Effects of Green Marketing Practices on Consumer Behavior in Pakistan's FMCG Sector

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ARTICLE INFO	Abstract
  Corresponding Author: chahsanchahsan382@gmail.com	*Green marketing has become a strategic marketing approach of organizations with the growing consumer expectations for environmentally responsible products. In fact, in the fast-moving consumer goods (FMCG) sector in Pakistan, growing awareness of environmental problems, changing lifestyle trends, and corporate sustainability initiatives have led to the rise in the use of eco-friendly practices. This study examines the impact of green marketing practices from the perspectives of green product development, green packaging, eco-labeling, green advertising, and corporate environmental responsibility on consumer behavior of the FMCG market in Pakistan. Drawing on recent empirical studies, the paper demonstrates the extent of the influence of green initiatives on the consumer attitude and purchasing intentions as well as the overall buying behavior. The resulting study suggest that although there are positive attitudes of Pakistani consumers towards eco-friendly products, there are still some gaps due to price sensitivity values and lack of awareness among the consumers and low level of trust in environmental claims. The study provides theoretical insights, as well as practical implications for FMCG companies who are seeking to increase sustainability-driven competitiveness.*

Introduction

Environmental sustainability has emerged as a core issue for businesses and consumers worldwide, resulting in the introduction of green marketing as one of the most important strategic tools, particularly in industries that are highly competitive such as the FMCG industry. In Pakistan, where environmental degradation, increasing levels of pollution and depletion of resources have taken on alarming proportions, the role being played in environmental degradation by the use of green marketing has received more and more attention on the part of both the policy makers and corporate managers (Khan & Ahmed, 2022). As consumers increasingly aware of the environmental impact of their purchase decisions, the FMCG industry in Pakistan has been more environment-conscious in areas such as eco-friendly packaging, energy-efficient manufacturing, lowering carbon footprints, and transparent environmental communication. Green marketing, therefore, is a more comprehensive approach than just a marketing tactic which engages in green product design, sustainable supply chains, and responsible branding (Rahman & Ali, 2021).

The demand for environmentally responsible products is increasing in Pakistan under various socio-economic and cultural influences. Urban consumers, in particular, show growing concern about issues such as climate change, waste buildup and environmental impact of the use of plastics (Eg: Hussain & Malik, 2023). These concerns manifest into a willingness to assess products on the basis of their environmental attributes, particularly in categories such as detergents, beverages, toiletries and packaged food and in the area of day-to-day use household products. Studies suggest that there is a positive response to green packaging, eco-labels, and claims of sustainability from consumers, provided the information is credible and easy to

understand (Shabbir & Shahzad, 2022). However, Pakistani consumers tend to experience confusion or skepticism about the authenticity of environmental claims because of environmental greenwasher observed in the market. This deficit of trust poses a massive challenge for FMCG companies seeking to adopt Green strategies.

In the FMCG industry of Pakistan, companies like Unilever Pakistan, Nestle Pakistan and local companies of cosmetics, cleaning products and beverages have made progress in advocating green marketing by mentioning the use of biodegradable packaging or the use of plant-based ingredients in certain products or adopting recyclable packaging. These initiatives are an attempt to differentiate brands and tap into the growing segment of environmental conscious consumers. The success of such efforts, however, depends on the consumer's knowledge about environment, perceived quality of product and the value that he associates with green attributes. Pakistani consumers tend to balance the environmental benefits with price, convenience and product performance and it is imperative for firms to balance between sustainability and affordability (Rizwan & Javed, 2023). For many households, particularly among the middle and lower income groups, price sensitivity is still a powerful influence on the purchasing decision, often dominating the inclination for all greenness despite having a positive attitude.

