ORIGINAL ARTICLE

OPEN ACCESS

Green Purchase Intentions in Emerging Markets: A Theory of Planned Behavior Perspective on Consumer Behavior and Brand Dynamics.

Muhammad Adnan[1], Volkan Cakir [2], Umair Naseer [3], Nazakat Khan[4]

Author's Affiliation:

[1,2]Birmingham City University, United Kingdom.
[3]National College of Business Administration and Economics (NCBA&E) Lahore, Multan Sub-campus, Pakistan.
[4]Ph.D. scholar, Qurtaba University, D.I. Khan Campus, Branch Service Manager, Faysal Bank

Article History:

Submitted: December 26, 2024
Revised: March 17, 2025
Accepted: March 24, 2025
Published online: March 30, 2025

Corresponding author(s):

Muhammad Adnan
Email:
muhammad.adnan@bcu.ac.uk

Co-author(s)Email:

Volkan Cakir
volkan.cakir@bcu.ac.uk

Umair Naseer
umair.naseer@ncbae.edu.pk

Nazakat Khan
nazakathussainhhh@gmail.com

A B S T R A C T

Purpose—This study investigates the antecedents of green purchase intention within the fast-moving consumer goods (FMCG) sector of Punjab, Pakistan, emphasizing the influence of marketing-related constructs. Guided by the Theory of Planned Behavior (TPB), it explores how green advertising, green brand equity, green consumer behavior, and green marketing communication shape consumers' intention to purchase environmentally friendly products. The study also assesses the moderating role of social media usage in these relationships.

Study Design/methodology/approach—A cross-sectional quantitative design was adopted using a structured questionnaire based on a five-point Likert scale. Data were collected from 299 purposively selected environmentally aware consumers in Punjab. All constructs were operationalized using validated scales from prior literature. Structural Equation Modeling using Partial Least Squares (PLS-SEM) was employed for data analysis, assessing the direct and moderating relationships among variables.

Findings—The results reveal that green advertising, green brand equity, green consumer behavior, and green marketing communication significantly and positively influence green purchase intention. However, the hypothesized moderating role of social media usage was statistically insignificant across all examined relationships. These outcomes affirm the predictive utility of TPB within a green consumerism context in emerging economies.

Research Practical Implications—The findings offer actionable insights for marketing strategists and sustainability policymakers. By understanding which marketing constructs drive eco-friendly purchasing behavior, FMCG firms can craft more effective green marketing campaigns. Additionally, the limited moderating role of social media suggests the need for more targeted digital engagement strategies in Pakistan's socio-digital landscape.

Originality/value—This study contributes to the green marketing literature by integrating multiple antecedents of green purchase intention within a single TPB-based framework. It provides empirical evidence from a developing country context and critically examines the underexplored moderating role of social media usage in sustainable consumer behavior.

Keywords: Green marketing communication, green brand equity, green consumer behaviour, green advertising, green purchase intention, social media usage, FMCG sector

JEL Classification Codes: M31, Q56, D12, L81

1 | INTRODUCTION

1.1 | Background and Context

Green marketing has become the most important aspect of facilitating the shift towards sustainability at the global level due to the development of eco-friendly production and consumption habits. In this context, green marketing communication plays a central role, as it uses integrated communication channels, such as advertising, social media, product packaging, and sustainability reporting, to educate, convince, and remind people of environmentally friendly behaviours (Adnan et al., 2021; Grebmer, 2020). In parallel to this work, green brand equity is the perceived environmental commitment of a brand, which is a dimension that increases customer trust, loyalty, and perceived brand value (Chen, 2010; Wang & Li, 2022). At the same time, green consumer behaviour refers to the decision-making mechanisms, according to which people make a deliberate choice of products that have the least impact on the environment (Dong et al., 2020; Wu et al., 2021).

In emerging economies, including Pakistan, especially the Punjab province, the FMCG industry is being questioned due to its heavy environmental impact, including its high packaging waste, plastic waste, as well as toxic emissions (Ali et al., 2025; Jalees et al., 2021; Munawar et al., 2021). The empirical studies have recorded that the water contamination is high due to the conventional household products, and the situation requires urgent attention to find sustainable solutions (Ajmal et al., 2022). At the same time, the popularity of digital platforms, Facebook, Instagram, TikTok, and WhatsApp, offers new possibilities to influence green purchase behaviours (Nekmahmud et al., 2022; S.A.Sair, 2022). However, there is still not much empirical evidence that can be provided regarding the efficiency of social media as a tool that can increase the effect of green marketing efforts in this geographical and industry setting.

1.2 | Research Problem

Although the level of scholarly interest in the topic of green marketing is growing (Irshad, 2025; Junaedi et al., 2025), the existing literature is still very disjointed and largely conceptual in its attempt to examine the relationship between green advertising, brand equity, and consumer behaviour. The empirical studies often separate these constructs or focus on the developed countries, leaving out the way they interact as a whole in emerging economies like Pakistan (Nekmahmud & Fekete-Farkas, 2020). Besides, despite the significant growth in social-media consumption, little is known about the moderating role of the latter in the intention of consumers to buy green products, especially in the current digital environment of Punjab (Pop et al., 2020; Zafar et al., 2021). Such deficiencies demonstrate the importance of a context-based, theory-informed research that empirically conceptualizes antecedents of green purchase intention and the possible role of social-media usage.

1.3 | Current Knowledge and Literature Gap

The literature review has previously focused on studying separate constructs, especially green advertising or green brand equity, without relying on an extensive theoretical framework or contextual adaptation (Majeed et al., 2022; Zhu et al., 2020). The results of Western markets cannot be easily transferred to the environment of the South Asian consumers, where cultural, technological, and economic processes vastly differ (Vilkaite-Vaitone & Skackauskiene, 2019). Additionally, while the popularity of social networking platforms has soared, especially among Millennials and Gen Z in Pakistan (Statista, 2020, 2021), few studies explore how social media interactions influence eco-conscious decision-making (Junaedi et al., 2025). The lack of

application of a comprehensive theory, such as the Theory of Planned Behavior (TPB), weakens explanatory power and limits strategic recommendations (Park & Kwon, 2017; Sun & Wang, 2020).

1.4 | Theoretical Framework

The Theory of Planned Behavior (TPB) serves as the guiding framework for this study (Ajzen, 1991). TPB posits that behavioral intentions are driven by attitudes toward the behavior, subjective norms, and perceived behavioral control. These components closely align with the constructs under investigation: attitudes shaped by green advertising, normative influences reflected in brand equity and marketing communication, and perceived control linked to green consumer behavior (Han, 2020; Wang et al., 2020). While TPB has been widely applied in sustainability and behavioral studies, its usage remains limited in green marketing studies within developing markets (Sun & Xing, 2022; Zhao et al., 2019). This study addresses that gap by applying TPB to examine green purchase intentions in Pakistan's FMCG sector.

1.5 | Research Objectives

This study aims to:

1. Investigate the influence of green advertising, green brand equity, green consumer behavior, and green marketing communication on green purchase intention among FMCG consumers in Punjab, Pakistan.
2. Assess the moderating effect of social media usage on the relationship between each green marketing construct and green purchase intention.
3. Apply the Theory of Planned Behavior to model and predict green purchase intentions in an emerging market context.

1.6 | Research Questions

RQ1: To what extent do green advertising, green brand equity, green consumer behavior, and green marketing communication influence green purchase intention?

