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A Moderated–Mediated Model for Eco-Conscious Consumer Behavior

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Abstract: Using the Attitude–Behavior–Context theory, this research aims to investigate the impact of green marketing (GM) and green customer value (GCV) on eco-conscious consumer behavior (ECB) toward the consumption of green products. This study involved a survey technique that comprised 700 consumers through a self-administered questionnaire disseminated through enumerators in two metropolitan cities of Pakistan (namely, Lahore and Karachi), of which 349 were usable for the data analysis process. The hypothesized relationships were validated using partial least squares structural equation modeling through SmartPLS 4.0. The empirical findings showed a positive impact of GM and GCV on brand awareness (BA), environmental concern (EC), and ECB. The findings also revealed the partial mediating effect of BA and EC on the relationship between GM, GCV, and ECB. In addition, this study observed the moderating impact of felt obligation (FO) on the relationship between BA and ECB. The findings show that ECB is essential for a sustainable environment. This study's results may guide managers and marketers in developing suitable GM strategies.

1. Introduction

The rising development of consciousness among consumers regarding environmental crises is a global phenomenon. Environmental crises are frequently linked with massive industrial production that is believed to be the foremost cause of ecological disruptions such as global warming, greenhouse effects, pollution, and climate change [1]. However, studies have shown that developed economies have made considerable progress in ecological change during the past two decades [2,3]. Nevertheless, a massive disparity has been reported between ecological challenges and ecological adaptation in emerging economies [4], which translates to climate devastation that is affecting the sustainable environment [5] and is rapidly impacting consumer health [6]. Consumers are demanding eco-friendly products to mitigate such challenges because of overall climate change and rising environmental awareness. Thus, environmental management has become a top priority for many businesses claiming green development visions [7].

It is also important to note that individual households' consumption activities cause from 30% to 40% of environmental deterioration [8]. Therefore, several studies have emphasized encouraging consumers to buy eco-friendly products by educating them about environmental issues as a positive move in the right direction [2,9,10]. Recent studies have shown that the quality of life has been negatively impacted by environmental issues such as the compromised atmospheric ozone layer, industrial waste being dumped into rivers, and increased air pollution [11,12]. These adverse environmental changes influence business processes and visions [13]. The associated demands focus on eco-conscious consumer

behavior (ECB), meaning that consumers are instigating the consumption of eco-friendly products and the preservation of natural resources [2,10,14]. This narrative is further associated with green purchasing when consumers prefer to be socially responsible [8].

Considering environmental crises, Pakistan, as an emerging economy, has been ranked in the top 10 most vulnerable countries in the climate index [15] It has also been ranked second globally as the most polluted country out of 118 economies [16]. Further, due to environmental crises, 10,000 deaths have been reported and the country has borne more than USD 4 billion in financial loss from 173 severe weather events [15]. Thus, the average life expectancy in Pakistan has decreased by 4.3 years, leaving it substantially lower than in other countries [17].

Pakistan emits around 20 million tons of solid waste annually and this volume is growing by 2.4% each year. In the absence of adequate trash collection and disposal, most of this trash is burnt or left to decompose in dumps, usually in the middle of cities. Despite this, the majority of Pakistani industries appear unconcerned. The analysis indicates that over 90% of untreated city and industrial trash is dumped into the seas. While garbage collection is periodically prioritized on the national agenda, due to governance failure, recycling and environmentally sustainable solid waste management are rarely considered. This situation looks grave, as the United States Institute of Peace described Pakistan's climate challenges as posing a threat to national security that necessitates quick action from the government, industries, and consumers.

In this study, we focus on the consumers as they are considered powerful drivers in enabling green practices in business by demanding green products that can normalize and preserve the environment. In this context, the previous literature has shown that marketers and consumers can work collectively to limit environmental devastation and pollution [2,8,18]. Moreover, businesses should initiate green marketing (GM) strategies that execute action plans for sustainable market growth in response to environmental concern (EC) [4]. Similarly, marketers need to promote the concept of GM and green customer value (GCV), which educates un-aware consumers about the benefits of eco-friendly products and, in turn, contributes to preserving a sustainable environment for businesses and other stakeholders [19]. In this context, it is also necessary to understand that consumer attitudes toward green products are substantially influenced by a business's reputation for producing environmentally friendly products, which leads to future green consumption [20].

Unsurprisingly, GM is more prominent in developed countries than in emerging economies [4]. GM refers to a corporation's responsibility to uphold and develop enduring relationships with its stakeholders, encompassing the environment, society, and customers. Therefore, this entails sustainably promoting eco-friendly goods and services and reflects society's perception of eco-aware customer behavior. Similarly, GM aims to mitigate these harmful environmental effects by adopting a new green strategy by designing, producing, packaging, labeling, and consuming eco-friendly products [10,14]. Similarly, GCV is an essential factor reflecting consumer intent toward green products that meet green environmental aspirations, sustainability expectations, and eco-friendly requirements [21]. Positive GCV will lead to higher green consumerism [22]. GCV derives from the perceived value and environmental image, instigating eco-behavior among the users [23].

In addition, brand awareness (BA) is the most significant component in creating the image in the consumer's mind that drives brand recognition for a product [24]. EC can be represented by consumers' concerns about environmental issues, enthusiasm for eco-friendly items, and the desire to purchase them [10].

Concerning these influences, this study also focuses on exploring and understanding consumers' feelings through felt obligation (FO). FO is defined as an individual's cognitive and emotional perspectives, respectively [25]. Moreover, a sense of responsibility promotes more obligation and duty regarding ethical conduct in corporate environments [26]. FO has been intensively investigated in organizational behavior, examining the personal sense of responsibility and duties in existing workplace contexts [27,28]. However, some scholars have stated that FO may not directly influence ECB, asserting instead that being a

responsible person may establish a substantial relationship between the mediating variable and the outcome.

