

Article

Perceived Environmental Responsibilities and Green Buying Behavior: The Mediating Effect of Attitude

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Abstract: The unsustainable operations of producers account for significant carbon emission and subsequent adverse impacts on nature. This study aims to identify the factors that influence consumers' green buying behavior. The research focuses on the exploratory testing of theories using standardized questionnaires and interviews. Using a convenience selection approach, questionnaire surveys were used to gather primary data from a sample size of 305. The sample demographic reflects people who often make purchases; data were also obtained from shopping centers and elsewhere. The hypothesis testing of variables measured via five-point Likert scale questions was performed using structural equation modeling. We applied closed-ended questions relating to green buying behavior for the convenience of respondents. The empirical result established the effects of attitude, perceived severity of environmental problems, environmental concern, and subjective norms on Bangladeshi consumers' green buying behavior. Additionally, it was discovered that attitude mediates the association between the perceived environmental responsibility and green buying behavior. Therefore, the government should play a constructive role in educating the public and promoting green business initiatives through improved coordination and legislative intervention.

Keywords: green buying behavior; perceived environmental responsibilities; environmental concern; structural equation modeling



Citation: Zheng, G.; Siddik, A.B.; Masukujjaman, M.; Alam, S.S.; Akter, A. Perceived Environmental Responsibilities and Green Buying Behavior: The Mediating Effect of Attitude. *Sustainability* **2021**, *13*, 35. <https://dx.doi.org/10.3390/su13010035>

Received: 25 November 2020

Accepted: 17 December 2020

Published: 22 December 2020

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1. Introduction

Rapid population growth, particularly since the industrial revolution, has resulted in major social and environmental challenges [1]. On the one hand, economic activities such as reckless industrial practices are responsible for global warming and degradation of natural resources. On the other hand, they have also generated economic disparity across different sectors of society [2]. Furthermore, consumer indifference towards the environmental, social, and cultural effects of growing consumerism has magnified the problems [3]. Kibert et al. [4] suggest that the shortage of natural resources would soon have a significant effect on our production capacity, putting the economic sustainability of future generations at risk. Therefore, a major shift in present consumption and manufacturing practices is required to restore the ecosystem [5].

Human uncontrolled development from a purely economic perspective remains a primary factor behind environmental degradation [6], and requires a change in human attitudes [7]. Consumerism began with the goal of shielding customers from irresponsible marketing tactics and hazardous goods, but with time, its scope increased as environmental protection became a critical problem [8]. Green consumerism is the preference of customers for pro-environmental products [9]. This suggests that lower consumption, green

purchases, and decreased emissions are important ecological factors [10,11]. Green consumerism is also the social marketing of green consumption to stimulate customers [12], and serves to restore a societal balance, where personal, economic and environmental interests overlap [13,14].

Green buying behavior involves the purchase of items that are eco-friendly, recyclable or biodegradable, and the avoidance of products that are detrimental to the atmosphere and community [15,16]. Green customer behavior is measured by customers' readiness or intention to buy green goods. These customers are actively committed to or aware of their intention to acquire environmentally friendly goods [7]. There are a plethora of studies that have been conducted worldwide on pro-environmental behavior [17–22], green consumption [23–26], the purchase of eco-labeled products [27,28] and organic foods [29–32], that focus as well on various other types of green products as research objectives. However, studies on green buying behavior are limited in South Asian countries (Table 1), as only a few studies have been acknowledged from India [33–38], Pakistan [39], and Sri Lanka [40,41].

Furthermore, this paper aims to address the following gaps existing in the previous literature. First, there is limited literature on green behavior from the perspective of developing nations. A couple of studies [42,43] analyzed the marketing mix responsible for Bangladesh's progress regarding the customer's attitude towards green marketing. The other existing studies primarily deal with issues of organic foods [44,45] and the green buying behavior of grocery product [46–48]. Second, in the consumer behavior analysis, two prominent models were commonly found: one is the theory of reasoned action (TRA) model [49], and the other is the theory of planned behavior (TPB) [50], which is an extension of TRA and includes few constructs. These classical model designs or their modified version were used extensively by several researchers to validate sustainable buying intentions and behaviors [24,51–54]. There is a need to apply other theories independently or in a combination to provide solutions to unanswered questions in various cultural contexts. Currently, there has been no study that uses the Protection Motivation Theory (PMT) on green buying decisions in South Asian countries, particularly Bangladesh. Besides this, the existing studies [45,46] failed to use the theoretical frameworks of any of the working theory in this field. The PMT theory explains how the perception of the severity and response efficacy affect customers' buying behavior under risk and coping appraisal measurement. Thus, this should be integrated with the TPB model to enhance its explanatory strength.