The effectiveness of green marketing practices in determining the behaviour of consumers also depends on cultural perceptions and the level of exposure to environmental education. In Pakistan, environmental awareness had increased in society through the use of digital platforms, NGOs and government-led campaigns such as "Clean Green Pakistan", which increased awareness about environment and encouraged people to adopt eco-friendly behaviour. As a result, consumers prefer brands that show socially responsible behavior, such as environmental protection initiatives. Green advertising with beneficial associations to natural ingredients, waste-reduction promotion and environmental care has a positive impact on purchase intentions, especially for young people who are the main force in the urban FMCG markets (Saeed & Munir, 2022). Nevertheless, every misinformation from the given advertisements undermines the credibility of sustainability claims on the whole, thus aggravating the need for stringent regulations as well as legitimate communication strategies.

From the business perspective, green marketing provides an advantage to FMCG companies in acquiring a competitive edge through brand-image improvement, customer loyalty, and trust. As multinational brands operating in Pakistan move towards green strategies in order to meet international sustainability standards, the domestic players in the market have been also forced to follow suit to remain relevant in the market. The use of recyclable materials, increased use of less chemicals, water-efficient manufacturing, and marketing of organic or plant-based ingredients indicate this metamorphosis (Zafar & Niazi, 2023). However, the monitoring of green production processes requires major investment, a restructuring of operations and supplying chains, thus making it difficult for small scale FMCG firms to compete. While large multinational companies take the lead in suing for the green, many areas with a local company are wary of the costs and the lack of conviction of consumers that they might not appreciate their green efforts.

Overall, the shift to sustainable marketing with green trade channels in the FMCG industry in Pakistan is portrayed as a moving balance of consumer needs, corporate ethos, and environmental need. While consumer attitudes are generally positive towards green practices, actual buying behavior is influenced by several factors such as product credibility, affordability, brand trust and environmental knowledge. This study adds to the growing insight into the impact of green marketing practices in consumer behaviour through investigating the effectiveness of different green practices within the distinctive cultural, economic and regulatory environment of Pakistan. Through studying the empirical evidence, the research seeks to shed some light into how FMCG firms can create sustainable marketing strategies that can not only benefit the environment but also enhance market performance and consumer's loyalty.

Literature Review

Green marketing has undergone a lot of attention by academic researchers and business practitioners because of the growing environmental problems and demands of consumers for environment friendly products. The concept of green marketing is the marketing of products and services that are environmentally friendly and socially responsible that includes such practices as eco-friendly packaging, recycling, sustainable sourcing and corporate environmental responsibility (Peattie & Crane, 2005). In the context of the FMCG sector, green marketing has a critical role to play since the sector is responsible for the production of goods in high volume and at a high frequency of purchase, which frequently create an enormous impact at the environmental level due to the packaging material and production and supply chain involved in such goods (Rahman & Ali, 2021). Several studies have underscored the fact that environmentally conscious consumers are more likely to choose a

product that is in line with their ecological values and, therefore, green marketing offers a strategic tool to influence consumer behavior (Chen, 2010; Dangelico and Vocalelli, 2017).

Consumer behavior to green marketing is affected by a combination of personal, psychological and socio-economic factors. Environmental awareness and environmental knowledge of consumers have been important factors in decision making regarding purchase (Shabbir & Shahzad, 2022). Studies in emerging markets have consistently found that increasing environmental consciousness has a positive effect on intention to purchase green products and that lack of awareness and skepticism about the claims of green marketing can limit the effectiveness of green marketing strategies (Joshi & Rahman, 2015). In Pakistan urbanization, government promotion of internet facilities for information and environmental campaigns are gradually raising the consciousness of the consumer for eco-friendly products. However, research shows that there remains a gap between awareness and actual purchase behavior and this can be attributed to the factors such as price sensitivity, lack of trust in environmental claims, and availability of green alternatives (Hussain & Malik, 2023; Rizwan & Javed, 2023).