In this study, FO is examined in the context of the mediating the role of BA and EC in the relationship between GM, GCV, and ECB in emerging economies, which has not yet been thoroughly examined. Thus, this study's attempt to explore these relationships is the core objective. Similarly, the boundary conditions under which consumers' BA and EC have a strong effect in achieving an eco-friendly environment have received little attention in emerging economies. We propose that consumers' BA and EC contain a series of actions that ultimately enhance consumer behavior toward green consumption. Finally, FO toward an eco-friendly environment represents a sense of obligation to care about the country's well-being and to strive to achieve a sustainable environment for the betterment of the whole country. Therefore, the second objective of this study is to determine the moderating role of FO in the relationship between consumers' BA and ECB among Pakistani citizens. More specifically, this study addresses the following research questions (the conceptual framework is presented in Figure 1):

1. To what extent are GM and GCV associated with consumers' BA and EC, and ECB?
2. To what extent is the GM–GCV–ECB relationship mediated by consumers' BA and EC?
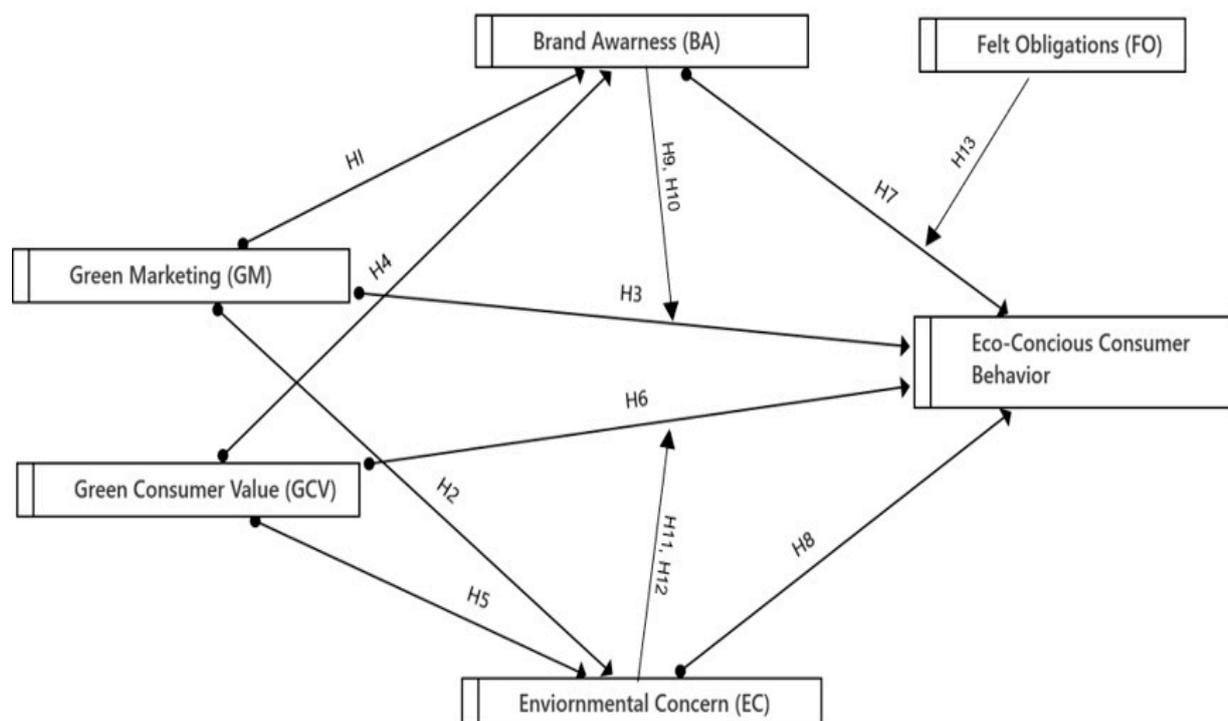3. To what extent does FO strengthen the relationship between consumers' BA and ECB?

Figure 1. Mediated–moderated model for eco-conscious consumer behavior.

The contributions of the present study are threefold. First, this study contributes to the existing literature on GM, GCV, BA, EC, FO, and ECB, since limited empirical studies have been conducted in developing countries in the context of consumerism. Second, the present study introduces FO as a moderator in consumer behavior toward green consumption, which is a surprisingly little understood phenomenon. Third, the study contextualizes the Attitude-Behavior-Context (ABC) theory, which suggests that people's actions are influenced by factors that affect their lifestyle. Additionally, the causal mechanisms underlying GM, GCV, CBA, EC, and ECB are emphasized.

2. Theoretical Background and Literature Review

2.1. Theoretical Framework

The theoretical framework for this paper is centered on the ABC theory initially developed by Stern and Oskamp [29], which asserts that internal and external factors influence pro-environmental behavior. Its construct reveals that eco-conscious behavior (B) is an interactive outcome between personal attitudinal (A) and contextual (C) factors. Attitudinal factors are internal elements that include individuals' views and opinions, while contextual variables are outside elements, including societal standards, monetary support, and institutional influences [30]. These variables interact to produce consumption that is environmentally conscious. The uniqueness of the ABC theory is that it explains eco-conscious behavior using the internal–external dichotomy of social psychology. It has previously been adopted to explain eco-conscious behavior. For example, Li, et al. [31] recognized that adopting internal and external factors help to explain ECB better. Wang, et al. [32] adopted the ABC framework to examine environmental behavior in Shanghai and found that it explains environmentally driven consumption. Further, Qin and Song [33] adopted the ABC theory to investigate sustainable consumption behavior in Dongying, China, and found that green buying is affected by attitudinal variables and contextual factors. This theory offers a compelling rationale for studying the effects of customer behavior and attitude toward green products leading to green purchasing intention [27], providing a valuable framework for examining the relationship between attitudes and green buying behavior.