RQ2: Does social media usage significantly moderate the relationship between green marketing constructs and green purchase intention?

RQ3: How effectively does the Theory of Planned Behavior explain green purchase intentions among FMCG consumers in Pakistan?

1.6 | Study Contributions

This study offers several critical contributions to both theory and practice. First, it integrates four green marketing constructs: advertising, brand equity, consumer behavior, and marketing communication—into a single empirically tested framework, filling a gap in existing fragmented literature. Second, by applying the Theory of Planned Behavior, it enhances theoretical precision and provides a psychologically grounded explanation of green purchase behavior in a developing economy. Third, the study introduces social media usage as a moderating variable, an underexplored dimension in green marketing, which helps reveal digital behavioral patterns among Pakistani consumers. The current research provides detailed information about the FMCG industry in Punjab, which is a region of great ecological significance and economic importance. These observations have obvious managerial, strategic, and policy implications for specialists of green marketing,

digital campaign strategists, and policymakers who are determined to promote eco-friendly consumer behaviour by implementing specific interventions.

2 | LITERATURE REVIEW

2.1 | Green Advertising and Green Purchase Intention

Modern literature on green advertising states that it is a willful communication of eco-friendly features of the products or services, and it is done with the aim of promoting pro-environmental consumption. The discussion highlights the fact that it is both informative and persuasive and addresses environmental benefits like biodegradability, carbon reduction, or ethical sourcing (Gloria et al., 2020; Wibowo et al., 2022). This type of communication directly relates to the attitude toward the behavior component of the Theory of Planned Behavior (TPB), which states that favorable behavioral intentions can be created with the help of positively worded messages (Ajzen, 1991). Green advertising can affect the consumer's buying behavior by increasing awareness, developing emotional involvement, and building trust. However, it depends on the credibility of the messages and how genuine they are. The study by Kim and Kim (2021) shows that the effectiveness of green advertising is defined by the perceived usefulness, appeal, and honesty of such advertising to change the consumer attitude. Wang et al. (2020) also state that false or overstated environmental statements can result in skepticism and deterioration of the purchase intention. Thus, transparency and evidence-based messages need to be at the center of the operationalization of green advertising. Even though the traditional form of advertising has always influenced environmental norms, the integration of digital and social media is an aspect that has added a dynamic feature to the environment in which consumers perceive and internalize green messages (Zhu et al., 2020). Therefore, when performed in a proper way, green advertising turns out to be a driver of pro-environmental attitudes, hence reinforcing green purchase intentions.

H1: *Green Advertising and Green Purchase Intention are significantly associated.*

2.2 | Green Brand Equity and Green Purchase Intention

Green brand equity refers to the environmental value that is incorporated in the identity of a brand and which is generated over time as the result of sustained and sustainable activities and the related communications (Chen, 2010). This construct has several dimensions, i.e., green brand image, satisfaction, loyalty, and trust, and in the context of the Theory of Planned Behavior, it matches the subjective norms, which, in turn, indicate social acceptance and reputational capital that a brand gains due to its environmental positioning (Han, 2020). The empirical data suggest that consumers give greater credibility and preference to the brands that practice open and lasting environmental commitments. Raji et al. (2020) also show that green brand equity has a major impact on consumer choice in the developed and developing markets. Hazée et al. (2017) assume that brand equity is a signaling mechanism that indicates reliability and the quality of products and, therefore, influences the buying behavior. Such a relationship, however, depends on the perceptions of the brand's sincerity. As pointed out by Majeed et al. (2022), the lack of any concrete action behind the superficial or opportunistic green branding might provoke the negative response of consumers. Credibility of green branding is even more important in the emerging markets where the environmental regulations are

relatively lower. The green brand equity thus not only influences the consumer attitude but also gives a perceived social and moral justification to buy green thereby increasing the purchase intentions.

H2: *Green Brand Equity and Green Purchase Intention are significantly associated.*

2.3 | Green Consumer Behavior and Green Purchase Intention

Green consumer behavior refers to the voluntary choices that people make in a planned manner to reduce environmental damage through product selection, usage, and disposal in more environmentally friendly forms (Dong et al., 2020). In TPB, this latent construct reflects attitude and perceived behavioral control, which means that it reflects the feeling of responsibility and the measurement of how easy the person believes that sustainable behaviors can be conducted (Wang et al., 2020). According to Wu et al. (2021), the primary cause of environmental degradation is unsustainable consumption patterns, and, therefore, the shift towards sustainable behavior will be based on the personal values being aligned with the priorities of the environmental situation. Han (2020) expands the TPB framework by advancing the Theory of Green Purchase Behavior (TGPB) that considers the moral obligation and perceived consumer effectiveness as the key determinants of intention. Halder et al. (2020) assert that green behavior is usually developed in the process of habit and is guided by cultural norms, green product availability, and institutional assistance. Operationally, green consumer behavior can be assessed on the ability to pay a price premium, reuse of products, and avoidance of goods that are harmful to the environment. Finally, the extent to which green values are internalized by consumers and understood that their actions are meaningful is a determining factor in the development of purchase intentions.

H3: *Green Consumer Behavior and Green Purchase Intention are significantly associated.*

2.4 | Green Marketing Communication and Green Purchase Intention

Green marketing communication (GMC) comprises a firm's collective efforts to disseminate environmentally oriented messages via advertising, PR, eco-labeling, packaging, and online campaigns (Tan et al., 2022). It not only conveys product-related environmental attributes but also a company's broader commitment to sustainability. GMC contributes to subjective norms in TPB by shaping the societal perception of what is considered acceptable or responsible consumer behavior (Adnan et al., 2021c). Grebmer and Diefenbach (2020) emphasize that consumers assess not only the message but also the delivery channel, preferring consistent, multi-platform communication. However, Do Paco et al. (2019) found that while eco-labels are informative, they may lack persuasive power if not reinforced by broader brand narratives. Public awareness and positive word (Nekmahmud & Fekete-Farkas, 2020). Bhardwaj et al. (2020) caution that neglecting sustainability in marketing communication can harm brand image, especially among value-driven consumers. Therefore, firms must carefully design GMC to resonate with both cognitive and affective dimensions of consumer response.

H4: *Green Marketing Communication and Green Purchase Intention are significantly associated.*

2.5 | Moderating by Social Media Usage

2.5.1 Relationship between Green Advertising and Green Purchase Intention.

According to Pop et al. (2020), social media usage by consumers strongly influences and modifies their subjective norms and attitudes. Consumers can become conscious of health and environmental concerns through social media, including advertising, marketing, and commentary, which increases their propensity to acquire eco-friendly products and services. Consumers are more inclined to acquire eco-friendly products when they utilize social media to explore such products and engage in online dialogues on sustainable consumption. SMU enables people to learn about the advantages of eco-friendly items and explore purchasing options (Nekmahmud et al., 2022). More than 4 billion users are actively engaged on social media platforms like Facebook and Instagram (Statista, 2021). Another research confirms that Social Networking Platforms like Facebook influence nearly 50% of Millennials and Generation Z users regarding purchase decisions (Statista, 2020). Social Media Usage strongly impacts how users get information and share their opinions about products and services (Ge & Gretzel, 2018). When social media is utilized for positive information sharing, it creates a positive social effect on users.