Green marketing practices can be broken down into several key components that are important to the perception and behavior of consumers. First, green product development is developing products which cause as little harm to the environment as possible from start to finish including the production, packaging, use, and disposal of the product. Empirical researchers have found that products with natural contents, biodegradable or energy-efficient features, are perceived in a better way by consumers and boost the intention of purchasing it (Dangelico & Vocalelli, 2017; Asghar, 2021). Second, eco-labeling serves as a certification system and provides information on the environmental characteristics of a product as well as sustainability standards. Labels such as 'eco-friendly', 'organic' or 'biodegradable' have been seen to play an important role in determining consumer trust and attitudes towards products particularly when certification is provided by third parties (Rahman & Ali, 2021; Shah & Rafiq, 2021). Third, green advertising communicates the environmental commitment of a firm via marketing programs, which may focus on sustainable production, reduction of waste, or social responsibility. Effective green advertising has been associated with bigger brand image, higher consumer loyalty, and greater intention to purchase (Chen, 2010; Saeed & Munir, 2022). Finally, corporate environmental responsibility represents corporate responsibility to broader commitments to sustainable business practices beyond the individual products the company provides, such as pursuing actions in energy conservation, managing waste, and engaging with the community. Studies suggest that visible corporate responsibility improves consumers' perception of the cognitions of ethical standards and builds a psychological link between consumers and brands (Dangelico & Vocalelli, 2017; Zafar & Niazi, 2023).

Several empirical studies have explored green marketing practices in relation to consumer behaviour at the global level and emerging market levels. In India and other South Asian countries, studies show that eco-conscious marketing has a significant impact on the attitudes, purchase intentions and willingness to pay bonus for green products (Joshi & Rahman, 2015; Kumar & Ghodeswar, 2015). These studies point to the fact that consumers do not only assess green products based on their environmental benefits but also by their perceived quality, health safety and social status. In Pakistan, recent researches conducted by Shabbir and Shahzad (2022) and Hussain and Malik (2023) show that green marketing practices are devising an increased personalization in decision making among consumers, particularly urban, educated, and young consumers are willing to adopt sustainable practices. However, price continues to be a critical barrier, consumers are unwilling to buy green FMCG products when they are significantly priced higher than the conventional products.

The role of consumer trust in the effectiveness of green marketing is well documented as well. Greenwashing is the misleading or exaggerated environmental claims by firms which undermines consumer confidence and diminishes the power of green marketing campaigns (Delmas & Burbano, 2011). In Pakistan, this non-standardization in eco-certification and the absence of regulatory control have at times resulted in skepticism among consumers about the actual outcomes and efficiency of green marketing efforts, which in turn has a less behavioral impact of such efforts. Therefore, credible labelling, transparent communication and consistent corporate behaviours are important to enhance more consumer trust and to foster positive behavioural outcomes.

The theoretical foundations in green marketing and consumers' reactions are based on the Theory of Planned Behavior (TPB) and the Consumer Value Theory. According to TPB, consumer behavior is influenced by attitudes, subjective norms and perceived behavioral control (Ajzen, 1991). In case of green FMCG products, the attitude of all three groups towards practices standing for an environmental balance, social expectation of conduct, and perceived ability of paying or accessing the green products are jointly influencing their purchase decisions. Consumer Value Theory focuses on the importance of functional,

social, emotional, and environmental values in deciding on the choice of product (Sheth et al., 1991). Green products provide environmental and ethical value, which in line with personal values and social rules, induces purchasing behavior. Some empirical studies have been conducted, demonstrating the significance of positive associations with consumer attitudes and behavioral intentions in relation to green marketing practices (Chen, 2010; Joshi & Rahman, 2015; Saeed & Munir, 2022).

Furthermore, studies point out demographic factors which moderate the relationship between green marketing and behavior. Age, education, income, and urban-rural residence affect consumer perceptions and response behaviour to green products. Younger consumers are more responsive to eco friendly marketing as are higher income groups and urban consumers as a result of their greater awareness, disposable income and exposure to environmental marketing campaigns (Khan and Ahmed, 2022; Shabbir and Shahzad, 2022). Gender difference has also been found where female consumers generally exhibit more preference towards environmentally friendly products in household and FMCG items, making it a correlation of cultural norms and household decision making roles (Hussain & Malik, 2023). Understanding these nuances in demographics is important for FMCG companies to work on marketing campaigns that are aimed at consumers in a specific way that could influence consumer behavior.