Third, there is evidence of an attitude–behavior gap in some of the literature [55–57]. Consumer's intention is a key dependent variable of TPB. Many studies only clarify intentions, assuming that they are good behavior predictors, and mediate the effects of attitude and subjective norms on behavior [58,59]. Meanwhile, De Canniere et al. [59] reported that the predictive capacity of actual behavior is limited. Other scholars discovered that the difference between intentions and actions is most frequently clarified by the cognitive factors governing them [60,61]. Environmental concern and perceived environmental responsibility are examples of such factors that resulted from initial ecological learning, which later build a sense of responsibility. As such, the inclusion of these factors may fill the attitude–intention–behavior gap. Fourth, the past studies conducted in Bangladesh [46–48] did not investigate complex relationships such as mediation, which seems necessary when the model failed to explain the action gaps. Ashraf et al. [44] tested the mediating relations but ignored the mediator role of attitude between the perceived environmental responsibility and buying behavior.

This paper contributes to the current literature, especially on green buying behavior, in the following ways. First, the current study explores the research gap by analyzing the profound effects and underlying processes of the green buying processes and their acceptance from Bangladeshi's perspectives. Second, this study contributes to the TPB model by enhancing its robustness with some cognitive constructs such as environmental concerns, environmental responsibility, perceived severity, and response efficacy. Third, this analysis

simultaneously presents and validates the proposed model integrating TPB and PMT constructs empirically, which add to the explanatory power of the original model. For example, the empirical analysis excludes behavioral intent, which is weaker or negligible in numerous previous TPB versions. Fourth, the analysis also validates the measurement devised for this research, thus allowing potential researchers to reproduce or extend the study. Fifth, this is a pioneer study on the mediation role of attitude in the association between perceived environmental responsibility and green purchase intention. To the best of the researcher's knowledge, no study globally, including the developing countries, has investigated the subject matter to date. This research establishes a mediating relationship missing in the original model for green buying in a developing nation. In this regard, we focus on consumers who have high buying power and purchase in Bangladeshi supermarkets. Similarly, the study examines the mediating effect of attitude in the relationship between perceived environmental responsibility and green buying behavior.

The rest of the article is organized as follows: Section 2 discusses the relevant literature on green products, green marketing, theoretical framework, and hypotheses development. Section 3 presents the research methodology, which includes a data collection overview and methods of analysis. Section 4 presents the results and discussions. The paper concludes with recommendations for green commodity promotion in Bangladesh and major implications for others.

2. Literature Review

2.1. Green Products

Green products include materials with less environmental consequences and threats [62]. However, as indicated by Pickett-Baker and Ozaki [63], there are no explicit requirements for a product to be considered "green" except its "better ecological efficiency" during the manufacturing process and entire life cycle [64]. Green is sometimes termed "environmentally conscious" or "sustainable" [65]. In this sense, Suki [66] stressed the need for businesses to introduce eco-branding in order to effectively project their goods among rivals, generate additional demand, and improve buyers' green buying intention. However, according to the European Commission, green products and services are the firms' offerings that must "save energy, be free of a toxic compound, be made of recycled or reused materials, be durable and easily repaired and minimize environmental impact during a product's entire life cycle" in the paths of circular economy to ascertain smart and sustainable growth [67]. Several past studies [53,68–70] centered on consumers' green buying behaviors were conducted in Western countries. A similar topic has been investigated by several researchers in India [37,52,71], Nguyen et al. [72] in Vietnam, Souri et al. [73] in Iran, Wang [1] in Taiwan, and Wang et al. [74] in China. From the literature above, there is a disagreement on certain issues, such as environmental concerns, expected environmental degradation, and accountability. However, literature in this field is by no means extensive, as only marginal attempts have been made to address the problem in a developed nation [75], especially in the Malaysian context. Souri et al. [73] emphasized the need for further studies to diagnose the associated issues.