2.2. Green Marketing (GM), Brand Awareness (BA), Environmental Concern (EC), and Eco-Conscious Consumer Behavior (ECB)

GM promotes environmentally friendly services and products by encouraging green consumption. It can influence the BA of green products and services with EC [26]. The literature has shown that GM helps to promote environmental quality and creates increased BA for green products and services [34,35]. GM interacts favorably with the awareness of green and environmentally friendly goods [2,14]. Marketing green products increase customers' BA and broadens their knowledge of green brands and their advantages [23]. Similarly, GM helps increase BA among customers who experience higher consumption behavior toward green products and services after exposure to GM [36]. Based on this assertion, this study develops a research hypothesis that states that GM positively impacts BA:

Hypothesis 1 (H1): *Green marketing will positively raise brand awareness.*

The previous literature has also established the association between GM and EC. Cuc, Pelau, Szentesi and Sanda [35] scientifically examined how consumers' attitudes and behaviors toward the environment are affected by GM, clarifying that eco-marketing encourages the ecological attitude and behavior of consumers. This finding is consistent with Nekmahmud and Fekete-Farkas [10], who stated that GM increases concern about the environment with an associated increase in purchase intentions. Further, Maichum, et al. [37] discovered a strong connection between environmental awareness and GM. E-marketing creates constructive environmental attitudes that instigate the use of environmentally safe goods [38]. Therefore, this study hypothesizes the following relationship:

Hypothesis 2 (H2): *Green marketing will positively raise environmental concern.*

GM is a significant determinant of consumers' green purchase intentions [10]. Eco-marketing encourages EC and ECB [39]. It is an effective technique for raising awareness of environmentally friendly and green living [2]. The literature has asserted that GM increases green consumption behavior [16,40]. Furthermore, GM has the ability to focus people's minds on nature and the environment, which can prevent them from dumping and increase concern for the environment. Thus, this study proposes the following relationship:

Hypothesis 3 (H3): *Green marketing will positively raise eco-conscious consumer behavior.*

2.3. Green Customer Value (GCV), Brand Awareness (BA), Environmental Concern (EC), and Eco-Conscious Consumer Behavior (ECB)

GCV refers to how consumers' attitudes toward green products influence their intentions to make green purchases [41]. This concept enhances the understanding of green products and purchasing behavior among consumers with green values [42]. The literature has found that green buying values strongly correlate with green buying attitudes [20,22]. The value derived from consuming green products and services positively impacts green consumption behavior [21,23]. Furthermore, it is expected that consumers who increase their ECB from an increase in green consumption value will enhance their conscious buying behavior. These findings serve as the basis for the following hypotheses:

Hypothesis 4 (H4): *Green customer value will positively raise brand awareness.*

Hypothesis 5 (H5): *Green customer value will positively raise environmental concern.*

Hypothesis 6 (H6): *Green customer value will positively raise eco-conscious consumer behavior.*

2.4. Brand Awareness (BA), Environmental Concern (EC), and Eco-Conscious Consumer Behavior (ECB)

The literature supports the idea that BA and EC are direct determinants of ECB [19,24]. BA regarding green products constantly reminds consumers about using green products and services [38]. Green brands create a perception in the minds of consumers regarding the green credentials of the product, which in turn encourages green consumption behavior [26], with the empirical analysis confirming that green brands have a significant positive relationship with green consumer behavior. Therefore, this study hypothesized that BA impacts ECB:

Hypothesis 7 (H7): *Brand awareness will positively raise eco-conscious consumer behavior.*

Further, studies have revealed that EC encourages green consumer behavior. Individuals worried about the environment and the dangers of environmental pollution develop green consumption behavior to protect the ecosystem [8]. An empirical investigation by Fabiola and Mayangsari [43] found that ecological concerns significantly impact green purchasing behavior among consumers. Further, Fontes, Moreira and Carlos [38] investigated the influence of concern for the ecosystem on green buying behavior. They suggested that concern for the ecosystem strongly affects green purchasing behavior. Thus, we hypothesize:

Hypothesis 8 (H8): *Environmental concern will positively raise eco-conscious consumer behavior.*

2.5. Mediating Relationships

Previous research has demonstrated that the effect of GM on ECB can be mediated by BA and EC and that this is also the case for the impact of GCV on ECB. For instance, Tariq [44] identified the mediating role of BA on the effectiveness of GM and purchase behavior. The study highlighted that BA significantly mediates the association of GM with ECB. Similarly, Majeed, Aslam, Murtaza, Attila and Molnar [14] showed that BA mediates the relationship between GM and purchase decisions. Further, brand recognition aids in establishing associations with companies and products, increasing consumers' association with particular brands when making purchase decisions [24,45]. Based on these findings, this study posits the following hypotheses:

Hypothesis 9 (H9): *Brand awareness mediates the association between eco-conscious consumer behavior and green marketing.*

Hypothesis 10 (H10): *Brand awareness mediates the association between eco-conscious consumer behavior and green customer value.*

Environmental consciousness leads to individuals striving to ensure that their actions have the fewest possible adverse environmental effects [43]. Environmental consciousness creates a link between eco-friendly initiatives and a green lifestyle. Renewable and recycled resources cause living to be more affordable [2]. Ecological consciousness facilitates a strong relationship between green consumer behavior and GM [1]. Further, strong concern for environmental issues increases the ratio of people purchasing eco-friendly goods [39]. In contrast, however, Waskito and Wahyono [46] asserted that EC does not impact the connection between green purchase behavior and consumer skepticism about green issues. This uncertainty demands further investigation into the mediating role of EC; hence, we hypothesize:

Hypothesis 11 (H11): *Environmental concern mediates the association between eco-conscious consumer behavior and green marketing.*

Hypothesis 12 (H12): *Environmental concern mediates the association between eco-conscious consumer behavior and green customer value.*

2.6. Moderating Mechanism

FO is a construct used to measure the degree of a person's behavior regarding being responsible toward a situation [25]. Prior studies have found that FO influences affective commitment in the workplace [47]. The literature has also found that the BA of green products positively impacts ECB [24,26]. The consumers with more expressive intentions will benefit from increased brand recognition, which will positively affect their purchasing intentions [41,45]. Recommendations regarding environmentally friendly products act as an influencing factor that increases the likelihood of green purchases [27]. It is imperative, therefore, to ascertain whether FO moderates the relationship between BA and ECB to determine whether commitment regulates the association of BA with ECB. Hence, we hypothesize:

Hypothesis 13 (H13): *Felt obligation strengthens the relationship between brand awareness and eco-conscious consumer behavior.*

3. Materials and Methods

3.1. Research Design, Study Population, and Data Collection Process

Based on the positivist research philosophy, a quantitative and cross-sectional research design was adopted to investigate consumers' ECB toward green products in Pakistan. The two most populous and metropolitan cities of Pakistan, i.e., Karachi and Lahore, were considered for the data collection. These two cities were chosen for three main reasons. First, responses from large metropolitan cities are better for predicting the overall population's responses [3,48]. Second, Lahore and Karachi are regarded as the most populous and culturally and ethnically diverse cities; these cities exhibit all Pakistani customers' collective and diverse beliefs [48–50]. Third, Karachi and Lahore are industry hubs that are severely affected by pollution. The data were collected using purposive sampling. Previous prominent studies [48–50] have used purposive sampling for data collection as existing databases or records of consumers were not available to allow selecting randomly.

