	0.916						
prm	0.558	0.497	0.959					
plc	0.542	0.649	0.647	0.913				
pv	0.559	0.706	0.629	0.586	0.880			
ps	0.465	0.616	0.698	0.693	0.644	0.842		
bi	0.524	0.657	0.655	0.664	0.680	0.702	0.857	
pd	0.613	0.671	0.580	0.583	0.708	0.555	0.637	0.941

prd-product; prc-price; prm-promotion; plc-place; pv-price value; ps-price sensitivity; bi-brand image; pd-purchase decision

The researcher further confirmed the discriminant validity of the latent variables of the study using HTMT ratios, wherein, according to Hamid et al. (2017) and Rasoolimanesh (2021), ratios should be below the value of 0.85 to display best discriminant validity. Furthermore, according to Hair et al. (2022), a value of 0.90 implies good discriminant validity. In Table 5, all constructs for this research imply discriminant validity.

Table 4. *Discriminant Validity Using HTMT Ratios of Reflective Constructs*

	prd	prc	prm	plc	pv	ps	bi	pd
prd								
prc	0.709							
prm	0.660	0.578						
plc	0.694	0.806	0.756					
pv	0.664	0.825	0.693	0.688				
ps	0.566	0.736	0.789	0.834	0.725			
bi	0.650	0.787	0.730	0.791	0.764	0.806		
Pd	0.707	0.763	0.620	0.664	0.759	0.610	0.702	

prd-product; prc-price; prm-promotion; plc-place; pv-price value; ps-price sensitivity; bi-brand image; pd-purchase decision

Given that this research has one higher-order construct (Green Marketing Mix), further assessment of the measurement model using variance inflation factor (VIF), factor weight and their corresponding *p*-value, and the full collinearity VIF was observed and illustrated in Table 5. According to Kock (2017), the threshold for the VIF must be lower or equal to 3.30. In this study, it can be observed in Table 6 that all indicators for this study are lower than the given threshold. For the factor weight and its corresponding *p*-value, the *p*-value must be less than or equal to 0.05. Based on the results, the measurement model of the higher-order constructs (Green Marketing Mix) passed the required thresholds.

To assess further the discriminant validity of the higher-order constructs (Green Marketing Mix), Rasoolimanesh et al. (2017) suggested for the measurement of the full collinearity of the constructs to assure that there is no multi-collinearity among constructs which will indicate that exogenous constructs are properly isolated so that any changes in one independent variable will not affect other independent variable when the model is tested for fitness and interpretation (Frost, 2017). The structural model does not suffer from collinearity problems when the value of full collinearity VIFs is equal to or less than 3.30 (Lacap, 2021). For this study, illustrated in Table 6, reflects that the constructs (Green Marketing Practices and Consumer Purchasing Decision) full collinearity VIFs' are within the acceptable thresholds.

Table 5. Measurement Model Assessment of Higher-Order Constructs

Higher-Order Formative Constructs	Factor Weight	p-value	VIF	Full Collinearity VIF
Green Marketing Mix				2.772
Product	0.294	<0.001	1.742	
Price	0.300	<0.001	1.936	
Promotion	0.300	<0.001	1.922	
Place	0.317	<0.001	2.307	

Figure 2 and Table 6 illustrate the results of the hypothesis testing. In view of the relationship between the green marketing mix and purchase decisions, the results emphasized that the effect between the constructs is positively significant. Indicating that when consumers observe an increase in green marketing, their perception of the product's value also increases (H5). In view of the effects of the green marketing mix on price sensitivity, it can be observed that as consumers see an increase in green marketing initiatives, their price sensitivity also increases significantly and positively (H6). A significant positive effect (H7) can also be observed on brand image from green marketing. Hence, it can be said that consumers' perceptions of a brand's image increase when green sustainability initiatives are observed. Furthermore, in the observation of the direct impact of green marketing on the consumer's purchase decision, results show that green marketing significantly and positively affects the decision of the consumer to purchase largely (H1), which signifies that when consumers observe green marketing in products in FMCG, consumers' decision to purchase increases. Based on the observation, the following hypotheses (H1, H2, H3, H4) can be accepted.