Table 1. Green buying behavior in South Asian countries.

Authors (Year)	Context	Sample Size/ Methods	Product	Guiding Theory/Dependent Variable	Significant Predictor
[73]	Bangladesh	319/SEM (AMOS)	Grocery	TPB/purchase behavior	Environmental awareness, environmental concern, subjective norms, perceived behavioral control and purchase intention
[42]	Bangladesh	350/Regression analysis (SPSS)	Grocery	TPB/purchase behavior	Availability of green product, purchase intention, information and price
[47]	Bangladesh	638/ PLS-SEM	Grocery	TPB/ green purchase	Environmental concern, price, perceived benefits, willingness to purchase green products and future green estimation
[39]	Pakistan	394/SEM (AMOS)	Green hotel	TPB/green consumer behaviors	Environmental consciousness, behavioral intention, personal norms and green consumer behavior
[44]	Bangladesh	337/SEM (AMOS)	Organic	TPB/organic food purchase	Trustworthiness, normative structure, self-efficacy, attitude and perceived behavioral control
[46]	Bangladesh	247/ EFA (SPSS)	Grocery	None/green purchase behavior	The desire for uniqueness, self-expressive benefits, socio-demographics and customer's belief
[45]	Bangladesh	174/ PLS-SEM	Organic Food (Tea)	None/buying intention	Trust and perceived price, product attributes, health consciousness and environmental concern
[36]	India	150/regression (SPSS)	Organic food	None/factors affecting the growth	Safety and health, impeding factors, information and availability, trust and certification, and lifestyle
[34]	India	161/Regression (SPSS)	Grocery	None/green purchasing behavior	Consciousness, environmental attitude, perceived effectiveness, participation and green purchase behavior
[35]	India	1502/MANOVA (SPSS)	Grocery	TPB and TRA/green purchase behavior	Environmental knowledge, recycling, social influence, eco-labeling, environmental messages and green purchase
[33]	India	Young people	Organic food	None/green purchase behavior	Availability, certification, price, healthy, eco-friendliness and brand
[38]	India	490/EFA (SPSS)	Grocery	TPB and TRA/green purchase behavior	Past environmental attitudes, self-identity, personal and social-environmental norms, and purchase behavior
[37]	India	403/SEM (AMOS)	Grocery	None/green product purchase	Environmental protection and responsibility, experience, environment, friendliness, social appeal and green product purchase decisions
[40]	Sri Lanka	250/ PLS-SEM	Green Hotel	None/green revisit intention	Green certification, green awards, consumers' perceived value and intention to pay a premium
[41]	Sri Lanka	238/Regression (SPSS)	Grocery	TPB/actual purchase	Environmental knowledge, environmental concern, demographics and purchase intention

2.2. Green Marketing

Green marketing entails a set of activities that are plotted to create and assist the exchange of green products and services in meeting human needs or wants [76]. This is a system that promotes eco-labeled goods and services in a bid to reduce any harmful effects on the ecosystem. The process of product promotion by green marketing depends on the product functions, manufacturing procedure, mode of advertisement, and supply chain [76,77]. However, firms with green marketing strategies often concentrate on the design, promotion, price adjustment, and distribution of goods to encourage environmental protection [76], all of which are also referred to as the green marketing mix. The product is the focal point of the green marketing mix and represents a major part of the entire green marketing strategy. Therefore, green marketing can be regarded as a brainbox that coordinates and promotes green consumerism, whereas eco-friendly goods do not only represent the main article consumed, but also refer to its material, production process, and packaging.