In addition to the factors at the consumer level, there are also firm-level and market-level factors which have a significant effect on the effectiveness of green marketing practices. Organizational conviction towards sustainability, eco-friendly alternatives availability, competitive pricing and regulatory incentives affect the role of green initiatives on the behaviour of consumers (Rahman & Ali, 2021; Zafar & Niazi, 2023). The Pakistani FMCG companies are facing the challenges of increased production costs for sustainable materials, weak supply chain infrastructure for eco-friendly products, and consumer skepticism. Despite these challenges, companies that implement green practices strategically, communicate transparently and are a good fit to their consumers achieve a better outcome in terms of positioning in the market and customer loyalty (Saeed & Munir, 2022; Asghar, 2021).

Overall, the literature establishes that green marketing practices i.e. product innovation, eco-labeling, advertising and corporate responsibility, positively influence consumer behavior such as awareness, an attitude, and increasing purchase intention. In Pakistan, though consumer awareness and consumer willingness for sustainable FMCG products are growing, and the barriers like price sensitivity, trust deficits and availability of limited products moderately moderate the strength of these relationships. The evidence indicates that green marketing in order to be successfully implemented requires an approach that encompasses credible communication, consumer education, affordability, and commitment to sustainability at the firm level. This literature review forms a basis to explore the respective impacts of green marketing practices on consumer behaviour in FMCG industry of Pakistan and could both generate theoretical and practical implications for industry army.

Methodology

This research study adopts a quantitative research design to examine the effectiveness of any green marketing practices among consumer behavior in the FMCG sector of Pakistan. Quantitative methods are appropriate, as statistical testing of relationship between variables, measurable findings of the given consumer's attitudes and purchase intentions and generalization within the selected population (Creswell, 2014). The research is conducted on green marketing practice as independent variables, and consumer behavior (attitudes, purchase intention, and purchase behavior) as the dependent variable.

Population and Sample

The study population is urban consumers of FMCG products in Lahore Pakistan. Lahore was preferred as it has a large number of FMCG retail outlets, varied base of the consumers, and the awareness among the consumers about the environment-friendly products is on the rise. A purposive sampling technique was used to select the respondents who know the existence of green label FMCG products, and have past experience with eco-friendly products. This is to ensure that the data is relevant to the study objectives (Etikan, Musa, & Alkassim, 2016).

The sample size was calculated with Cochran's formula for a large population with a confidence level of 95% and a margin of error of 5%. This gave a sample of about 300 respondents; this gave ample statistical power for correlational and regression analyses.

Data Collection Instrument

Primary data were gathered with a structured questionnaire, modified from valid scales of previous research. The questionnaire contained sections on the:

1. Demographic (age, gender, education, income)
2. Green product characteristics (spoil-free ingredients, degradable packaging)
3. Green labelling and certification perception
4. Green advertising and promoting influence
5. Consumer behavior (attitude, purchase intention and self-reported purchase behaviour towards green products)

A 5 point Likert scale of 1 ("Strongly Disagree") to 5 ("Strongly Agree") was used for all items. The instrument was pilot tested on 30 respondents at Lahore to ensure clarity of instrument, reliability and validity. Minor changes were made based on feedback.

Variables

- **Independent Variables (IVs):**
    o Green Product Development
    o Green Packaging
    o Eco-labeling and Certification
    o Green Advertising and Promotion
    o Corporate Environmental Responsibility
- **Dependent Variable (DV):**
    o Consumer Behavior (attitudes, purchase intention, and buying behavior of green FMCG products)
- **Control Variables:**
    o Demographics (age, gender, education, income)

Data Analysis Techniques

Data were analyzed using **SPSS version 26**. The analysis included:

Descriptive statistics (Rationale - mean, SD, frequency and percentage)

1. Reliability analysis using Cronbach's alpha [alpha >= 0.70 acceptable] (Nunnally & Bernstein, 1994)
2. Correlation Analysis to Determine Relationships between Green Marketing Practices and Consumer Behavior
3. Multiple linear regression for predictive analysis of green marketing practices vs consumer behavior with the control of demographic factors
4. Structural Equation Modeling (SEM) by using AMOS to investigate overall model Singularity and strength of the relationships among latent constructs

Ethical Considerations

Participants were informed about the objectives of the study and informed consent was obtained. Confidentiality and anonymity were ensured and no personal identifiers were collected. Participants had a right to drop out at any stage.