In line with observations on how perceived value, price sensitivity, and brand image affect consumers' purchase decisions, the results of this study showed that the previously mentioned constructs significantly affect the latter, with varying effect sizes. In line with how perceived value and its effect on purchase decision, it can be ascertained that when the perceived value of consumers increases significantly, the decision to purchase largely (H1) increases; however, in view of price sensitivity and brand image and their effect on purchase decision, it can be determined that when the two increase, purchase decision also increases, yet in small effect size. Hence, accepting the formulated hypotheses (H5, H6, H7, H8, H9).

The paths from Green Price, Green Place, Green Product, and Green Promotion to the Green Marketing Mix indicate that these four dimensions jointly form the higher-order construct of green marketing. In other words, the model treats green marketing as a multidimensional concept reflected by environmentally responsible pricing, distribution, product attributes, and promotional activities. Each path represents the contribution of a specific marketing mix element to the overall green marketing strategy. If the path coefficients are significant, this means that each dimension meaningfully contributes to explaining the Green Marketing Mix, confirming that green marketing in the study is not based on a single factor but on the combined influence of the four green 4Ps.

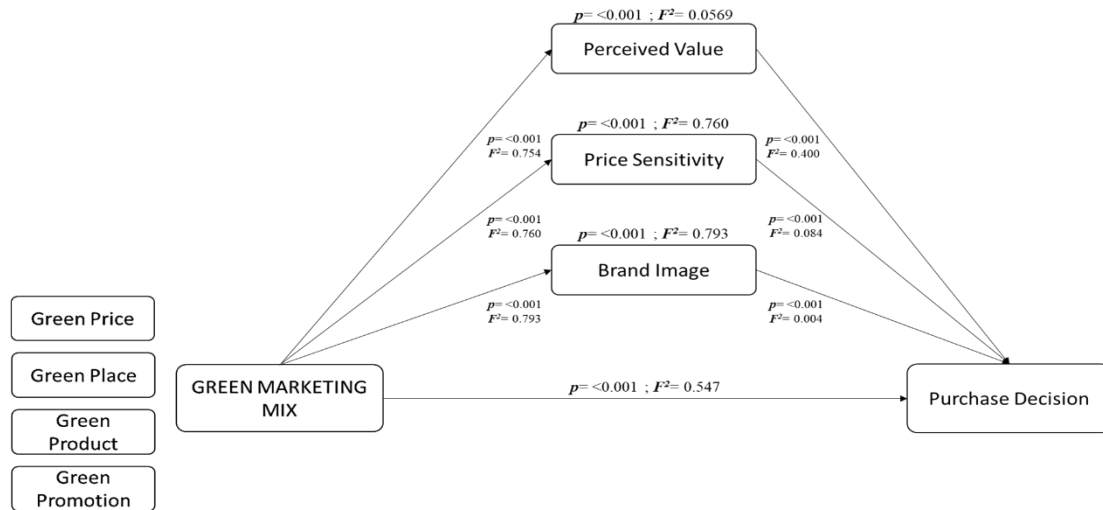
**Figure 2. Structural Model with Beta Coefficients**

Table 6. Results of the Hypotheses Testing (Direct Effects)

Hypotheses	β	p	SE	F ²	Decision
<i>Direct effects</i>					
H1. Green Marketing $\rightarrow$ Purchase Decision	0.436	<0.001	0.049	0.547	Supported
H2. Green Marketing $\rightarrow$ Perceived Value	0.569	<0.001	0.048	0.754	Supported
H3. Green Marketing $\rightarrow$ Price Sensitivity	0.578	<0.001	0.048	0.760	Supported
H4. Green Marketing $\rightarrow$ Brand Image	0.630	<0.001	0.047	0.793	Supported
H5. Perceived Value $\rightarrow$ Purchase Decision	0.307	<0.001	0.050	0.400	Supported
H6. Price Sensitivity $\rightarrow$ Purchase Decision	0.047	<0.001	0.052	0.084	Supported
H7. Brand Image $\rightarrow$ Purchase Decision	0.003	<0.001	0.053	0.004	Supported

In this study (see Table 7 and Figure 2), observing the probability of perceived value to be a mediator between green marketing and purchase decision data reveals that there is a significant positive large mediating effect of green marketing on the relationship of the latter constructs. These results indicate that consumers' perceived value of FMCG products amplifies the impact of green marketing on purchase decisions. Hence, *the hypothesis is accepted*. In view of the mediating effect of price sensitivity, results of this study indicate that it has a significant positive large effect on green marketing and purchase decision, indicating that with the increase of price sensitivity among consumers, the effect of green marketing may further be elevated to affect the decision of the consumers to purchase. This further indicates that the *hypothesis is accepted*.