2.3. Green Consumption

The idea of green consumption has already gained substantial interest, as it focuses on integrating ecological consciousness into the consumption process. In 1998, the UN Human Development Report (HDR) stated, “in terms of fulfilling basic needs and promoting better standard of living, human beings should minimize the use of energy and the disposal of contaminants in order to attain sustainable consumption behavior that does not impact future civilizations prosperity.” Today, green consumption is also regarded as 5R consumption, which includes reducing, reassessing, recycling, and rescuing consumption [78]. Green consumption may contribute to sustainable growth by harmonizing between the fulfillment of demands and the preservation of the environment during the collection, usage, and handling of goods. Against this backdrop, investigating factors that influence green consumption would encourage green consumption in terms of the fair use of energy, and boost environmental settings. Therefore, green consumption is a crucial part of sustainable socio-economic development.

Researchers have examined the idea of green consumption (GC) from various viewpoints and dimensions. However, this research focused on the following aspects: GC theories [79,80] GC trends [7], GC marketing tactics [66] and GC considerations [81,82]. Prior investigations have centered primarily on the personal level, examining the effects of demographic factors such as gender, age, and revenue [24,82], as well as psychological influences on green consumption [7,24,81]. While market spending is individual conduct, consumers are not independent, just like the other economic behaviors; in other words, customers may be influenced by external factors, including their social landscape.

2.4. Theoretical Framework

2.4.1. Protection Motivation Theory

The Protection Motivation Theory (PMT) was introduced by Rogers in 1975 to establish the influence of fear factors on health habits and attitudes. In 1983, it was revised as a complete theory outline, including two key cognitive processes: hazard identification and coping assessment. The key elements of the model include perceived intensity, perceived risk, response effectiveness, and self-efficacy evaluation. The protection intention and protection behavior are two other structures of the model. In the original formulations, the constructs were used as the product of each other in the sense that there would be no protection motivation expected in the case of any of these becoming zero. In the revised version of 1983, an additive function was proposed since there were no analytical backups for the multiplicative functions [83].

As per PMT, when a person is aware of a danger, the cognitive resolution process is directed at the individual's evaluation of the threat [84]. Rogers [85] claimed that if people believe the danger is severe and threatening, they will attempt to avoid or escape it. Witte et al. [86] and Bandura [87] opined that individuals, besides their cognitive evaluation

of susceptibility to risks, often gain insights into responses against the abovementioned risk by assessing their particular personal competence (self-efficacy) and the effectiveness of the response (response efficacy).

However, Floyd et al. [88] stated that the process of hazard evaluation and coping assessment develops an understanding that increases a person's likelihood of responding to a threat. Researchers [88–91] have emphasized the role of coping and threat appraisal—when managed properly—in assisting people to defend themselves, firms, and other people.

2.4.2. Theory of Planned Behavior

The theory of planned behavior (TPB) is unparalleled in predicting human behavior, and this behavior can be controlled compared to other psychological constructs [92]. It is amongst the most important social psychology theories for forecasting people's behaviors [92]. It was initially formulated as an extension of the theory of reasoned action (TRA). The TRA suggests that a customer's usage of a product is dependent on their intention to use the product, which is formed based on the social norms [50].

Apart from using behaviors and cultural expectations to predict purchasing intent, the TPB also utilizes perceived behavioral control [92]. This theory argues that the risk of people undertaking a particular activity increases with a positive attitude towards the behavior, public acceptance of the behavior, and better control over the behavior [92]. In recent times, the TPB has been widely used in studies on different ecological concerns [38,39,42,73], water conservation [93], and ecological attitude [94]. Besides this, the latest analyses of green commodity behavior in India favored the use of TPB extensions [80,95,96]; subsequently, the model was validated to assess green buying intentions in the experiments. As already stated, TPB comprises three elements (attitude, subjective norm, and PBC) to predict the intent to acquire a given product (green goods in our case) [97].

2.5. Hypothesis Development

The decision to buy eco-friendly goods is becoming a psychological issue in the current green marketing research. The buying decision can be inherited from the interest of the consumers in supporting green enterprises [98], fulfillment of the buying activities [99], implementation of a sustainable consumption pattern [3], and willingness to spend more to obtain eco-friendly products [100]. The following are the proposed factors affecting green buying behavior (Figure 1).