H5: *Social Media Usage significantly moderates the association between Green Advertising and Green Purchase Intention.*

2.5.2 Relationship between Green Brand Equity and Green Purchase Intention

Green brand equity and green purchasing behavior are found to be closely tied to social media use in many research findings. For this reason, social media can further improve the impact of green brand equity on consumer purchases of environmentally friendly products. Social media has recently been found by Nguyen-Viet (2022) to create a stronger link between green brand equity and green purchase intention. The belief that something has improved, due to marketing, friends, or family, can help you decide whether or not to get it (S.A.Sair, 2022). For this reason, those who are regularly on social media tend to consider a company's environmental record when deciding where to shop. Many consumers are now interacting with brands by messaging them through social media. As a result, consumers can find and share details on brands and get in touch with brand representatives directly. Many consumers' intentions to purchase environmentally friendly products are greatly affected by social media. The study found that how people use social media influences the degree of this moderating effect. If consumers like, comment on, or share green brand content on social media, they are more likely to be affected by the brand's green equity (Dinh et al., 2023).

H6: *Social Media Usage significantly moderates the association between Green Brand Equity and Green Purchase Intention*

2.5.3 Relationship between Consumer Behavior and Green Purchase Intention

The research revealed that purchase intentions are triggered by social media usage and video advertisements. Particularly, the powerful influence exerted by the attractiveness of the source and the relatability of sources also proved the importance of social media influencers' characteristics on intention, while the second sources were not significantly affected by consumer attitudes. According to Huang and Chen

(2022), who undertook a research inquiry, children overwhelmingly prefer symbolic components (feel and image) when they are deciding what to buy. On the other hand, grownups favor brands that offer value or useful attributes (Adnan et al., 2021d). The use of social media is increasingly recognized as a beneficial instrument utilized by organizations. Social media platforms for networking enable global interaction among individuals (A. Malik et al., 2022). Based on prior similar research findings and the findings of the present study were similar to these conclusions and confirmed that there was a positive impact of this issue and raising marketers' concerns to embrace new methods and tools for marketing. However, the results are also in line with the findings from the research and align with the consensus regarding the increasing impact of social media on consumer behavior and attitudes (Zafar et al., 2021). Various media platforms are being employed, including television, print media, and internet-based media, such as social media. The influence of social media on consumer purchasing decisions is undeniable and has become a recognized component of the buying process for diverse products. Social media exerts considerable influence on consumer purchasing decisions across various sectors, including cosmetics, banking, electronics, textiles, and consumer goods.

H7: *Social Media Usage significantly moderates the association between Consumer Behavior and Green Purchase Intention*

2.5.4 Relationship between Marketing Communication and Green Purchase Intention

Many companies are turning to social media to connect with their clients, due to the rise of social networking nowadays. Providing respect and appropriate bonuses to employees is essential, as they are very important for the company's progress (Adnan et al., 2022). In addition to encouraging green purchases, social media marketing helps influence what people decide to buy when it comes to environmentally friendly products and services. People's willingness to buy green products in response to marketing communication is not yet fully clear, as little is known about how social media plays a role. Zhang et al. (2024) have revealed that there is a strong link between social media use and both marketing communications and buying green products. When more people turn to social media, marketing communication is predicted to make green choices seem more attractive. A main feature of social network marketing is advertising through social media. Unlike mainstream tools such as newspaper ads and posters, this focuses more on the idea of connections when marketing (Ayesha Malik et al., 2022). Furthermore, views about the value of green products and their associated rewards mediated the relationship. According to this, companies can make consumers aware of their green values by using social media. Posting about the environmental benefits of their products can prompt people to decide to buy more sustainably.

H8: *Social Media Usage significantly moderates the association between Marketing Communication and Green Purchase Intention.*

2.6 | Underpinning Theory: Theory of Planned Behavior (TPB)

This study is based on the principal assumption of the Theory of Planned Behavior (TPB) as stated by Ajzen (1991) to explain and predict the behavior of society within certain contexts. The key point about TPB is the behavioral intention, which is the direct or proximal factor in overt action, and the antecedent variables,

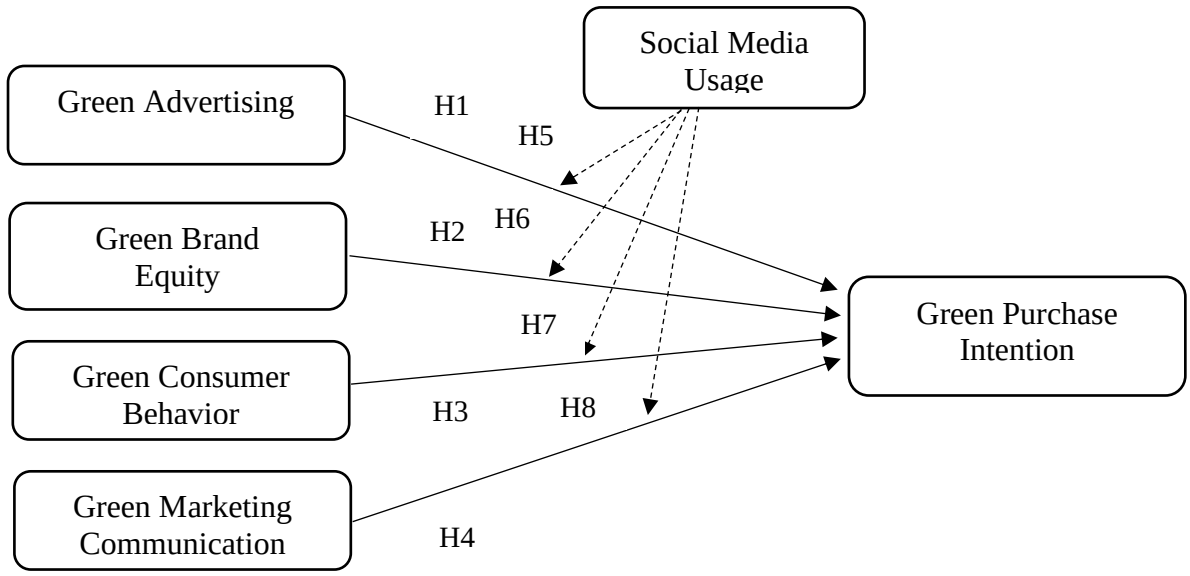
attitude toward behavior, subjective norms, and perceived behavioral control. In the field of green consumerism, all these constructs are empirically salient. It has been shown that a positive disposition towards environmentally-friendly products that is developed through environmental values and effective green advertising increases the probability of a green purchase intention. In line with this proposal, empirical studies like the one by Wang et al. (2020) show that the persuasively created sustainability messaging significantly amplifies the attitude because it makes pro-environmental consumption seem morally appealing and attainable.

The second dimension is subjective norms, which refer to a perceived social pressure to either participate or not participate in a particular behavior. These normative expectations are determined by peer pressure, social norms, and brand rhetoric in the context of green marketing. The green brand equity and the practice of green communication are important concepts that convey prescriptive messages regarding eco-responsible purchase behavior. Intentions to purchase green products become even stronger when consumers feel that their peers and the community, in general, support sustainability in order to avoid the risk of losing social status or professional image (Han, 2020; Raji et al., 2020). The third dimension is the perceived behavioral control that reflects the subjective judgment of how easy or hard it is to carry out the behavior. The perceived match between the behavior and situational limitations, such as the availability of products, affordability, and capacity, is included in this appraisal. The behavior of green consumers is one of the dimensions of this inquiry because this group of consumers is engaged in external and internal barriers that determine the ability of an individual to act sustainably (Dong et al., 2020; Halder et al., 2020).