In view of how brand image affects the relationship between green marketing and purchase decisions among FMCG products. The data from this research indicate that brand image significantly and positively mediates the relationship between green marketing and purchase decisions. This indicates that, with a positive brand image, the purchase decision will increase significantly compared to the direct effect of green marketing on the purchase decision. Hence, the *hypothesis is accepted*.

Table 7. Results of the Hypotheses Testing (Indirect [Mediation] Effects)

Hypotheses	β	p	SE	F ²	Decision
<i>Indirect effect (mediation)</i>					
H8. Green Marketing $\rightarrow$ Perceived Value $\rightarrow$ Purchase Decision	0.570	<0.001	0.048	0.569	Accepted
H9. Green Marketing $\rightarrow$ Price Sensitivity $\rightarrow$ Purchase Decision	0.578	<0.001	0.048	0.760	Accepted
H10. Green Marketing $\rightarrow$ Brand Image $\rightarrow$ Purchase Decision	0.630	<0.001	0.047	0.793	Accepted

H¹. There is a significant positive relationship between Green Marketing and Consumer Purchase Decision

The results indicate a significant positive relationship between Green Marketing and Consumer Purchase Decision, with mean scores of 3.08 and 2.9528, respectively, both interpreted as "Agree." This suggests that consumers are generally receptive to green marketing efforts in the context of Fast-Moving Consumer Goods (FMCG). The data highlights that environmentally friendly product features, such as green pricing, promotion, place (distribution), and product attributes, positively influence purchase decisions. Consumers seek out environmentally responsible FMCG products, feel influenced by green marketing communications, and prefer products that align with sustainability values, such as those with recycling or life-preserving messages. Despite occasional cognitive dissonance, the overall satisfaction with green FMCG products remains relatively high, contributing to frequent purchases and brand loyalty. This relationship reflects the growing importance of sustainability in consumer behavior, where green marketing plays a crucial role in shaping purchase decisions and brand preferences in the FMCG sector. Thus, companies with strong green marketing strategies are more likely to build consumer trust and encourage repeat purchases. Green marketing efforts in FMCG have been found to significantly impact consumer purchase decisions, as consumers increasingly value eco-friendly practices. Studies suggest that green marketing elements, such as sustainable product features and eco-friendly packaging, can influence purchasing behavior. For example, Chen & Chang (2013) found that green marketing positively affects purchase intention, as consumers are willing to buy products that align with their environmental values. Leonidou et al. (2013) also highlight that green marketing influences purchase decisions by appealing to consumers' environmental consciousness.

H². There is a significant positive relationship between Green Marketing and Perceived Value

The analysis shows a significant positive relationship between Green Marketing (mean = 3.08) and Consumer Perceived Value (mean = 2.9930), both interpreted as "Agree." This suggests that consumers perceive value in environmentally friendly FMCG products, largely influenced by green marketing strategies. Green product attributes such as sustainability, eco-friendly practices, and recycling initiatives add perceived value to products

in consumers' eyes, shaping their purchase behavior. Despite this positive perception of green products, price sensitivity remains critical, as consumers tend to switch brands or opt for cheaper alternatives when prices rise or when faced with discounts. Green marketing's ability to communicate the added value of environmentally friendly practices effectively balances consumers' desire for sustainable options with their price-conscious behavior. Companies that align their pricing strategies with green marketing initiatives can enhance the perceived value of their products, thereby attracting environmentally conscious yet price-sensitive consumers in the FMCG market.

Perceived value in FMCG products is significantly influenced by green marketing, as it enhances consumers' sense of value through sustainable practices. Kotler & Armstrong (2018) discuss that perceived value increases when products meet consumers' ethical and ecological expectations. Agyeman (2014) also found that green marketing positively affects perceived value, as consumers view eco-friendly products as beneficial to both themselves and the environment.