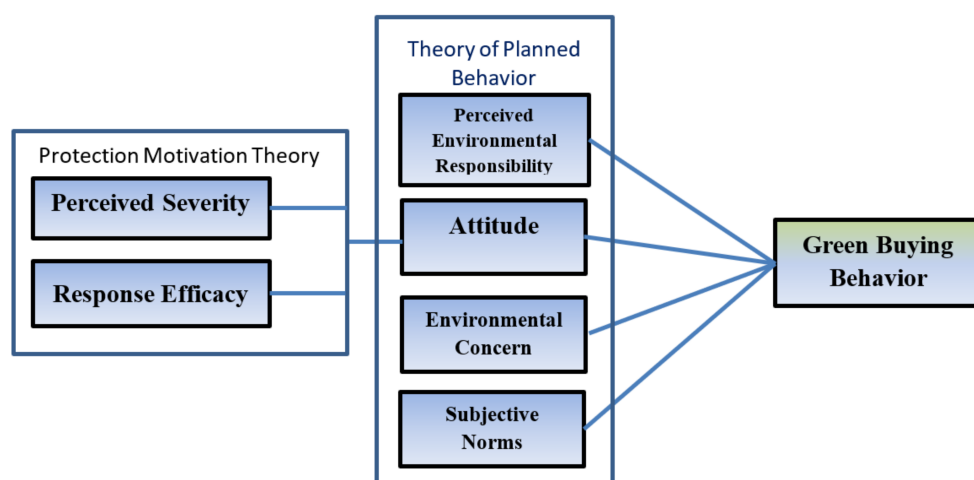


Figure 1. Conceptual Framework of the green buying behavior.

2.5.1. Subjective Norms

Subjective norms can be defined as the perceived social power to conduct a specific behavior [92]. This can be described as a response to an action taken or dropped by an individual. In other words, a person performs or leaves a certain action depending on people's approval of it. Subjective norms include details of the perceived sufficiency of actions under discussion [101], and are supposed to influence buying intent separately [102]. A study of the subjective norms in environmental analysis [103] revealed that subjective norms significantly influence sustainable food procurement [104]. Subjective norms were also proven to directly affect consumers' behavior towards green procurement [105]. Several past studies [1,53,81,106–109] reported that social pressures induce customers to buy green goods. Boztepe [110] also mentioned that it is necessary for consumers and their social groups to determine the impacts of individual product use on the environment. Based on the above argument, we postulated that:

Hypothesis 1. *There is a significant relationship between subjective norms and the green buying behavior.*

2.5.2. Attitude

The word attitude relates to how individuals respond (positively or negatively) to an action when asked to evaluate [92]. According to Lee [2], the ecological attitude is a systematic concept of the customer's appraisal of ecological buying behavior, and encompasses the customer's attitude towards green and equitable procurement. Similar to behavior, attitudes affect intent [54,111]. Contrasting findings were observed in assessing the interaction between the consumer's ecological attitude and their behavioral actions. A meta-analysis carried out in environmental behavior experiments has shown that individuals with desirable ecological behaviors are often more inclined to partake in environmentally friendly activities [112]. In addition, several experiments have established a positive association between customer's attitude and buying intent [38,48,113–115].

Nevertheless, numerous significant studies have shown that a weak relationship exists between attitude and green customer behavior [116,117]. Given the high [54,118] and low associations [116] reported in multiple research works, more studies are needed to investigate the correlation between customer attitudes and behavior towards achieving sustainable consumptions. Thus, the following hypothesis is proposed:

Hypothesis 2. *There is a significant relationship between attitude and green buying behavior.*

2.5.3. Environmental Concern

Environmental concern is defined as the degree to which people are conscious of environmental problems and their readiness to offer a solution [119]. According to Lee [120], it is the extent of emotional involvement—whether dormant or active—in environmental matters. Aman et al. [121] described environmental concern as consumers' emotional dispositions, i.e., anger towards the degradation of nature. Various authors have linked environmental concern to environmentally friendly behavior [47,48,121–123]. The study of Irawan and Darmayanti [122] indicated that Indonesian university students' green consumer behavior is highly affected by environmental concerns, whereas Albayrak et al. [123] found in their research in Turkey that environmental concern is a strong predictor of behavioral intention. Similarly, Aman et al. [122] revealed that environmental concern has a significant impact on the purchase intention of Sabahan consumers. Thus, the higher the level of environmental concern, the stronger the consumer's green buying intention and behavior. As such, the following hypothesis is held:

Hypothesis 3. *There is a positive relationship between environmental concern and green buying behavior.*

2.5.4. Perceived Environmental Responsibilities

The “perceived environmental responsibility” relates to the user’s duty to safeguard the ecology and ensure that their activity has no detrimental impact on the ecosystem or others [124,125]. All, including environmental groups, are responsible for environmental conservation [37]. The intention to take individual responsibility is reflected in the customer’s desire to spend more money to obtain green products [126–128]. In research conducted by Lee [129] in Hong Kong, environmental responsibility was shown to significantly affect adolescents’ green buying activity. In terms of gender, unlike men, women have a higher propensity to continue taking a role in addressing environmental issues. Therefore, the idea of perceived environmental responsibility requires further investigation to better understand its role as a predictor of environmentally friendly behavior and, more precisely, environmental activism [130]. Thus, the following hypotheses are postulated:

Hypothesis 4. *There is a positive relationship between perceived environmental responsibilities and green buying behavior.*

Hypothesis 5. *There is a positive relationship between perceived environmental responsibilities and attitude toward green buying.*

2.5.5. Perceived Severity

The perceived severity of vulnerability is the extent of a person’s perception of a potential danger [131]. However, researchers [132–134] have indicated that PMT frameworks, as with perceived seriousness, have a direct impact on behavior. People’s views of the severity, harm, and ecological challenges may influence their green buying behavior. The green consumer takes urgent measures against environment issues to limit their harmful effects on livelihood. The Guber [135] model merged the “perceived severity of environmental concerns” with two more ecological issues to illustrate the importance of environmental policy issues.

Furthermore, Bord and O’Connor [136] discovered that women are more concerned than men about environmental issues and their adverse impacts on their bodies. Relatively, Lee [137] found that perceived severity does not affect adolescents’ environmental behavior. Given the varying outcomes from the diverse scenarios above, the following relationship is worth studying from Bangladesh’s perspective:

Hypothesis 6. *There is a significant relationship between the perceived severity of environmental problems and attitude towards green buying.*

2.5.6. Response Efficacy

Response efficacy refers to one’s conviction that certain behaviors or actions can successfully eliminate hazard or harm [138]. The assessment of efficacy measures the impact of the suggested intervention on hazard reduction (response effectiveness). The adoption of a suggested response is induced by individuals’ safety motive, which is decided by their appraisal of how successful the response is [139,140]. Response efficacy appears synonymous with the perceived effectiveness of the suggested risk mitigation behavior [131]. Consumers must be motivated to develop their firmed efficacy if favorable behaviors are to be converted into actual sales [141]. According to Roberts [142], to improve consumers’ behavior, they must be persuaded that their actions will bring about useful transformation, such as reduced environmental harm or social equity. Previous research showed that high market productivity contributes to a rise in green consumption [13,141]. As per Wesley et al. [143], consumer efficacy was found to strongly produce socially acceptable attitude and behaviors. Studies [132–134] indicated that PMT structures, such as responsiveness, influence attitude significantly. Therefore, we propose the following:

Hypothesis 7. *There is a significant relationship between the response efficacy and attitude towards green buying.*

2.5.7. Mediating Effects of Attitude

Most times, continuous disparity exists between cognitive factors and behaviors. Without the influence of social factors, an individual's cognitive understanding may not actualize as individual behavior. In some situations, the one cognitive aspect allows others to attain real behavior. The efficacy of response implies that the potential of the action and the perceived option to impact any problem should be considered [144]. Furthermore, Eden [144] pointed out that real behavior is often positively correlated with the perceived severity of ecological issues and efficacy. Moreover, environmental responsibility increases when individuals have trust in the importance of their pro-environmental actions and are viewed as responsible agents in contrast to other social agents [145]. The mediating role of attitude between the severity of the threat, the response efficacy, and green buying behavior has not been tested widely [146], and must address the actual behavior gaps. Therefore, the following hypothesis is developed:

Hypothesis 8. *There is a mediating effect of attitude on the association between perceived environmental responsibility and green buying behavior.*

Hypothesis 9. *There is a mediating effect of attitude on the association between perceived severity and green buying behavior.*

Hypothesis 10. *There is a mediating effect of attitude on the association between response efficacy and green buying behavior.*

3. Methodology

3.1. Research Design

This is an empirical study and it is exploratory in nature. The study adopted primary data from a survey distributed among consumers to identify the factor influencing their green buying behavior. It used a cross-sectional survey method, which indicates that the data were collected to test the population's inference at a single time. The consumers of Dhaka, who are considered to more educated and prudent in making purchases, represented the population of this study. Additionally, Dhaka city is well-positioned in Bangladesh for higher purchasing ability as compared to other cities. The survey covered data mainly from superstores such as Swapno, Agora, Mina Bazar, and Unimart, as well as educational institutions for the grocery products. The questionnaire survey was designed in a structured manner.

3.2. Data Collection and Demographics

Using the G*power program for sample size sufficiency [147], the minimum sample size was determined to decide the required number of respondents for the study. According to sets proposed by Cohen [148] and for six independent constructs or predictors, the suggested sample size was 146 (Figure 2) ($f^2 = 0.15$ for effect size, $\alpha = 0.05$ for error type 1 and $\beta = 0.20$ for error type 2). However, Barclay et al. [149] specified a 10-times sampling rule, in which 10 is multiplied by the maximum number of formative indicators used in the SEM method. Given these rules, the study requires 290 (10×29) respondents. Moreover, a minimum sample size of 100, proposed by Reinartz et al. [150], is required for the use of Partial Least Square-Structural Equation Modeling (PLS-SEM). However, to minimize potential problems arising from a limited sample size, 320 respondents were approached using non-probability convenience sampling techniques. Still, after the screening of the incomplete queries, 305 samples were eventually selected. The convenience sampling approach was a feasible option owing to the reduced expenses and comfort enjoyed in acquiring the required respondents.