The study participants include consumers. According to Gilal, Chandani, Gilal, Gilal, Gilal and Channa [8], from 30% to 40% of environmental degradation is caused by household consumption. This study believes that consumers play a crucial part in preventing ecological destruction and global warming by consuming green products. The preferred age considered for consumers was 25–35 years old. Previous studies in Pakistan on GM, such as Gilal et al. [8,51], have used the same age group, believing that they possess better

knowledge about green products and GM. However, the present study did not restrict the data collection exclusively to this bracket, allowing variation in age groups.

The data were collected from five main places where consumers can be easily approached, namely shopping malls, superstores, hypermarkets, restaurants, and business schools. The researchers employed two enumerators in each city to achieve optimum response rates. The role of the enumerators in this study was not confined to data collection; they were also trained to respond to any possible queries made by the respondents regarding the investigated variables and questions. Initially, 700 questionnaires were disseminated, of which 369 were returned and valid, representing a response rate of 52.7%. A sample size of 349 is considered appropriate in GM [8] and was found to be usable for the measurement and structural model. The data collection process was completed in approximately four months (from late June 2022 to September 2022) to minimize the chances of bias issues [52,53]

3.2. Scale Measurement

The present study adapted the GM scale consisting of 16 items: 13 were obtained from Zhu and Sarkis [54] and 3 from Papadas, et al. [55]. The components of GCV are an environmental image and perceived value. GCV consists of 10 items, with 5 borrowed from Chen [56] and 5 from Dodds, et al. [57]. BA was assessed using a five-item scale adapted from Sasmita and Mohd Suki [58]. EC, consisting of five items, was used as in Paul, et al. [59]. FO was evaluated with seven items from Eisenberger, et al. [60]. ECB was based on seven items adapted from Haws, et al. [61] to assess consumer behavior. These scales have been previously tested in a Pakistani context: BA [62]; GCV [63]; GM [64]; EC and ECB [4,51]; and FO [65]. The present study employed a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree to gather data for each construct of the research model. Appendix A demonstrate the details of scale item.

3.3. Statistical Tools and Techniques

Partial least squares structural equation modeling (PLS-SEM) is a variance-based path modeling method for SEM assessment, hypothesis testing, and measurement model assessment; the present study used SmartPLS 4.0 [66,67]. In addition, SPSS version 25.0 was employed for data entry and frequency distribution in the demographic profile. PLS-SEM was upgraded by Hair, Risher, Sarstedt and Ringle [66] and Hair, et al. [68], being considered as comprehensive SEM techniques. This covariance-based method is often more adaptable when working with distributed data than multivariate data analysis SEM [69,70]. The proposed strategy provides more statistical power with a smaller sample size [68]. PLS was carried out, which employs quantitative and structural models, encompassing two stages of analysis. This method suits theoretical model structures with high complexity but limited theoretical data [71]. The use of small sample sizes, nonparametric data, structural characteristics, and the examination of more substantial model structures or variations, such as heterogeneity, are among the most crucial reasons for using PLS-SEM software.

4. Results

4.1. Respondents' Profile

Table 1 outlines the respondents' demographic profile, including gender, age, education level, occupation, and monthly income. The ratio of male respondents to female respondents is 55.8% to 44.2%. Due to cultural barriers, female respondents are not easily accessible in Pakistan. Approximately 50% of consumers are between the ages of 25 and 35. The respondents' qualifications range from Bachelor's degree to other. The majority of respondents possess a Master's or MS/M.Phil (62.3%). A total of 78% of the respondents earn more than PKR 50,000 per month, followed by 22% who earn less than PKR 50,000 per month.

Table 1. Respondents' demographic profile (*n* = 349).

Criterion	Characteristics	Percentage
Gender	Male	55.8
	Female	44.2
Age (years)	20–25	12.5
	26–30	18.7
	31–35	28.4
	36–40	21.5
	>40	18.9
Qualification		13.9
	Master's	23.8
	MS/M.Phil	38.5
	Others	23.8
Occupation	Student	24.5
	Employees	44.9
	Businessman	30.6
Monthly income (PKR)	under 25,000	12.4
	26,000–50,000	11.8
	51,000–75,000	23.5
	76,000–100,000	18.5
	>100,000	33.8

Table 2 presents the descriptive statistics and correlations among the variables.

Table 2. Summary of means, standard deviations, and correlations among all variables.

Construct	Mean	SD	1	2	3	4	5	6
1. Green marketing	3.39	0.57						
2. Green customer value	3.58	0.78	0.57 **					
3. Brand awareness	4.31	0.46	0.31 **	0.53 **				
4. Environmental concern	3.99	0.49	0.31 **	0.41 **	0.31 **			
5. Felt obligation	4.11	0.41	0.36 **	0.41 **	0.33 **	0.39 **		
6. Eco-conscious consumer behavior	3.77	0.39	0.31 **	0.29 **	0.31 **	0.34 **	0.23 **	

Notes: ** $p < 0.01$ (two-tailed test); *n* = 349.

4.2. Common Method Bias

Because the data for measuring the dependent (i.e., ECB) and independent variables (i.e., GM, GCV, BA, and EC) were obtained from the same Pakistani millennial consumers using the same method, we conducted the Harman's single-factor technique to test for potential common variance [72]. Our results indicate that the single factor explains 38.312% of the total variance, which is less than 50%, indicating that common method bias does not influence the results.