H³. There is a significant positive relationship between Green Marketing and Price Sensitivity

The data reveal a significant positive relationship between Green Marketing (mean = 3.0918) and Price Sensitivity (mean = 2.9930), both interpreted as "Agree," highlighting that while consumers are attracted to environmentally friendly FMCG products, their purchasing decisions are still largely influenced by price. Consumers generally seek out green products and agree that green product information, accessibility, and sustainability-promoting distribution channels positively impact their choices. However, price remains a critical factor, as they tend to switch brands when prices rise or opt for the lowest-priced options, with discounts and promotions playing a strong role in their decision-making. Despite the appeal of green marketing, competitive pricing is essential to maintaining consumer interest and loyalty. Brands must therefore balance green marketing efforts with affordability to cater to price-sensitive yet environmentally conscious consumers.

Green marketing can affect price sensitivity as eco-conscious consumers may be willing to pay a premium, though this effect varies. Chen & Chai (2010) report that while consumers value eco-friendly products, their purchasing decisions remain price-sensitive, particularly when alternatives are available. Baker & Sinkula (2005) highlight that green marketing can moderate price sensitivity, as consumers may pay more for products that align with their environmental values but remain mindful of costs.

H⁴. There is a significant positive relationship between Green Marketing and Brand Image

The significant positive relationship between Green Marketing (mean = 3.0918) and Brand Image (mean = 3.0768), both interpreted as "Agree," underscores the influence of green marketing on enhancing consumer perceptions of FMCG brands. Consumers perceive environmentally friendly brands as more reliable, trustworthy, and appealing, thereby improving overall brand image. Green marketing strategies, including sustainable product features, eco-friendly packaging, and green promotional efforts, resonate well with consumers who prioritize environmental responsibility. The alignment of these strategies with consumer values strengthens the brand's reputation in the market, fostering loyalty and trust. Consumers find the packaging of green FMCG products attractive and associate them with quality and consistency. By integrating sustainability into their marketing, FMCG brands not only appeal to eco-conscious consumers but also build a positive brand image, which is crucial for long-term market success. The consistency in delivering green values through marketing communication further reinforces the brand's position as a leader in the sustainability movement, helping it stand out in a competitive landscape.

Green marketing can enhance brand image, as consumers often perceive eco-friendly brands as more reputable and trustworthy. Chen (2010) suggests that green marketing positively impacts brand image by aligning with sustainability values, which consumers find appealing. Hartmann et al. (2005) also found that green marketing efforts improve brand perception, especially when companies emphasize their environmental commitment in advertising and branding.

H⁵. There is a significant positive relationship between Perceived Value and Purchase Decision

The data presented demonstrate a significant positive relationship between the perceived value of the FMCG brand and consumers' purchase decisions, with both variables indicating an overall agreement interpretation. The perceived value, with a mean score of 2.9711, indicates that consumers generally agree that the brand's quality justifies its price, that it offers good value for the money, and that its benefits outweigh its cost. They are also

somewhat agreeable to paying a premium for the brand due to its perceived value. This positive perception of value is crucial as it directly influences consumer behavior. The purchase decision, with a mean score of 2.9528, reflects that consumers frequently choose this brand over others, prefer it for daily essentials, are willing to recommend it, and are satisfied with their purchase. The standard deviations for both perceived value (0.65960) and purchase decision (0.78117) suggest that, while there is variability in consumer responses, the majority align with the "agree" interpretation. This consistency between perceived value and purchase decision underscores the importance of maintaining a strong value proposition, as it directly impacts consumer loyalty and market success. The significant positive relationship between these variables indicates that when consumers perceive a brand as offering good value, they are more likely to make repeat purchases and recommend it to others, thereby reinforcing the brand's market position and competitive advantage.

The perceived value of FMCG brands significantly influences purchase decisions, as consumers are likely to choose brands that they see as offering good value for the money. Zeithaml (1988) defined perceived value as the consumer's overall assessment of utility based on what is received versus what is given, directly linking it to purchase decisions. Monroe (1990) further explains that perceived value drives purchase intention, especially when consumers feel that a product's quality and benefits justify its price.