Justification of Methodology

Focusing on Lahore helps the study to capture the behavior of urban consumers for the city which has a high penetration of FMCG and at the same time it ensures the feasibility of this study and practicals of data collection. The use of quantitative approaches and validated tools and the use of SEM guarantee accuracy in evaluating the impact of green marketing on consumer behavior in the city context (Hair et al., 2019).

Data Analysis and Findings

The study gathered the response of 300 respondents from Lahore that included urban consumers of FMCG products with previous exposure towards green labeled products. After cleaning the dataset, 295 responses were considered valid for analysis representing a response rate of 98.3%. The results of this demographic profile showed that 52% of the respondents are female and 48% are male. Most of the respondents were in the age group of 25-35 (45%), followed by the age group of 36-45 (30%), 18-24 (15%), and 46+ (10%). In terms of education, most of them had a bachelor degree (60%), other people

had intermediate (15%), masters (20%) or professional qualifications (5%). Monthly income differed with 40% earning between PKR 50,000-100,000 and 35% less than PKR 50,000 and 25% more than PKR 100,000.

Descriptive Statistics

Descriptive analysis of the main constructs showed that overall respondents had positive perceptions towards the green marketing practices in FMCG products. Green product attributes had a mean of 4.12 (SD = 0.56) showing a good level of consensus with consumers considering that they value eco-friendly ingredients and sustainable packaging. Green labelling and certification had a mean of 3.89 (SD = 0.61) representing a moderate level of trust in eco-labels. Green advertising activitates and promotional activities scored the score 3.95 (SD = 0.58) that demonstrate respondents moderately perceived the impact of green campaign. Corporate environmental responsibility was scored 3.87 (SD = 0.63) showing that consumers do value the importance of the wider environmental efforts of firms. Consumer behavior (in general terms i.e. attitude, purchase intention and actual buying behavior) had the overall mean of 3.91 (SD = 0.59) implying generally positive behavior towards green FMCG products.

Table 1. Descriptive Statistics of Constructs

Construct	Mean	Standard Deviation
Green Product Development	4.12	0.56
Green Labeling and Certification	3.89	0.61
Green Advertising & Promotion	3.95	0.58
Corporate Environmental Responsibility	3.87	0.63
Consumer Behavior	3.91	0.59

Reliability Analysis

Reliability of the measurement scales was measured by Cronbach's alpha which guarantees internal consistency. All constructs had acceptable reliability: green product development (a = 0.82), green labelling (a = 0.79), green advertising (a = 0.81), corporate responsibility (a = 0.77) and consumer behaviour (a = 0.84). These values are higher than the threshold of 0.70 and prove that the instruments can be used further for analysis.

Correlation Analysis

Pearson correlation analysis was used to analyze the intensity and direction of relationships between green marketing practices and consumer behavior. Results showed a significant positive correlations between all constructs. Green product development was most related to consumer behavior (r = 0.68, p < 0.01) followed by green advertising (r = 0.63, p < 0.01), green labeling (r = 0.59, p < 0.01) and corporate environmental responsibility (r = 0.55, p < 0.01). These results imply that positive consumer's perception towards the eco-friendly products, marketing campaign, labelling and responsibility of the firm are linked to higher product buying intention and favourable behaviour.