4.3. Measurement Model

SmartPLS 4.0 was used for confirmatory factor analysis (CFA), examining the validity, reliability, and discriminant validity of GM, GCV, BA, EC, FO, and ECB. Table 2 displays the factor loading, composite reliability (CR), average variance extracted (AVE),

and variance inflation factor (VIF) [72]. Using factor loadings, we determined that the inter-item reliability of our theoretical model fulfills the minimum criteria of 0.50 [66]. Using the AVE to evaluate convergent validity, we confirmed that all scores exceeded the 0.50 threshold [73,74]. CR values were used to assess internal consistency and reliability and they exceeded the recommended cutoff of 0.70 [68,75]. Table 3 demonstrates that all the above thresholds were attained.

Table 3. Assessment of measurement model (*n* = 349).

Latent Variables	Loading	CR	AVE
Green marketing	0.701		
GM10	0.757	0.932	0.661
GM11	0.718		
GM13	0.727		
GM14	0.713		
GM15	0.746		
GM16	0.654		
GM2	0.689		
GM3	0.687		
GM4	0.671		
GM5	0.633		
GM6	0.715		
GM7	0.682		
GM8	0.606		
GM9			
Green customer value			
GCV1	0.79	0.914	0.523
GCV2	0.823		
GCV3	0.797		
GCV4	0.774		
GCV5	0.798		
GCV6	0.785		
GCV7	0.791		
GCV9	0.609		
Brand awareness			
BA1	0.749	0.864	0.56
BA2	0.638		
BA3	0.772		
BA4	0.785		
BA5	0.786		
Environmental concern			
EC1	0.788	0.901	0.647

Table 3. *Cont.*

Latent Variables	Loading	CR	AVE
EC2	0.832		
EC3	0.858		
EC4	0.823		
EC5	0.711		
Felt obligation			
FO1	0.758	0.866	0.781
FO2	0.713		
FO3	0.693		
FO4	0.68		
FO5	0.709		
FO6	0.7		
FO7	0.691		
Eco-conscious consumer behavior			
ECB1	0.796	0.84	0.669
ECB2	0.724		
ECB3	0.691		
ECB4	0.699		
ECB5	0.633		

Note: GM1, GM12, GCV10, GCV8, ECB6, and ECB7 were deleted due to factor loadings less than 0.6.

We used the heterotrait–monotrait (HTMT) ratio as a criterion for evaluating discriminant validity (given the criticism of Fornell and Larcker [76]). The literature suggests that discriminant validity difficulties are prevalent when the HTMT value exceeds 0.85 or 0.90 [67,77]. Table 4 reveals that all the values are less than 0.85.

Table 4. Discriminant validity: HTMT ratio of correlations.

Construct	BA	EC	ECB	FO	GCV	GM
Brand awareness (BA)						
Environmental concern (EC)	0.174					
Eco-conscious consumer behavior (ECB)	0.127	0.315				
Felt obligation (FO)	0.456	0.748	0.371			
Green customer value (GCV)	0.260	0.677	0.114	0.462		
Green marketing (GM)	0.129	0.802	0.198	0.509	0.709	

According to Hair et al. [78], the collinearity between each set of predictor variables must be investigated prior to testing the hypotheses. The formative measurement models require a test of item-level collinearity in PLS-SEM [79]. In the case of reflective measurement models, however, item-level collinearity tests are not required (see [78]). Due to our use of a reflective measuring strategy, the test for collinearity was undertaken solely at the construct level. The VIF is a standard collinearity metric; its value must be less than 5. The SmartPLS results imply no collinearity among the predictors because all the VIF values are less than 5 (see Table 5). Step two of PLS-SEM evaluates the path coefficient importance [78,80].

Table 5. Collinearity assessment (inner VIF values).

Construct	Inner VIF
Green marketing	2.599
Green customer value	2.021
Brand awareness	1.307
Environmental concern	3.04
Felt obligation	1.953

4.4. Structural Model and Path Analysis

The second step in PLS-SEM involves determining the importance of the path coefficients [80,81]. The path coefficients were evaluated using a bootstrapping approach with 5000 subsamples to test the proposed relationships [68]. The results shown in Table 6 provide empirical support for all hypothetical relationships. Regarding *H1*, GM and BA are positively correlated. Full evidence exists for the proposed relationship ($\beta = 0.412$, $t = 2.388$, $p < 0.001$), supporting *H1*. Regarding *H2*, GM and EC have a positive relationship ($\beta = 0.358$, $t = 6.473$, $p < 0.001$); *H2* is therefore supported. The empirical evidence also supports *H3*, demonstrating a positive relationship between GM and ECB ($\beta = 0.144$, $t = 3.722$, $p < 0.001$). *H4* is also supported, as GCV leads to BA ($\beta = 0.218$, $t = 4.699$, $p < 0.005$). The reciprocal relationship between GCV and EC proposed by *H5* is also supported ($\beta = 0.289$, $t = 5.052$, $p < 0.001$). The direct correlation between GCV and ECB proposed by *H6* ($\beta = 0.512$, $t = 3.973$, $p < 0.001$) is also confirmed. Further, ECB and BA were found to have a positive relationship, supporting *H7* ($\beta = 0.213$, $t = 3.457$, $p < 0.001$). Finally, support is provided for *H8* regarding the direct association between the EC and ECB ($\beta = 0.612$, $t = 2.276$, $p < 0.050$).

Table 6. Hypothesis testing and strength of the model.

Hypothesis	Relationships	β-Value	*t*-Value	*p*-Value	Decision
H1	GM → BA	0.412	2.388 ***	0.001	Supported
H2	GM → EC	0.358	6.473 ***	0.000	Supported
H3	GM → ECB	0.144	3.722 ***	0.002	Supported
H4	GCV → BA	0.218	4.699 ***	0.000	Supported
H5	GCV → EC	0.289	5.052 ***	0.000	Supported
H6	GCV → ECB	0.512	3.973 ***	0.000	Supported
H7	BA → ECB	0.213	3.457 ***	0.000	Supported
H8	EC → ECB	0.612	2.276 ***	0.050	Supported

Note: Level of significance: $p < 0.05$ ***.