H⁶. There is a significant positive relationship between Price Sensitivity and Consumer Purchase Decision

The data presented indicate a significant positive relationship between perceived price sensitivity and purchase decisions, with an overall interpretation of agreement. The perceived price sensitivity, with a mean score of 2.9930, suggests that consumers are somewhat willing to switch to another FMCG brand if prices increase, often choose brands based on the lowest available price, and are influenced by price discounts or promotions. They are also less likely to purchase the brand if a cheaper alternative is available. This indicates that while consumers appreciate the brand, they are also price-conscious and sensitive to changes in pricing and promotional offers. The purchase decision, with a mean score of 2.9528, reflects that consumers frequently purchase this FMCG brand over others, prefer it for daily essentials, are willing to recommend it, and are satisfied with their purchase. Despite their price sensitivity, consumers continue to choose and advocate for the brand, which suggests that the brand's value proposition is strong enough to mitigate the impact of price sensitivity on purchase decisions. The standard deviations for perceived price sensitivity (0.71452) and purchase decision (0.78117) indicate variability in consumer responses, but the majority still align with the "agree" interpretation. This variability could be due to individual differences in price sensitivity and the presence of competitive alternatives.

The significant positive relationship between perceived price sensitivity (mean score: 2.9930) and purchase decision (mean score: 2.9528), interpreted as "agree," highlights that while consumers are price-sensitive, their overall satisfaction and brand preference lead to continued purchases and recommendations. This suggests that the brand has successfully positioned itself to offer a balance between value and price, which is crucial in maintaining consumer loyalty and market competitiveness. The brand's ability to navigate price sensitivity while still fostering positive purchase decisions underscores its strength in the FMCG market.

Price sensitivity impacts consumer purchase decisions, particularly in the competitive FMCG market. Nagle & Holden (2002) found that consumers tend to switch brands or choose lower-priced options if they perceive a price difference without a corresponding increase in value. Bauer et al. (2013) also confirm that price sensitivity influences purchase decisions, particularly in price-conscious consumer segments.

H⁷. There is a significant positive relationship between Brand Image and Consumer Purchase Decision

The data reveal a significant positive relationship between brand image and purchase decision, with both variables showing an overall interpretation of agreement. The brand image, with a mean score of 3.0768, indicates that consumers generally perceive the FMCG brand as reliable, well-regarded, appealing in its packaging and branding, and consistently delivering quality. The relatively low standard deviation of 0.62203 suggests a strong consensus among consumers regarding the positive attributes of the brand's image. This positive perception of brand image plays a crucial role in shaping consumer attitudes and behaviors, reinforcing trust and reliability, which are key drivers of consumer loyalty and preference.

The purchase decision data, with a mean score of 2.9528, reflects that consumers frequently choose this brand over others, prefer it for daily essentials, are willing to recommend it, and are satisfied with their purchase. Despite some variability in responses, as indicated by the standard deviation of 0.78117, the overall agreement suggests

that the brand's positive image translates into favorable purchase decisions.

The significant positive relationship between brand image (mean score: 3.0768) and purchase decision (mean score: 2.9528), interpreted as "agree," highlights the importance of maintaining a strong, positive brand image, as it directly influences consumer behavior and purchasing patterns. A strong brand image not only fosters consumer trust and satisfaction but also enhances brand advocacy and market competitiveness. This relationship underscores the brand's success in establishing a compelling identity that resonates with consumers, leading to sustained loyalty and preference in the FMCG market.

A strong brand image positively influences purchase decisions, as consumers are more likely to buy from brands they perceive as reliable and high-quality. Keller (1993) notes that brand image plays a crucial role in shaping consumer trust and purchase intention. Aaker (1996) further supports that a positive brand image fosters loyalty and repeat purchases, as consumers align with brands that reflect their values and lifestyle.