The analysis is also enhanced by the introduction of a moderator variable, which is the social-media usage (SMU). On the one hand, traditional TPB assumes rational decision-making, and on the other hand, the current research observes that Facebook, Instagram, and TikTok digital spaces significantly impact perceived norms and control. Social sites enhance the exposure to green materials, provide social evidence, and provide peer-based assurance, thus changing the attitudes and enhancing perceived confidence to act sustainably. The inclusion of SMU, therefore, enhances the explanatory role of TPB in the modern consumer setting characterized by the use of technology. When putting all these contributions together, TPB provides a strict theoretical approach to specifying the role of environmental messages, brand values, and social prescriptions in combination in the green purchase intention. This work contributes to knowledge of green consumer behavior in the developing economy by matching the green marketing constructs to their TPB equivalent and adding SMU as a situational intensifier.

Figure 1

Research Framework



3 | METHODOLOGY & DESIGN

3.1 | Research Design and Philosophical Foundation

The current research relies on the positivist paradigm, which is a philosophical approach to research studies that prioritizes objectivity, measurement, and testing the hypothesis based on empirical evidence (Saunders, 2011). In a positivistic approach, the phenomena are considered observable and measurable; therefore, it suits the purpose of the study to assess the correlation between predetermined variables through statistical modeling. Tightly associated with the given purpose is the deductive method, which is the core of positivism and helped to produce the hypotheses based on the already existing theories, namely, the Theory of Planned Behavior (Ajzen, 1991), and test them through the systematic gathering of data.

3.2 | Conceptual Framework and Operationalization of Constructs

The current research builds a conceptual framework that intertwines four independent variables, namely green advertising, green brand equity, green consumer behavior, and green marketing communication, as all of them are supposed to influence green purchase intention. The use of social media is modelled as a moderator. The standardized scales based on the previous validated studies were used to operationalize the constructs: Green Advertising (Mkik et al., 2017), Green Brand Equity (Chen, 2010), Green Consumer Behavior (Zarei & Mirzaei, 2022), Green Marketing Communication (Grebmer, 2020), Green Purchase Intention (Mehraj & Qureshi, 2022), Social Media Usage (Azazz & Elshaer, 2022). All the items were in a 5-point Likert scale that reflects the extent of agreement or disagreement.

3.3 | Sampling Technique and Justification

The major approach to selecting the participants was purposive sampling, where the specific aim was to recruit the subjects with prior knowledge in the area of green consumption behavior and who also had experience in knowing the brands of fast-moving consumer goods (FMCG). This kind of conditioning of the sample played a two-fold role, i.e., it increased the methodological validity in addition to the relevance of

responses. This non-probability sampling method was preferred over random sampling due to the specificity of the research topic and the challenge of identifying a fully randomized population segment with sufficient knowledge of green marketing in Pakistan. The sample focused on consumers in Punjab province, a major economic region where FMCG penetration and digital engagement are high. The final sample comprised 299 respondents, selected from an initial outreach of 450 individuals, achieving a usable response rate of 66.4%. While the text used the term "professionals" earlier, the sample more accurately consisted of consumers aged 20–45, with varied educational backgrounds (undergraduate to postgraduate) and income levels ranging from PKR 25,000 to PKR 80,000+. Approximately 78% were male and 22% female. The demographic profile was designed to reflect typical urban FMCG consumers in Punjab.

3.4 | Power Analysis and Sample Adequacy

To assess the adequacy of the sample, a priori power analysis was conducted using G*Power software (version 3.1). With an anticipated medium effect size ($f^2 = 0.15$), power level of 0.80, and alpha = 0.05, the minimum recommended sample size for a model with six predictors is 146. Thus, the sample size of 299 was deemed statistically sufficient to detect meaningful effects in the structural model and ensure generalizability within the studied context.

3.5 | Data Collection Procedure and Bias Mitigation

Data were collected using self-administered questionnaires distributed via both online Google Forms and face-to-face interactions at retail outlets (e.g., departmental stores and eco-friendly product counters). The hybrid distribution method was intended to enhance response diversity and reach digitally less-active consumers. To control for social desirability bias, the questionnaire emphasized anonymity and clarified that there were no right or wrong answers. Non-response bias was minimized by comparing early and late respondents across key variables and finding no significant differences. A brief screening question ensured that only respondents who had prior exposure to green marketing messages or eco-friendly products participated.

3.6 | Instrument Adaptation, Validity, and Reliability

The measurement items were adapted from validated scales previously used in international studies. To ensure cultural validity in the Pakistani context, a pilot test was conducted on 30 respondents, leading to minor adjustments in phrasing to improve clarity and contextual alignment. Internal consistency reliability coefficients of all the constructs were obtained before the data was collected. Cronbach's alpha (a = 0.70 or more) and Composite Reliability (CR = 0.70 or more) were used, and all items in a construct needed to be correlated in a way that produces reliable scores. The convergent validity was proven through averaged variance extracted values (AVE 0.50= or more). Two criteria were used to test discriminant validity, which include the Fornell-Larcker and Heterotrait-Monotrait (HTMT) ratio. Both standards gave values that were lower than the established standards, and this means that there is sufficient differentiation of the constructs, which proves that the scale items are valid to carry out research in Punjab, Pakistan.

3.7 | Data Analysis Strategy and PLS-SEM Justification

To analyze the data and test the hypothesized relationships, the study used Partial Least Squares Structural Equation Modeling (PLS-SEM) via SmartPLS 3.0. PLS-SEM was chosen due to its suitability for exploratory models, its robustness with small-to-moderate samples, and its ability to handle non-normal data

distributions (Hair et al., 2019). It is particularly effective for predictive modeling and evaluating complex models involving interaction/moderation effects, which aligns with this study's inclusion of social media usage as a moderator. Before analysis, data were screened for missing values, outliers, and normality. Z-scores and boxplots were used for identifying outliers, and skewness-kurtosis tests confirmed the assumption of acceptable univariate normality. No multicollinearity was detected (VIF < 3), satisfying regression prerequisites.

4 | RESULTS AND ANALYSIS

4.1 | Response Rate

Based on the survey questions, we allow the respondent to express their viewpoints. Consequently, people can easily relate their experiences when answering the questionnaire. Through this approach, we compile exact and correct data for our study, therefore supporting the major premise of the study. Of the 450 surveys sent to the participants, 331 (73.55%) were returned, and after screening, the finalized sample consisted of 299 (66.44%). Of the 331 returned questionnaires, 32 were excluded due to incomplete responses or failing the initial screening filter (e.g., lack of awareness about green products), resulting in 299 usable responses. The gender breakdown was 234 males (78.26%) and 65 females (21.74%).

Table 1

Response Rate

Description	Questionnaire	Percentage
Distributed	450	100%
Received	331	73.55%
Finalized sample	299	66.44%

4.2 | Demographics

The demographic analysis (Table 2) reveals that 78% of the finalized 156 respondents were male and 21% of the final 43 were female. 54% of the sample were 20-30 years old, 27% were 30-40, and 18% were above 40 years of age. About 12% of the respondents have above 80k, 29% of the respondents have 55k-80k income, and 57% of the respondents have 25k-50k income. 9% were enrolled in the above bachelor's, 35% were enrolled in bachelor's, and 54% in below bachelors. Although the gender distribution is skewed toward males, this reflects broader consumption patterns and marketing exposure in urban retail settings of Punjab, where men often make purchase decisions, particularly in low-income households.