4.5. Mediation Model (Indirect Effects)

The bootstrapping method was employed in the mediation analysis using SmartPLS 4.0 software to analyze the indirect effects. This method is endorsed by Preacher and Hayes [82] and Hair, Risher, Sarstedt and Ringle [66] because bootstrapping, which is a nonparametric resampling approach, is recognized as a rigorous and reliable approach. *H9* posited that BA is a mediator between GM and ECB and the results ($\beta = 0.210$, $t = 7.860$, $p < 0.01$) support this. *H10* concerns the mediation of BA between GCV and ECB. The indirect, specific effects confirm *H10* ($\beta = 0.330$, $t = 4.430$, $p < 0.01$). Regarding *H11*, we expected that EC would mediate between GCV and ECB. The results ($\beta = 0.240$, $t = 2.006$, $p < 0.01$) support *H11*. Finally, regarding *H12*, EC is expected to mediate between GM and the ECB. Our results ($\beta = 0.440$, $t = 2.085$, $p < 0.001$) provide empirical support for *H12* (see Table 7).

Table 7. Indirect relationships.

Hypothesis	Relationship	β-Value	*t*-Value	*p*-Value	Decision
H9	GM → BA → ECB	0.210	7.860 ***	0.05	Supported
H10	GCV → BA → ECB	0.330	4.430 ***	0.000	Supported
H11	GM → EC → ECB	0.440	2.085 ***	0.000	Supported
H12	GCV → EC → ECB	0.240	2.006 **	0.02	Supported

Note: Level of significance: $p < 0.05$ ***.

Hair, Risher, Sarstedt and Ringle [66] proposed employing variance accounted for (VAF) to assess whether full or partial mediation exists. In this context, VAF of more than 80% indicates full mediation, from 20% to 80% indicates partial mediation, and 20% indicates no mediation. The VAF evaluated for *H9* is 71%, showing that BA partially mediates the relationship between GM and ECB. The VAF value of 75.4% for *H10* shows that BA partially mediates the relationship between GCV and ECB. Regarding the VAF value for *H11*, i.e., EC as a mediating mechanism between GM and ECB, we found a variance of 45%, indicating partial mediation. Finally, we obtained a VAF value of 61% for *H12*, showing that EC partially mediates the relationship between GCV and ECB (see Table 8). The following formulae were used:

$$\text{VAF} = \text{indirect effect}/\text{total effect}$$

$$\text{Total effect calculated by C} = \text{C}' + (\text{a} \times \text{b})$$

Table 8. Type of mediation.

Relationship	Indirect Effect ÷ Total Effect	VAF	Decision
GM → BA → ECB	0.144 + (0.412 × 0.213) = 0.165/0.231	71%	Partial mediation
GM → EC → ECB	0.144 + (0.358 × 0.612) = 0.165/0.363	45%	Partial mediation
GCV → BA → ECB	0.512 + (0.218 × 0.213) = 0.421/0.558	75.4%	Partial mediation
GCV → EC → ECB	0.512 + (0.289 × 0.612) = 0.421/0.688	61%	Partial mediation

4.6. Moderation Model (Interaction Plot)

Using SmartPLS 4.0, the moderating effects of FO were tested regarding the relationship between BA and ECB and *H13* was supported (β = 0.22, $t = 2.920$, $p < 0.005$) (see Table 9). The interaction plot (Figure 2) shows that when FO was high, there was a positive relationship between BA and ECB.

Table 9. Moderation hypothesis.

Hypothesis	Relationships	β-Value	*t*-Value	*p*-Value	Decision
H13	FO × BA → ECB	0.22	2.910	0.005	Supported

4.7. Strength of the Moderating Effects

The magnitude of the moderating effects was assessed by comparing the R^2 value with the coefficient of determination for the moderator to the R^2 value without a moderator, which comprised both exogenous and moderating components. The following formulae were used to determine the magnitude of the moderating effects:

$$(f^2) = R^2 \text{ model with moderator} - R^2 \text{ model without moderator}$$

$$1 - R^2 \text{ model with moderator}$$

$$f^2 = 0.38 - 0.27 \div 1 - 0.38 = 17.7$$

Following Henseler and Fassott [83], a f^2 value of 0.02 suggests a low moderating influence, 0.15 a moderate influence, and 0.35 a strong influence (see Figure 2).

Figure 2 shows the effectiveness of FO. The findings show that the moderating effect value is 17.7%. This demonstrates that the magnitude of the effect of FO is moderate. Intriguingly, the moderation result was found to be significant in the present study; FO positively moderates the relationship between BA and ECB and a greater FO predicts a stronger positive relationship between BA and ECB toward green products. Therefore, the moderation proposed by *H13* is supported.
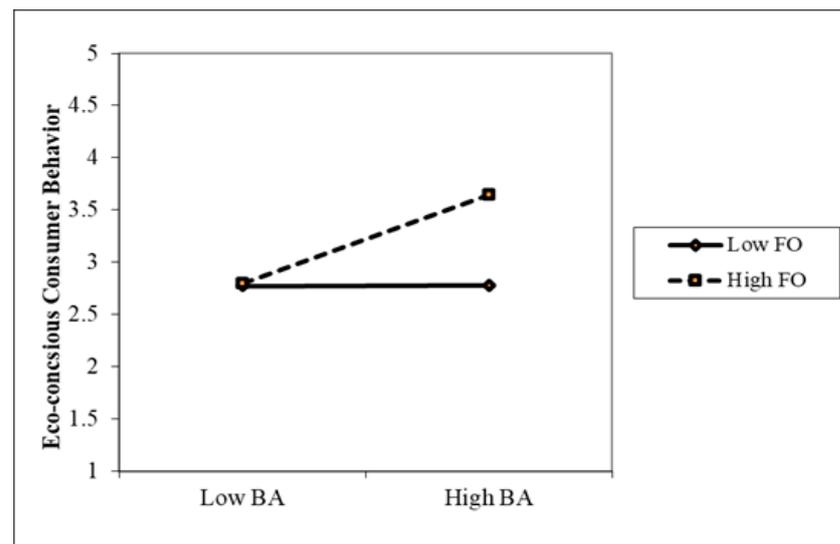

Figure 2. The role of felt obligation as a moderator.