H⁸. There is a significant positive relationship between Green Marketing and Perceived Value in Consumer Purchase Decision

The analysis reveals a significant positive relationship between Green Marketing and Perceived Value, which in turn positively influences Consumer Purchase Decision. The total mean of 3.08 for Green Marketing suggests that respondents generally agree with the environmentally friendly initiatives, especially with the highest-rated statement, indicating that distribution channels facilitating the return of empty containers for recycling are a key motivator (mean of 3.32, "strongly agree"). However, cognitive dissonance persists, as evidenced by a mean score of 2.85. On the other hand, the mean score of 2.971 for Perceived Value shows a moderate perception that the FMCG brand provides good value, highlighted by a higher willingness to acknowledge the brand's value for money (3.17). Despite this, consumers are less inclined to pay a premium for the perceived value (mean of 2.70), indicating some price sensitivity despite the green initiatives. The model hypothesis (H8) is confirmed, with a significant relationship (0.570, $p < 0.001$) showing that Green Marketing enhances Perceived Value, which subsequently leads to stronger Purchase Decisions. This demonstrates that environmentally conscious marketing efforts can improve consumers' perceived value of FMCG brands, which drives their purchase decisions, though price remains a moderating factor.

Green marketing increases perceived value, which positively affects purchase decisions by enhancing the product's overall appeal. Chen & Chang (2012) found that green marketing efforts increase perceived value, making environmentally friendly products more attractive. Yadav & Pathak (2016) confirm that when green marketing successfully communicates the value of eco-friendly practices, it enhances purchase intention among environmentally conscious consumers.

H⁹. There is a significant positive relationship between Green Marketing and Price Sensitivity in Consumer Purchase Decision

The analysis demonstrates a significant positive relationship between Green Marketing and Price Sensitivity, which subsequently influences Consumer Purchase Decision. With a total mean of 3.08 for Green Marketing, respondents generally agree on the importance of green practices, particularly regarding distribution channels that enable the return of empty containers for recycling (mean of 3.32, "strongly agree"). However, the lowest mean score of 2.85 suggests some cognitive dissonance or dissatisfaction persists with green FMCG products. Price Sensitivity, with a mean score of 2.993, indicates that although consumers recognize the value of green products, their purchasing decisions are heavily influenced by price. This is further supported by the higher score of 3.14 for price discounts or promotions affecting purchase decisions. However, some still prioritize the lowest price available, as seen in the mean of 2.92. The model hypothesis (H9) is confirmed, with a significant relationship (0.578, $p < 0.001$), showing that Green Marketing directly impacts Price Sensitivity, which in turn shapes Purchase Decision. Despite environmental considerations, consumers remain price-sensitive, and promotional strategies or lower pricing play a crucial role in their final purchase decision. This suggests that while green initiatives are valued, competitive pricing is essential for driving actual purchases.

Green marketing influences price sensitivity, which in turn affects purchase decisions. Ottman et al. (2006) report that green marketing can attract price-sensitive consumers by conveying the added value of sustainable practices. However, price-conscious consumers may still switch brands for better pricing. Peattie (2001) supports that competitive pricing remains essential, even when green marketing is employed, to retain price-sensitive buyers.

H¹⁰. There is a significant positive relationship between Green Marketing, Brand Image, and Consumer Purchase Decision

The analysis highlights a significant positive relationship between Green Marketing and Brand Image, which in turn influences Consumer Purchase Decision. With a total mean of 3.08 for Green Marketing, consumers generally agree with the green initiatives of FMCG brands, particularly emphasizing distribution channels that support returning empty containers for recycling and reuse (mean of 3.32, "strongly agree"). However, some cognitive dissonance remains, as reflected by the lower mean score of 2.85. Brand Image, with a total mean of 3.08, shows that consumers generally trust FMCG brands to consistently deliver quality (mean of 3.21), though the perception that the brand is well-regarded in the market is slightly lower (mean of 2.94). The model hypothesis (H¹⁰) is confirmed, with a significant relationship (0.630, $p < 0.001$) indicating that Green Marketing enhances Brand Image, which subsequently drives Purchase Decision. This suggests that environmentally conscious marketing not only builds a positive brand image but also strengthens consumer trust and market reputation, both of which are key factors influencing purchasing decisions. Green marketing efforts thus play a crucial role in shaping brand perception and driving consumer loyalty.