Table 2

Demographics

Demographics	Respondent	% Age
	Gender	
Male	158	78.61
Female	43	21.39
	Age of Respondent	
Above 40	37	18.41
30-40	55	27.36
20-30	109	54.23
	Income	
Above 80k	25	12.44
55k-80k	60	29.85
25k-50k	116	57.71
	Level of Education	
Above Bachelor	20	9.95
Bachelor	71	35.32
Below Bachelor	110	54.73

4.3 | Descriptive Statistics

In Table 3, the variance shows that the distribution is normal, since there is very little dispersion between the two data points and the given median. To assess univariate normality, skewness and kurtosis values were examined. All values fell within the acceptable ±1 threshold (Hair et al., 2019). Additionally, visual inspection using Q-Q plots confirmed approximate normal distribution. All constructs met the internal consistency reliability thresholds, with Cronbach's alpha (α) and Composite Reliability (CR) values above 0.7. Convergent validity was confirmed with AVE values exceeding 0.5 (Fornell & Larcker, 1981). The details are given in Table 3.

Table 3

Descriptive Statistics

Constructs	N	Mean	Std. Dev	CR	rho_A	AVE	CA	Kurtosis	Skewness
GA	299	0.000	1.000	0.896	0.862	0.633	0.854	-0.553	0.400
GBE	299	0.000	1.000	0.866	0.829	0.622	0.794	-0.109	0.708
GCB	299	0.000	1.000	0.803	0.836	0.566	0.655	-0.406	0.782
GMC	299	0.000	1.000	0.911	0.890	0.673	0.879	-0.241	0.443
GPI	299	0.000	1.000	0.906	0.863	0.707	0.862	-0.368	0.303
SMU	299	0.000	1.000	0.883	0.844	0.654	0.827	-0.462	0.204

4.4 | Discriminant Validity

This study emphasizes that racist and prejudiced statements must be fewer than one to be deemed significant (Wang et al., 2021). Furthermore, the Fornell-Larcker criteria serve as an additional metric for assessing discriminant validity, requiring that its values exceed the loading values of other components (Adnan

et al., 2021c). HTMT ratios between some constructs, particularly Green Brand Equity and Green Consumer Behavior (1.019), exceeded the recommended threshold of 0.90, indicating potential discriminant validity concerns. This may suggest theoretical overlap or contextual convergence in consumer perception. However, the Fornell-Larcker criterion was also evaluated and partially supported discriminant validity, as AVE square roots were higher than inter-construct correlations. This scale enables researchers to illustrate that theory tests are not comparable to tests created for other theories, which is advantageous for research objectives.

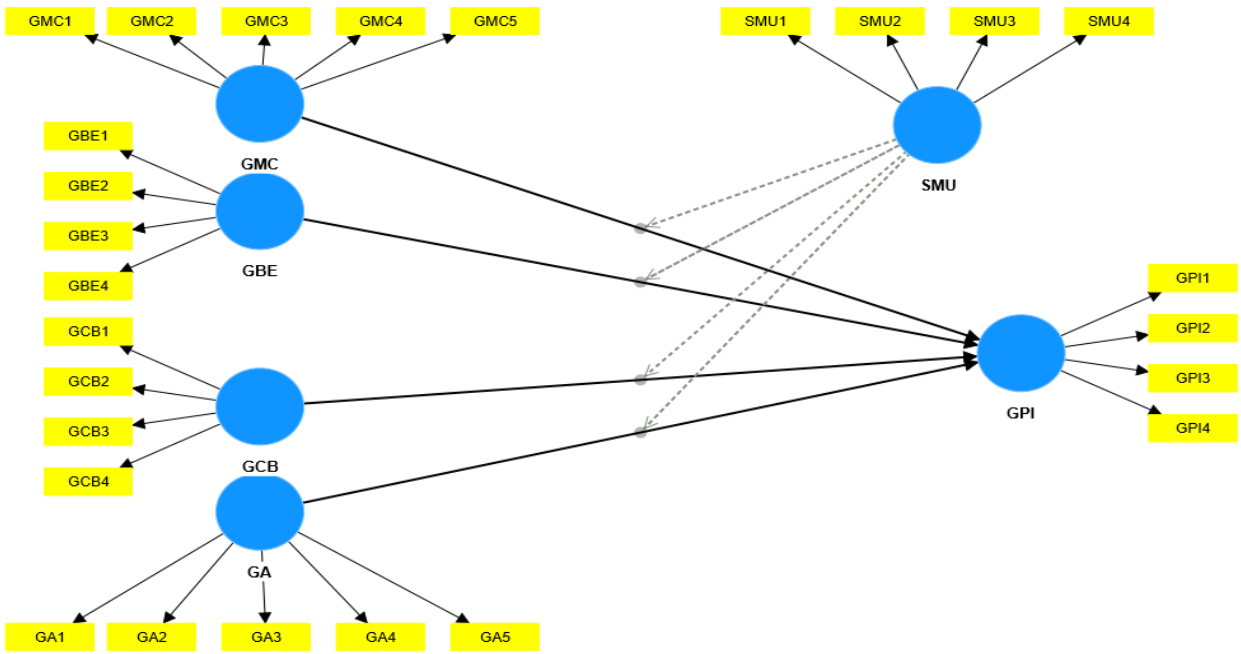
Table 4

Heterotrait-monotrait ratio (HTMT) - Matrix

	GA	GBE	GCB	GMC	GPI	SMU	SMU x GBE	SMU x GCB	SMU x GA
GBE	0.962								
GCB	0.976	1.019							
GMC	0.945	0.929	0.948						
GPI	0.870	0.821	0.969	0.786					
SMU	0.887	0.823	0.855	0.920	0.888				
SMU x GBE	0.293	0.390	0.573	0.253	0.313	0.183			
SMU x GCB	0.341	0.434	0.593	0.332	0.321	0.209	0.874		
SMU x GA	0.260	0.282	0.451	0.223	0.230	0.153	0.869	0.851	
SMU x GMC	0.233	0.250	0.478	0.274	0.244	0.452	0.801	0.871	0.881

Figure 2

Measurement Model



4.5 | Factor Loadings

As shown in Table 5, all constructs greater than 0.5 are retained in the data, while those below 0.5 are removed. All the remaining constructs exceed 50% of those included in the questionnaire. All items with loadings below 0.5 were excluded to ensure construct validity, except one item retained under Green Consumer Behavior (0.478), due to its theoretical relevance. Labeling errors (e.g., 'CCB4') were corrected to maintain consistency.