5. Discussion

The findings of the study reveal that GM positively influences BA. In addition, the results show that BA is driven by the GM practices of businesses among Pakistani consumers. These results align with previous research [26,35,36], which has revealed that BA is created through businesses' effective marketing campaigns, such as advertisements. Furthermore, the present study also found that GM positively influences EC, showing that GM strongly influences EC among young, educated consumers in the context of green purchasing [39,58]. These results imply that consumers who are more conscious of environmental protection tend to think more about their actions [10,37].

Moreover, the results demonstrate a significant, clear link between GM and ECB. Previous research [8,63], has confirmed that GM can attract customers to ecological products. GM also contributes to the UN's Sustainable Development Goals (SDGs). According to the survey results, 100% of consumers believe that GM will be more effective than conventional marketing and 60% of respondents strongly prefer green products. Thus, our research demonstrates that GM procedures assist customers in choosing environmentally friendly products [16,40]. The findings evidence that GCV is significantly linked with BA. This positive relationship is established when GCV works well; it will create a sense of green orientation toward green products among consumers [23,58]. Hence, the present study concludes that consumers become more loyal and actively buy green products with high GCV. In addition, the findings show that GCV raises EC among consumers. The findings show significant linkages with recent studies in that GCV can result in a high level of environmental consciousness and a pro-environmental attitude [22,39].

The study's results concur with those of Hameed [4], who concluded that customers' perceptions of environmental ideals and image are the most influential factors in their views regarding green products. Consumers with GCV are more likely to invest in EC. In addition,

this study's findings indicate that GCV has a substantial impact on ECB. Customers are more likely to select a superior product if their friends provide them with more positive product feedback. This is an appropriate and effective marketing technique; for example, "direct recommendations influence 80% of all consumer decisions" (Liao et al., 2020). Consequently, greater attention must be paid to ECB regarding products' perceived value.

Interestingly, this study demonstrates that BA has a positive relationship with ECB. In this context, Bukhari [19] noted that significant BA causes customers to alter their purchasing behavior, as prior research has confirmed. However, BA attracts consumers to a product or service and increases the number of potential customers [41]. The present study also concludes that BA influences ECB. Similarly, EC mediates the relationship between GM and ECB. As previously stated, EC plays a crucial role in influencing consumers' attitudes toward green products [14]. Our data support the hypothesis that more environmentally conscious consumers participate in environmental programs [10,45].

Furthermore, our study confirms the mediating influence of BA and EC between GM and ECB. In this regard, previous research has found that consumers are more loyal to a brand when its BA is strong [1,58]. The present study concludes that consumers become more loyal and exhibit positive ECB due to GM and this association strengthens as BA increases.

According to Ahmed, Li, Khan, Qalati, Naz and Rana [39], and Fabiola and Mayangsari [43], EC can effectively build a bridge connecting GCV and ECB. Their findings suggest that behavior that is more supportive of the environment positively correlates with attitudes toward the environment and that these environmental attitudes eventually result in sustainable or pro-environmental behavior. The current study has also discovered a substantial link between GCV and ECB.

The present study also found that FO appears to strengthen the relationship between BA and ECB, which means the consumers' sense of responsibility regarding the environment leads to them feeling obliged to act ethically in favor of society [27,41]. In this context, it was found that FO directly influences the eco-consciousness of Pakistani consumers.

5.1. Theoretical and Practical Contributions

GM is considered an essential ECB predictor [14,35]. An individual's GCV, BA, and EC can alter engagement with the ecological environment [20,59]. Additionally, those with a greater understanding of green products are more likely to participate in ecological activities [26]. Further, because the theoretical notions of green purchases are restricted, the ABC theory can be used to explain the ECB phenomenon. In addition, GCV influences respondents' attitudes concerning eco-conscious product behavior. This study's aim was to apply the ABC theory to illustrate how BA may eliminate customer ambiguity. Accordingly, BA may develop favorable attitudes toward products. EC has a crucial role in marketing, potentially impacting customers through emotional arousal, which can result in favorable behavior toward adopting green products. According to Chen et al. [51], past research on ECB has concentrated on BA and EC via marketing initiatives. Thus, BA can express a consumer's positive experience through complaints and rumors. When consumers have a positive experience with green products, they tend to spread the word and recommend them.

This study offers recommendations to marketing managers for developing and implementing marketing strategies. The findings can be used to improve environmental sustainability and thus serve society. Green practices strengthen a company's ability to protect the environment and remain financially viable [84]. The findings also indicate that consumers' attitudes toward certain products are shaped by their established ideas. From the perspective of GM, BA, and EC are of the utmost importance. Both characteristics are highly predictive regarding consumer consciousness and the uptake of environmentally friendly products. Therefore, marketers should prioritize providing transparent information on green products, which can boost consumers' faith in their products, thereby satisfying environmentally conscious customers.

This study's aim was to utilize ABC theory in a GM setting and, ultimately, to comprehend customers' attitudes toward purchasing behaviors, considering external circumstances. From a managerial standpoint, this study will aid in understanding consumers' tendencies toward new products and can be used as a practical guide to develop strategies enabling consumers to exhibit the desired behavior. The study implies that marketers should develop novel, creative strategies to alter consumers' perceptions of GM. For example, in terms of price, green products should be made available to consumers at a significantly lower cost to attract consumers.

The present study also suggests implementing GM through various awareness campaigns, providing details about green products and their ecological benefits. GM's underlying principle should be to target mass consumers. Additionally, for GM to succeed, marketers must uphold three standards: sincerity to their clients regarding green products; the opportunity to participate in social activities; and the duty to protect the environment. Finally, eco-labeling in GM should be stressed over eco-friendly packaging information, as well as features that enhance ECB.

Finally, this study has identified the predictive significance of FO, which plays a crucial role in developing eco-conscious behavior. It encourages other stakeholders to raise awareness about green products that help preserve nature and the environment. In this sense, individuals also play an important role.