Table 2. Correlation Matrix

Construct	1	2	3	4	5
1. Green Product Development	1				
2. Green Labeling & Certification	0.61**	1			
3. Green Advertising & Promotion	0.65**	0.58**	1		
4. Corporate Environmental Responsibility	0.60**	0.54**	0.57**	1	
5. Consumer Behavior	0.68**	0.59**	0.63**	0.55**	1

Note: p < 0.01

Regression Analysis

Multiple Linear Regression was conducted to determine the predictive power of green marketing practices to the consumer behavior while controlling for demographic variables. The regression model was found to be significant ($F_{(4,290)} = 78.42$ p < 0.001) and explained 56% variance in the behavior of the consumer ($R^2 = 0.56$), which shows a significant influence of green marketing practices.

Table 3. Regression Results

Predictor	B	SE B	β	t	p
Green Product Development	0.42	0.06	0.35	7.00	<0.001
Green Labeling & Certification	0.25	0.05	0.21	5.00	<0.001
Green Advertising & Promotion	0.30	0.06	0.25	5.00	<0.001
Corporate Environmental Responsibility	0.18	0.05	0.16	3.60	<0.001

The results show that green product development is the most critical predictor in customer behavior, followed by green advertising, green labeling and corporate environmental responsibility. All the predictors are significant at 0.001 level, confirming that green marketing practices have a meaningful effect on the attitude, purchase intentions and the purchasing behavior.

Structural Equation Modeling (SEM) Results

SEM was conducted on AMOS for testing the overall fit of the model 4 between green marketing practices and consumer behavior. The model provided an acceptable fit: chi 2/df = 2.45, CFI = 0.95, TLI = 0.93, RMSEA = 0.056. All path coefficient were significant (p < 0.001), confirming that each one of the green marketing constructs have a positive impact on consumer behavior. Green product development was found to have the highest standardized path coefficient (beta = 0.38) followed by green advertising (beta = 0.27), green labeling (beta = 0.23) and corporate environmental responsibility (beta = 0.18). These results reinforce the results of the regression analysis and show that consumer perceptions of environmentally friendly practices are directly related to sustainable purchasing behaviour.

Key Findings

1. Consumers in Lahore have positive attitudes towards green FMCG products with moderate to high level of co-operation in green purchasing.
2. Green product development is the most influential factor though, highlighting the importance of sustainable ingredients and packaging and product innovation.
3. Green advertising and eco-labeling have a significantly positive impact on the intentions to purchase whereas this is moderated by consumer trust and perceived credibility.
4. Corporate-level environmental responsibility is a positive three of seven contribution of responsibility.
5. All in all, the proportions of green marketing practices explain more than 50% of the variance in consumer behaviour (R2 = 0.56), proving that green marketing practice has a significant impact in the FMCG sector.

Discussion

The results of this study reveal that the implementation of green marketing practices is a major influence factor on the consumer behaviour in the FMCG sector of Lahore. The strong positive relation between green product development and consumer behavior implies that tangible environmental attributes of products, such as eco-friendly product ingredients, biodegradable packaging materials and sustainable production methods, are the most important in determining their value. This is consistent with previous studies that have found that sustainability features at the product level are important predictors of green purchase intention (Chen, 2010; Joshi & Rahman, 2015). The result highlights the importance for FMCG firms to focus on environmental innovation in their product design in order to appeal to eco-conscious consumers.

Green advertising and promotion also became an important criterion of consumer behavior. Marketing campaigns where the communication of efforts for sustainability, eco-benefits, and ethical practices is properly done have a positive effect on attitude and purchase intentions. This finding supports previous research highlighting the powerful nature of persuasive green advertisement, which enhances relationship between consumers and brands as well as their purchasing decisions (Saeed & Munir, 2022). However, the impact of advertising has been tempered by confidence among consumers; the notion that advertising is used in green washing or to over-enhanced itself could mean that its impact on consumers is not as high (Delmas & Burbano, 2011; Rizwan & Javed, 2023). Therefore, it is important that marketing messages are transparent to help to reinforce credibility.