Table 5

Factor Loadings

Constructs	Items	Factor Loadings
Green Advertising	GA1	0.758
	GA2	0.814
	GA3	0.864
	GA4	0.804
	GA5	0.731
Green Brand Equity	GBE1	0.712
	GBE2	0.655
	GBE3	0.878
	GBE4	0.884
Green Consumer Behavior	GCB1	0.777
	GCB2	0.065
	GCB3	0.929
	GCB4	0.890
Green Marketing Communication	GMC1	0.754
	GMC2	0.837
	GMC3	0.870
	CCB4	0.823
	GMC5	0.814
Green Purchase Intention	GP1	0.807
	GP2	0.848
	GP3	0.870
	GPI4	0.838
Social Media Usage	SMU1	0.765
	SMU2	0.800
	SMU3	0.852
	SMU4	0.816

4.6 | Hypothesis Testing

Th p-values in Table 6 indicate that all hypotheses are acceptable since comprehension has a direct effect. Although Green Marketing Communication significantly influences Green Purchase Intention ($p < 0.05$), the negative coefficient ($\beta = -0.221$) is theoretically unexpected and warrants deeper investigation. It may reflect consumer skepticism or ineffective messaging practices in the region. Similarly, Green Brand Equity has a statistically significant but weak effect ($\beta = 0.056$), suggesting limited influence on actual purchase intent. All statistically significant relationships were supported by p-values < 0.05; however, effect sizes (e.g., f^2) varied.

For example, while GCB → GPI demonstrated a strong effect (β = 0.381, t = 4.993), GBE → GPI reflected a minimal practical influence.

Table 6

Direct Effect

Direct Effect	Sample Mean (M)	ST.DEV	T Statistics	P Values	Hypothesis
GA -> GPI	0.256	0.082	3.026	0.002	Accepted
GBE -> GPI	0.056	0.087	2.672	0.002	Accepted
GCB -> GPI	0.381	0.077	4.993	0.000	Accepted
GMC -> GPI	-0.221	0.089	2.534	0.001	Accepted

4.6 | Moderating Analysis

The path coefficient indicates a positive correlation among all the values (Table 6); however, the SMU -> GBE -> GPI effect is rejected, but this effect is reduced when CCB modifies the relationship between SMU and GPI. Further, there is a rejection between SMU -> GCB -> GPI, SMU -> GA -> GPI, and SMU -> GMC -> GPI. None of the hypothesized moderating effects of Social Media Usage (SMU) were statistically significant. This may be due to measurement limitations, low variance in SMU scores, or the possibility that social media does not meaningfully alter green behavior in this context. Further, the operationalization of SMU may not have captured the depth of engagement or platform-specific dynamics.

Table 7

Total Indirect Effect

Indirect Effect	Sample Mean (M)	ST.DEV	T Statistics	P Values	Hypothesis
SMU -> GBE -> GPI	0.089	0.100	0.795	0.427	Rejected
SMU -> GCB -> GPI	-0.069	0.092	3.796	0.426	Rejected
SMU -> GA -> GPI	-0.158	0.100	1.441	0.158	Rejected
SMU -> GMC -> GPI	0.149	0.079	1.825	0.068	Rejected

Overall, the model demonstrated adequate predictive power, though some unexpected directions and weak effects highlight the complexity of green purchase behavior in emerging markets. The insignificant moderating effects of social media underscore the need for more nuanced digital engagement metrics. These findings lay the groundwork for future studies to refine construct definitions and explore deeper cultural dimensions of sustainability.

5 | DISCUSSION

The current research examines the green purchase intention in the Pakistan FMCG industry. The empirical results help in providing a theoretical explanation of the nature of green purchasing behavior, especially in the way they support the Theory of Planned Behavior (TPB). The hypothesis H1 is supported by

the fact that green advertising has a strong positive impact on green purchase intention, thus expanding the existing body of knowledge on the ability of credible, engaging, and informative eco-focused communication to influence attitude formation and consumer choice (Kim & Kim, 2021; Wibowo et al., 2022). The connection highlights the relevance of strategic communication in the development of positive attitudes towards sustainability, particularly due to the increasing level of climate anxiety and eco-literacy.

Regarding Hypothesis H2, green brand equity is strongly related to green purchase intention, although the effect size is rather small. This finding shows that although consumers in Pakistan are responsive to environmentally framed brands, the strength of this effect can be reduced by price sensitivity, brand skepticism, or lack of visible environmental impacts. These results are consistent with Raji et al. (2020) and Wang and Li (2022), who state that the consumers in emerging markets place less trust in unverified environmental claims, which limits the competitive benefit of green-positioned firms.

Hypothesis H3 shows that there is a strong positive correlation between green consumer behavior and green purchase intention and points to the centrality of green lifestyles in determining market behavior. As it has been shown in previous studies by Dong et al. (2020) and Halder et al. (2020), those consumers who already have eco-friendly habits (recycling, limiting plastic consumption, and buying more energy-efficient products) have a higher probability of acting on their green purchase intentions. This corroborates the TPB construct of perceived behavioral control and validates the fact that personal habits and values serve as important predictors of behavior.

On the contrary, the green marketing communication has a statistically significant, but negative, impact on the green purchase intention (H4), which does not correspond to the results obtained by Tan et al. (2022). The paradox implies consumer mistrust or the so-called greenwashing fatigue, especially in an economy where environmental claims are largely unverified. Green messages used in the Pakistani FMCG environment can be viewed as performative messages, which do not add to commitment unless they are supported by visible environmental initiatives or certifications.

None of the moderating hypotheses proposed by TPB extensions (H5-H8) is supported. Hypothesis H5- which tests the moderating effect of social media on the relationship between green brand equity and green purchase intention, is found to be statistically insignificant. This result can be explained by the lack of credibility of brand messages spread over the web, where paid endorsements and sponsored posts usually blur the perceived authenticity (Ge & Gretzel, 2018). Similarly, Hypothesis H6, which dwelled on the moderating role of social media between green consumer behavior and green purchase intention, is also not supported. Unlike Nguyen-Viet (2022), who assumes that social media contributes to the strengthening of environmental habits due to peer influence and community interaction, the present study reveals that local offline social networks are more efficient in terms of behavioral validation.

The hypothesis H7, which evaluates the moderating role of social media in the effect of green advertising on green purchase intention, also does not pass the significance test, which is contrary to Zafar et al. (2021), who explain the increased advertising effect by the interactivity and personalization that are provided by digital media. The current findings indicate that green advertising can be seen as intrusive or generic when shared through social media, and thus, it reduces persuasive power. A similar trend is observed in Hypothesis H8, which studies the moderating effect of social media on the relationship between green marketing

communication and green purchase intention; this connection is also not found to be significant. These results confirm Zhang et al. (2024) and show that marketing communications sieved through social media are not enough to create enough credibility and engagement to directly affect the purchasing behavior when there is no other moderator.

Taken together, the results of this research give an interesting point of view: social media is still not a valid tool of green behavior promotion in the Pakistani setting, particularly without specific content, credibility of influencers, and strong eco-literacy. Future studies need to question platform-specific measures of engagement, e.g., interaction rate, and content curation, and test alternative moderators, e.g., environmental concern, trust in governmental institutions, or subjective norms.

6 | CONCLUSION

The current research examines the role of green advertising, green brand equity, green consumer behavior, and green marketing communication in green purchase intention in the fast-moving consumer goods (FMCG) industry in Punjab, Pakistan. Based on the Theory of Planned Behavior (TPB), it can be seen that green consumer behavior and green advertising are particularly relevant to influence eco-friendly purchasing decisions. Although green brand equity is statistically significant, its small effect size is indicative that a positive brand image cannot serve as a green consumption determinant without supporting evidence of environmental performance. In addition, green marketing communication, which is usually seen as a positive impulse, shows a negative impact, which could be seen as consumer distrust and the perceived popularity of greenwashing in the local market.