Green marketing can enhance brand image and positively influence purchase decisions, as consumers trust and prefer brands that demonstrate environmental responsibility. Nguyen et al. (2019) demonstrate that green marketing efforts build a brand's reputation and attract eco-conscious consumers. Hartmann & Apaolaza-Ibañez (2012) also found that when brands effectively communicate their commitment to environmental issues, it strengthens brand loyalty and fosters positive purchase behavior.

Conclusion

This study confirms that green marketing is a significant driver of consumer purchase decisions in the FMCG sector and influences perceived value, price sensitivity, and brand image. The findings extend green marketing literature by demonstrating that its effect on purchase behavior operates not only directly but also indirectly through key consumer-related mechanisms. In doing so, the study contributes theoretically by providing an integrated structural model that explains how green marketing shapes consumer decision-making in a developing-country FMCG context. Practically, the results suggest that FMCG firms should treat green marketing as a strategic business tool rather than merely an environmental initiative. To improve consumer response, firms must align sustainability efforts with strong value propositions, competitive pricing, and credible brand positioning. Overall, the study highlights that the effectiveness of green marketing depends on its ability to combine environmental responsibility with affordability, consumer value, and brand trust, thereby offering important insights for both marketers and policymakers promoting sustainable consumption.

Implications for FMCG Companies

To succeed in an increasingly sustainability-conscious market, FMCG brands must integrate green marketing into their core strategies. However, they should also maintain a balance between sustainability efforts and pricing to cater to the price-sensitive consumer base. Brands that communicate the environmental and ethical value of their products effectively, while ensuring affordability and reliability, are more likely to build long-term consumer trust, loyalty, and competitive advantage.

Recommendations for FMCG Companies

Based on the findings, the following recommendations can help FMCG companies leverage green marketing strategies to drive consumer purchase decisions, enhance brand loyalty, and maintain competitiveness:

Enhance Green Marketing Communication: Clearly articulate the environmental benefits of your products through marketing campaigns, focusing on attributes such as eco-friendly materials, sustainable sourcing, and recycling initiatives. Use labels, certifications (e.g., eco-labels), and storytelling to highlight your commitment to sustainability, ensuring that consumers understand the positive environmental impact of their purchase decisions.

Balance Green Initiatives with Competitive Pricing: While consumers are drawn to green products, price sensitivity remains a critical factor in purchase decisions. Implement pricing strategies that reflect the perceived value of sustainable practices without alienating price-conscious consumers. Offer promotions or discounts on

green products to incentivize purchase behavior, especially for consumers hesitant to pay a premium for eco-friendly options.

Strengthen Perceived Value through Sustainability: Position your green products as offering superior value by emphasizing their long-term benefits, such as durability, health-consciousness, and cost savings from reuse or reduced waste. Consider introducing loyalty programs for customers who frequently purchase sustainable products, rewarding environmentally conscious behavior and increasing perceived value.

Leverage Green Marketing to Build a Strong Brand Image: Integrate sustainability into your brand identity and make it a core part of your messaging. This strengthens brand image and attracts consumers who value environmental responsibility. Ensure consistency in delivering sustainable practices across all aspects of the brand (product design, packaging, distribution) to foster trust and credibility in the market.

Address Cognitive Dissonance: Minimize instances where consumers may feel a conflict between purchasing green products and their personal values or experiences by ensuring product quality matches green claims. Offer educational content on the environmental benefits of your products to address any doubts or misconceptions about the effectiveness of your green initiatives.

Develop Affordable Green Products: Innovate and invest in cost-effective green technologies to reduce production costs, allowing you to offer sustainable products at competitive prices. Consider creating a tiered product offering that lets consumers choose between premium green products and more affordable, environmentally friendly alternatives, broadening market appeal.

Engage in Sustainable Partnerships and Collaborations: Collaborate with other organizations, governments, or non-profits to create stronger eco-initiatives (e.g., recycling programs or carbon reduction strategies), enhancing your brand's credibility and consumer appeal. Explore partnerships that allow you to expand green distribution channels, such as reverse logistics for recycling, which resonate well with eco-conscious consumers.

Contributions of Authors

Author 1: conceptualization, data gathering, data analysis, proposal writing

Author 2: data analysis, analysis, data

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