5.2. Limitations and Future Research

Some of the study's limitations offer suggestions for future investigations. First, although the study applied the theoretical model of ABC in general, future research can utilize the same model to evaluate other product categories, such as electrical appliances, hybrid cars, and organic food, to compare the outcomes of existing green items with those of the particular product category. The information was also gathered from young people who were already familiar with GM, GCV, and green products. However, the study lacks the experience of earlier generations to understand how the model might affect their behavior. Third, our model did not account for the influence of education and environmental knowledge. In the data collection procedure, however, they were assumed. In the future, integrating these two ideas as moderators may aid in comprehending customers' pro-environmental behavior. Fourth, although our research is based on prospective green products, it is conceivable to research actual users of green products, which can support the conclusions of previous research. Finally, our study is based on a purposive sampling method by gathering data from significant sites and business schools in Pakistan's major cities. In contrast, future research could be conducted in diverse geographic regions to corroborate our results.

6. Conclusions

People are incredibly concerned with environmental and health issues. Individuals prefer to purchase eco-friendly items and organic foods. Based on our findings, we can conclude that Pakistani society is no exception: the young and educated are interested in buying environmentally friendly items and supporting green or environmental marketing. This study aimed to investigate the conscious behavior of young, educated consumers toward green products and the current state of GM in Pakistan. In addition, we explored the growing number of elements that influence the purchase decisions of young customers in the context of eco-friendly products. This study has attempted to demonstrate the applicability of the ABC theory, as well as the inclusion of new factors (GM, GCV, BA, EC, FO, and ECB) for forecasting the behavior of young, educated customers toward green products in the Pakistani setting. The theoretical framework and PLS-SEM indicates that GM, GCV, BA, and EC exert a direct and significant positive influence on environmentally conscious consumer behavior. The results demonstrate that the extended ABC theory helps comprehend customers' ECB. Pakistani customers believe green products are incredibly beneficial for health and the environment and have no adverse health impacts. Despite

consumers' concerns, however, green products are more expensive than conventional ones. The results imply that if green products are priced lower, consumers will be more likely to purchase them and alter their lifestyles. Pakistani customers view GM as a valuable concept and it should be utilized in the country. In addition, ECB contributes to the UN's SDGs.

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Institutional Review Board Statement: This study was carried out following the ethics committee of Sukkur IBA University, Pakistan.

Informed Consent Statement: The participants consented to participate in this study.

Data Availability Statement: The data will be available on the request from the authors.

Conflicts of Interest: The authors declare that they have no competing interests.

Appendix A

Survey Instrument

Green Marketing
Item 1. Green marketing refers to the sale of green/environmentally friendly products.
Item 2. Green products refer to the sale of eco-labeled products.
Item 3. Green marketing refers to the sales of products created using ecological materials.
Item 4. Green marketing refers to products with an ecological/environmentally friendly production process.
Item 5. Green marketing refers to products created as a result of research and development processes focused on the environment.
Item 6. Green marketing refers to products with an ecological logistics system.
Item 7. Green marketing refers to products with packaging created using ecological materials.
Item 8. Green marketing refers to products with recyclable packaging.
Item 9. Green marketing refers to the promotion of ecological claims.
Item 10. Green marketing refers to companies with an environmentally focused corporate image.
Item 11. Green marketing refers to companies that promote recycling.
Item 12. Green marketing refers to companies that promote knowledge about ecology and environmental protection.
Item 13. Green marketing refers to the promotion of environmentally friendly standards and practices.
Item 14. Green marketing refers to the promotion of online advertising to reduce advertising materials created using paper.
Item 15. Green marketing refers to the promotion of e-commerce because it is more environmentally friendly.
Item 16. Green marketing refers to the use of recycled materials for advertising tools.
Green customer value
Item 1. The brand is successful about environmental performance.
Item 2 Environmental image is a key factor for any organizational existence and long-term sustainable growth.
Item 3. The environmental image could be enhanced by adopting environmentally friendly strategies, which also increase the overall organizational performance.
Item 4. Environmental image is an essential parameter for the employees, shareholders, and consumers.
Item 5. I actively participated in an environmental campaign.
Item 6. I consider this product to be a good buy.

Item 7. Perceived value is an essential element for the long-term sustainable performance of any organization.

Item 8. I always believe in the perceived value of a product or service regarding an eco-friendly environment.

Item 9. Perceived value always plays an essential role in becoming a brand for any product and service.

Item 10. Perceived value can determine the actual cost of a product.

Brand awareness

Item 1. I can recognize this particular product/brand in comparison with the other competing products/brands that appeared in social media.

Item 2. I know what this particular product/brand looks like.

Item 3. Some characteristics of the particular product/brand that appeared in social media come to my mind quickly.

Item 4. I can quickly recall the symbol or logo of the particular product/brand that appeared in social media.

Environmental concern

Item 1. I am a strong believer in the preservation of nature and wildlife.

Item 2. I am pleased to purchase green products.

Item 3. I consider the potential environmental impact of my purchase when making many of my decisions.

Item 4. I would describe myself as an environmentally responsible person.

Item 5. Major social changes are necessary to protect the natural environment.

Felt obligation

Item 1. I have an obligation to do whatever I can to help my work green environment to achieve its goals.

Item 2. I feel personally responsible for the success/failure of the green environment.

Item 3. I feel a sense of obligation to participate in all aspects of the green environment.

Item 4. I have an obligation to my work crew to ensure that I produce high-quality work on the green environment.

Item 5. I would feel an obligation to take time from my personal schedule to educate the green environment if it required.

Item 6. I would feel guilty if I do not meet the green environment standards.

Item 7. I feel any obligation that I must perform is Jon related (R).

Eco-conscious consumer behavior

Item 1. It is important to me that the products I use do not harm the environment.

Item 2. I consider the potential environmental impact of my actions when making many of my decisions.

Item 3. My purchase habits are affected by my concern for our environment.

Item 4. I am concerned about wasting the resources of our planet.

Item 5. I would describe myself as environmentally responsible.

Item 6. I am willing to be inconvenienced in order to take actions that are more environmentally friendly.

Item 7. I believe environmentally friendly products are important to save our nature.

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