The anticipated moderating role of social media usage did not materialize in any of the hypothesized relationships. This suggests that, contrary to prevailing global research, social media platforms may not significantly shape the relationship between green marketing constructs and consumer intention in this emerging market context. The limited trust in digital advertising, variation in digital literacy, and low eco-literacy among consumers could explain this discrepancy. Collectively, these findings extend TPB by highlighting context-specific nuances that influence sustainability behavior. They underscore the need for authenticity in marketing messages, the importance of deeply rooted consumer values, and a caution against overreliance on digital media as a uniform influence across all markets.

6.1 | Limitations and Future Research Direction

Despite offering novel insights, this study has several limitations that future research should address. First, the use of self-reported data may introduce social desirability bias, especially in studies dealing with socially desirable behaviors like environmental concern. Second, the cross-sectional design restricts causal inference; longitudinal research could better capture evolving green attitudes and behaviors over time. Third, the gender imbalance (78% male respondents) limits the generalizability of the results, particularly for a consumer behavior study where gender differences can significantly impact decision-making processes.

Additionally, the sample was geographically confined to Punjab, which may not fully represent the diversity of consumer behavior across other provinces in Pakistan. The measurement instruments, although adapted from validated studies, may not have been fully contextualized to the Pakistani socio-cultural

environment. Future research should consider multigroup comparisons, integrate qualitative insights (e.g., through interviews or focus groups), and apply experimental designs to uncover causality.

Lastly, the unexpected rejection of social media as a moderator warrants further inquiry. Scholars may explore platform-specific behaviors, trust in digital sources, and the role of influencers or social norms in amplifying green messages.

6.2 | Implications

From a theoretical standpoint, this study advances the TPB framework by integrating green marketing constructs and testing them within a collectivist and low eco-literacy setting. It challenges the assumption that all TPB elements, especially normative influences like social media, operate similarly across contexts. The negative impact of green marketing communication further emphasizes the need for theory adaptation in emerging economies. From a managerial perspective, firms in the FMCG sector must recognize that green consumer behavior, not branding or communication alone, is the most decisive factor in shaping eco-purchase intentions. Marketing campaigns should therefore prioritize behavioral reinforcement over symbolic messaging. Green advertising, when designed with authenticity, relevance, and clarity, can serve as a persuasive tool, especially for promoting everyday sustainable products like reusable bottles or low-waste packaging.

The study also calls for rethinking the use of social media in green marketing. Brands must move beyond broadcasting generic sustainability claims and instead engage in dialogue-based, trust-building strategies that involve credible sources, localized content, and interactive storytelling. Policymakers and advocacy groups can complement these efforts through awareness campaigns, third-party eco-labeling, and stronger regulation against misleading claims. In conclusion, this study not only fills empirical and contextual gaps in green marketing literature but also provides actionable insights for practitioners, policymakers, and scholars seeking to drive sustainable behavior in rapidly transforming economies like Pakistan.

Acknowledgment: The authors would like to express their sincere thanks to the editor and the anonymous reviewers for their helpful comments and suggestions.

Author Contributions: Conceptualization, M.A., and V.C.; methodology, M.A., and V.C.; software, U.N.; validation, U.S., and N.K.; investigation, M.A.; data curation, M.A.; writing original draft preparation, M.A.; writing—review and editing, M.A., and N.K. All authors have read and agreed to the published version of the manuscript.

Declaration of Conflicting Interest: The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding: The author(s) received no financial support for the research, authorship, and/or publication of this article.

Data Availability Statement: Data that supports the findings of this study are available on request from the corresponding author.

Plagiarism Statement: This article was scanned by the plagiarism program. No plagiarism was detected.

REFERENCE

Adnan, M., Hayee, R., Ali, M. A., & Sarwar, M. (2022). Were Employee Welfare and Work Commitment Impacted by the High Performance Work System? *Journal of Hunan University Natural Sciences*, *49(*9).

Adnan, M., Hayee, R., & Khan, A. B. (2021). Do Job Satisfaction And Motivation Yield To Enhance The Employee Performance Of Teachers In Public Higher Education Institutions (HEI)? *Webology (ISSN: 1735-188X)*, *18*(1).

Adnan, M., Khan, A. U., & Hayee, R. (2021c). Integrated Marketing Communication and Customer Satisfaction as a function of Customer Loyalty with the Moderating role of Product Innovation Moderation, . *Sustainable Business and Society in Emerging Economies*, *3*(2), 133-148.

Adnan, M., Yaseen, M., Khan, A. U., & Ahmad, E. (2021d). Customer Relationship Management (CRM) And Brand Image Encourage Customer Retention; A Mediating Role Of Customer Engagement. *Webology*, *18*(6), 1735-1188.

Ajmal, M., Bedale, W., Akram, A., & Yu, J.-H. (2022). Comprehensive review of aflatoxin contamination, impact on health and food security, and management strategies in Pakistan. *Toxins*, *14*(12), 845.

Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, *50*(2), 179-211.

Ali, R., Eid, R., & Khalid, A. (2025). A green step forward: the role of green marketing in nurturing green customer loyalty. *Marketing Intelligence & Planning*.

Azazz, A. M., & Elshaer, I. A. (2022). Amid the COVID-19 pandemic, social media usage and food waste intention: the role of excessive buying behavior and religiosity. *Sustainability*, *14*(11), 6786.

Bhardwaj, A. K., Garg, A., Ram, S., Gajpal, Y., & Zheng, C. (2020). Research trends in green product for environment: A bibliometric perspective. *International Journal of Environmental Research and Public Health*, *17*(22), 8469.

Chen, Y.-S. (2010). The drivers of green brand equity: Green brand image, green satisfaction, and green trust. *Journal of Business ethics*, *93*(2), 307-319.

Dinh, K. C., Nguyen-Viet, B., & Phuong Vo, H. N. (2023). Toward sustainable development and consumption: The role of the green promotion mix in driving green brand equity and green purchase Intention. *Journal of Promotion Management*, *29*(6), 824-848.

Do Paco, A., Shiel, C., & Alves, H. (2019). A new model for testing green consumer behaviour. *Journal of cleaner production*, *207*, 998-1006.

Dong, X., Liu, S., Li, H., Yang, Z., Liang, S., & Deng, N. (2020). Love of nature as a mediator between connectedness to nature and sustainable consumption behavior. *Journal of cleaner production*, *242*, 118451.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, *18*(1), 39-50.

Ge, J., & Gretzel, U. (2018). Impact of humour on firm-initiated social media conversations. *Information Technology & Tourism*, *18*(1), 61-83.

Gloria, J., Rajan, U., & Suresh, S. (2020). A STUDY ON CUSTOMER PERCEPTION OF GREEN ADVERTISING IN ECO-FRIENDLY CONSUMER GOODS. *International Journal of Management (IJM)*, *11*(12).

Grebmer, C. (2020). *The challenge of green marketing communication: consumer response to*

communication channel in environmental friendliness perceptions and product evaluation Dissertation, München, Ludwig-Maximilians-Universität, 2020].

Halder, P., Hansen, E. N., Kangas, J., & Laukkanen, T. (2020). How national culture and ethics matter in consumers' green consumption values. *Journal of cleaner production*, *265*, 121754.

Han, H. (2020). Theory of green purchase behavior (TGPB): A new theory for sustainable consumption of green hotel and green restaurant products. *Business Strategy and the Environment*, *29*(6), 2815-2828.

Hazée, S., Van Vaerenbergh, Y., & Armirotto, V. (2017). Co-creating service recovery after service failure: The role of brand equity. *Journal of Business Research*, *74*, 101-109.