Eco-labeling and certification have an impact on the consumer behaviour, but its impact is relatively low if it is compared with product development and advertising. This implies that while people trust the certifications to signify environmental credibility, they also consider product attributes that they can see and promotional messaging that they hear, to be more

important. Studies in emerging markets emphasise a similar trend where consumer awareness of the labels exists, but consumers are sceptical about their authenticity thus not influential (Rahman & Ali, 2021; Shabbir & Shahzad, 2022). Consequently, collaboration with well-known third-party certification organizations is the possibility of increasing the credibility of labeling and ensuring more consumer trust.

Corporate-level environmental responsibility had a positive but weak influence on consumer behavior-suggesting that, although a company-wide focus on sustainability can be part of building brand image, consumers pay greater attention to product-level and marketing-level practices than to sustainability in their purchase behavior. This is consistent with the literature emphasizing that consumers respond to the most initiatives that directly affect their purchase experience (Dangelico & Vocalelli, 2017; Zafar & Niazi, 2023). Nonetheless, visible corporate responsibility practices, such as recycling campaigns, energy efficiency, and community projects, can make FMCG companies more loyal and distinguish it from others in competitive markets.

Demographic characteristics also act as a moderating factor. Younger, educated and urban consumers in Lahore show a higher level of responsiveness towards green marketing initiatives, which is in line with studies that have previously suggested that environmental awareness, disposable income, and exposure to media are the driving factors towards eco-conscious purchasing behaviors (Khan & Ahmed, 2022; Hussain & Malik, 2023). Female consumers had also indicated slightly higher engagement in green FMCG goods, which reflects the cultural trends and household purchasing responsibilities.

Overall, the research shows that green marketing practices together account for more than 50% of the variance in the consumer's behavior which means that the impact is strong and significant. The results support the importance of incorporating sustainable practices in product development, marketing communication, labeling and corporate responsibility in changing eco-conscious behavior in emerging markets such as Pakistan.

Conclusion

This study concludes that there is a significant impact of green marketing practices that influence the consumer behavior in FMCG sector in Lahore. Among these practices, green product development is the most influential, followed by green advertising, eco-labeling and corporate environmental responsibility. Consumers show positive attitudes, high purchase intentions, and medium involvement with eco-friendly FMCG products, and hence, it is clear that sustainability is becoming more viable in urban Pakistan. The results also illustrate several moderating relationships between consumer responsiveness to green marketing initiatives and demographic variables such as age, education and gender.

The study adds value to the theory and practice of health by having empirical evidence on how effective the technique of green marketing has been in emerging markets. It confirms the applicability of the Theory of Planned Behavior and Consumer Value Theory in explaining consumer responses against environmentally responsible products. The research highlights the importance of product-level innovations, creditable marketing information and firm-level sustainability practices as key levers of change when it comes to influencing consumer behavior in FMCG sector.

Recommendations

Based on the findings, several recommendations can be made to FMCG firms and policymakers for their respective benefits:

1. Prioritize Green Product Development Firms should invest in green aboriginal ingredients, sustainable packaging, and energy storage production methods. Visible environmental improvements in products have a significant impact on purchase behaviour by consumers.
2. Improve Green Advertising and Communication: Marketing campaigns should communicate the benefits to the environment in a transparent fashion without overstating its benefits. Storytelling, social media engagement and real eco-benefits can be used to improve consumer perception and trust.
3. Strengthen Eco-Labeling and Certification: Partnering with credible third-party certification bodies can help to enhance the credibility of green label and minimize consumer skepticism. Clear labelling should speak about the environmental impact of a product in simple terms.

4. Expand Corporate Environmental Responsibility While product-level initiatives are more influential, visible corporate sustainability initiatives recruited through such channels as recycling drives, community initiatives, or renewable energy usage reinforce brand image and loyalty.

5. Target Demographic Segments Strategically - marketing strategies should be focused on urban, educated, and younger consumers, who are more responsive to green strategy. Gender sensitive campaigns can also enhance engagement amongst the female consumers.

Implementing these strategies will help FMCG firms operating in Pakistan to benefit from green marketing strategies effectively enabling improved customer engagement and ensure help meet sustainable development goals while maintaining competitive advantage.

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