Huang, C. C., & Chen, S. E. (2022). Establishing and deepening brand loyalty through brand

experience and customer engagement: evidence from Taiwan's chain restaurants. *Journal of Quality Assurance in Hospitality & Tourism*, *23*(1), 217-239.

Irshad, M. (2025). Examining the role of green marketing mix elements on green purchase behavior. *Management of Environmental Quality: An International Journal*, *36*(3), 815-832.

Jalees, T., Qabool, S., Zaman, S. I., & Alam Kazmi, S. H. (2021). Effect of spirituality and ethics on green advertising, and the multi-mediating roles of green buying and green satisfaction. *Cogent Business & Management*, *8*(1), 1920559.

Junaedi, I. W. R., Sumartana, I. M., & Wiratanaya, G. N. (2025). The Influence of Green Marketing on the Purchase Intentions of Generation Z in Indonesia. *Journal of Administration*, *1*(1), 1-8.

Kim, D. Y., & Kim, H.-Y. (2021). Trust me, trust me not: A nuanced view of influencer marketing on social media. *Journal of Business Research*, *134*, 223-232.

Majeed, M., Azumah, S. B., & Asare, C. (2022). Drivers of green brand equity and green purchase intention in emerging markets. In *Green Marketing in Emerging Economies: A Communications Perspective* (pp. 143-165). Springer.

Malik, A., Hasnain, A., Fazil, N., & Adnan, M. (2022). How social media moderates the impact of service quality and customer satisfaction on consumer loyalty. *Review of Applied Management and Social Sciences*, *5*(3), 309-321.

Malik, A., Hasnain, A., Fazil, N., & Adnan, M. (2022). How Social Media moderates the impact of Service Quality and Customer Satisfaction on Consumer Loyalty. . *Review of Applied Management and Social Sciences,*, *5*(3), 309-321.

Mehraj, D., & Qureshi, I. H. (2022). Does green brand positioning translate into green purchase intention?: A mediation–moderation model. *Business Strategy and the Environment*, *31*(7), 3166-3181.

Mkik, S., Khouilid, M., & Aomari, A. (2017). Green advertising and environmentally consumption: The level of awareness and Moroccan costumer's perception. *IOSR Journal of Business and Management*, *19*(8), 1-11.

Munawar, M. A., Khoja, A. H., Naqvi, S. R., Mehran, M. T., Hassan, M., Liaquat, R., & Dawood, U. F. (2021). Challenges and opportunities in biomass ash management and its utilization in novel applications. *Renewable and Sustainable Energy Reviews*, *150*, 111451.

Nekmahmud, M., & Fekete-Farkas, M. (2020). Why not green marketing? Determinates of consumers' intention to green purchase decision in a new developing nation. *Sustainability*, *12*(19), 7880.

Nekmahmud, M., Naz, F., Ramkissoon, H., & Fekete-Farkas, M. (2022). Transforming consumers' intention to purchase green products: Role of social media. *Technological Forecasting and Social Change*, *185*, 122067.

Nguyen-Viet, B. (2022). Understanding the influence of eco-label, and green advertising on green purchase intention: The mediating role of green brand equity. *Journal of Food Products Marketing*, *28*(2), 87-103.

Park, E., & Kwon, S. J. (2017). What motivations drive sustainable energy-saving behavior?: An examination in South Korea. *Renewable and Sustainable Energy Reviews*, *79*, 494-502.

Pop, R.-A., Săplăcan, Z., & Alt, M.-A. (2020). Social media goes green—The impact of social media on green cosmetics purchase motivation and intention. *Information*, *11*(9), 447.

Raji, R. A., Mohd Rashid, S., Mohd Ishak, S., & Mohamad, B. (2020). Do firm-created contents on social media enhance brand equity and consumer response among consumers of automotive brands? *Journal of Promotion Management*, *26*(1), 19-49.

S.A.Sair, Z. I., I.Mehboob, M.Adnan, A.Irfan. (2022). Investigating The Effect of Social Media On Online Consumer Buying Behaviour: Mediating Role of Perception Development. *Pakistan Journal of Multidisciplinary Research (PJMR)*, *3*(2).

Saunders, M. N. (2011). *Research methods for business students, 5/e*. Pearson Education India.

Statista. (2020). : https://www.statista.com/statistics/806118/s

ocial-mediainfluence-in-booking-a-trip-great-britain-by-generation

Statista. (2021). https://www.statista.com/statistics/806118/social-media-influence-in-booking-a-trip-great-britain-by-generation/

Sun, Y., & Wang, S. (2020). Understanding consumers' intentions to purchase green products in the social media marketing context. *Asia pacific journal of marketing and logistics*, *32*(4), 860-878.

Sun, Y., & Xing, J. (2022). The impact of social media information sharing on the green purchase intention among generation Z. *Sustainability*, *14*(11), 6879.

Tan, Z., Sadiq, B., Bashir, T., Mahmood, H., & Rasool, Y. (2022). Investigating the impact of green marketing components on purchase intention: The mediating role of brand image and brand trust. *Sustainability*, *14*(10), 5939.

Vilkaite-Vaitone, N., & Skackauskiene, I. (2019). Green marketing orientation: evolution, conceptualization and potential benefits. *Open economics*, *2*(1), 53-62.

Wang, Sun, & Hou. (2021). How emotional interaction affects purchase intention in social commerce: the role of perceived usefulness and product type. *Psychology Research and Behavior Management*, *14*, 467–481.

Wang, J., & Li, A. (2022). The impact of green advertising information quality perception on consumers' response: an empirical analysis. *Sustainability*, *14*(20), 13248.

Wang, L., Wong, P. P., & Narayanan, E. A. (2020). The demographic impact of consumer green purchase intention toward green hotel selection in China. *Tourism and Hospitality Research*, *20*(2), 210-222.

Wibowo, T. O., Candrasari, S., Parlindungan, D. R., & Haloho, H. N. Y. (2022). "The Real Green" or Just Gimmick: The Implementation of Green Concept in Inagro's Instagram. *KOMUNIKATIF: Jurnal Ilmiah Komunikasi*, *11*(2), 231-241.

Wu, J., Font, X., & Liu, J. (2021). Tourists' pro-environmental behaviors: Moral obligation or disengagement? *Journal of Travel Research*, *60*(4), 735-748.

Zafar, A. U., Shen, J., Ashfaq, M., & Shahzad, M. (2021). Social media and sustainable purchasing attitude: Role of trust in social media and environmental effectiveness. *Journal of Retailing and Consumer Services*, *63*, 102751.

Zarei, G., & Mirzaei, K. (2022). Impact of perceived social responsibility on consumers' green perception and green behavior: the moderating role of personality traits. *Journal of Consumer Sciences*, *7*(2), 169-189.

Zhang, X., Chen, K., & Li, S. (2024). The effects of green advertising appeal and message type on purchase intention. *Journal of Retailing and Consumer Services*, *81*, 104007.

Zhao, L., Lee, S. H., & Copeland, L. R. (2019). Social media and Chinese consumers' environmentally sustainable apparel purchase intentions. *Asia pacific journal of marketing and logistics*, *31*(4), 855-874.

Zhu, L., Li, H., He, W., & Hong, C. (2020). What influences online reviews' perceived information quality? Perspectives on information richness, emotional polarity and product type. *The Electronic Library*, *38*(2), 273-296.