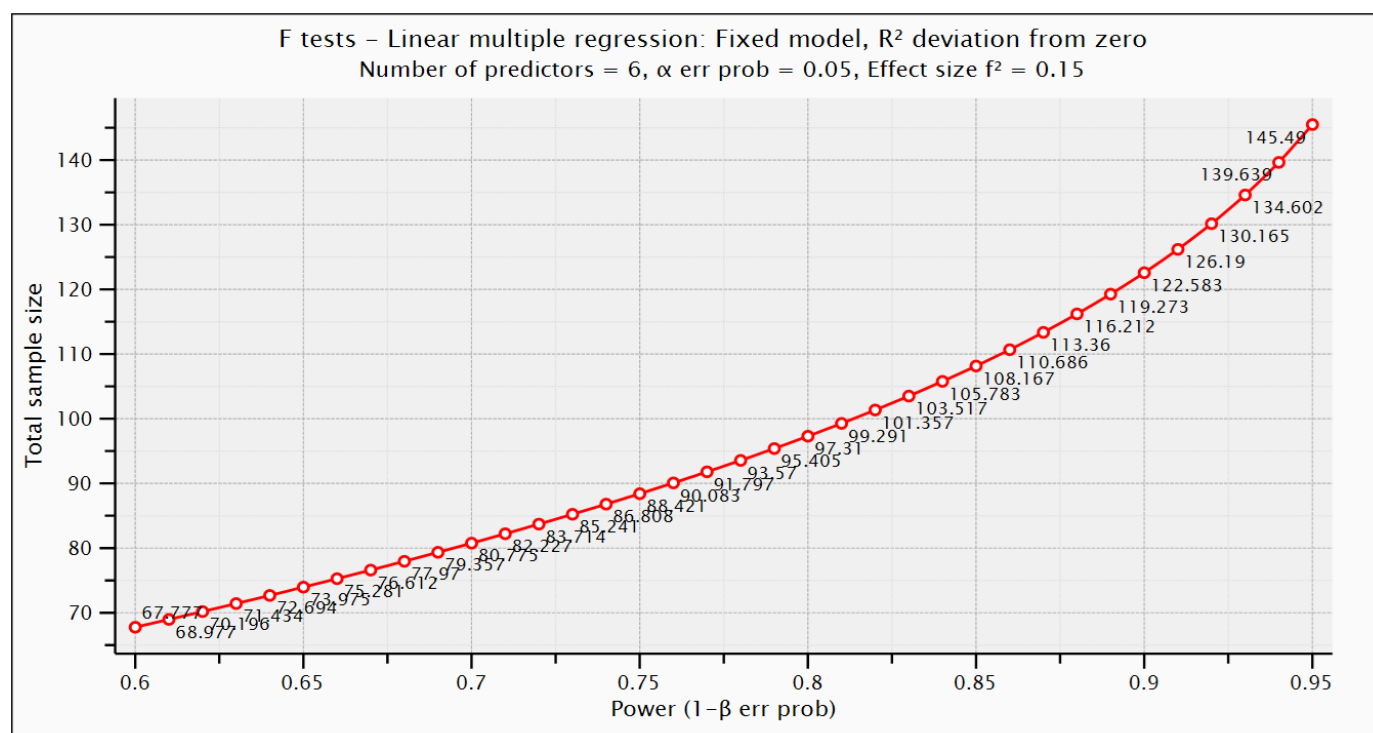


Figure 2. G*power distribution plot with settings.

A large percentage of the respondents (69.8%) were male. Similarly, 43.3% of the respondents were graduates, followed by 38% postgraduates. However, around 33.4% of the respondents were students, while 23% were private service holders. Regarding the respondents' income levels, approximately 56.4% of the respondents earned between BDT 20,000 and BDT 40,000, while 20% received less than BDT 20,000 per month. The age composition of the population shows that a majority (40.3%) of the respondents were in the age range 26–30 years, followed by the age group of <25 years (23.3%); this indicates that the respondents were mature enough to comment on issues highlighted in this study (Table 2).

Table 2. Demographic profile of the respondents.

Aspects	Classification	F	%	Aspects	Classification	F	%
Gender	Male	213	69.8	Income (BDT)	Up to 20,000	61	20.0
	Female	92	30.2		20,000–40,000	172	56.4
	<25	71	23.3		40,000–60,000	32	10.5
Age	26–30	123	40.3		60,000–80,000	30	09.8
	31–40	62	20.3		>80,000	10	03.3
	41–50	40	13.1	Profession	Student	102	33.4
	>51	9	2.9		Business	48	15.7
	HSC or Equivalent	81	26.6		Govt. employees	55	18.03
Education level	Graduate/Degree/Diploma	132	43.3		Private Employees	70	23.0
	Postgraduate	87	28.5		Housewife	30	9.84
	MPhil/PhD	5	1.6				

3.3. Measurement

The measurement scales used in this research were validated in earlier studies [92,151–154]. The wordings have been altered to better capture the green product buying behavior.

Consequently, we conducted a pretest on 20 respondents to test the suitability of the questionnaire. A 5-point Likert scale, ranging from “strongly disagree” to “strongly agree”, was used to assess the research’s variables except for demographics. There were no open-ended measurement scale issues. Full measurement indicators and their references are shown in Table 3.

Table 3. The measurement scale.

SL	Statements	Source
Subjective Norms		
SN-1	I learn frequently from my friends about eco-friendly products.	[153]
SN-2	I interact with my friends on environmental issues.	
SN-3	I often buy eco-friendly products based on my family member’s reference.	
SN-4	I often share green products’ information with my friends.	
Attitude		
Att-1	It is critical to endorse green life style in BD.	[154]
Att-2	We need environmental conservation projects in BD.	
Att-3	We need to raise environmental awareness in BD.	
Att-4	It is none of my business to care about ecological protection issues	
Att-5	Spending huge amount on environmental protection is unwise for BD.	
Environmental Concern		
EC-1	The environment of Bangladesh is my major concern.	[127]
EC-2	I am emotionally disturbed by the ecological issue in BD.	
EC-3	I often think about the environmental quality improvement in BD.	
Perceived Severity		
PS-1	I think environmental problems of Bangladesh are worsening.	[153]
PS-2	Environmental problems of Bangladeshi are threatening our health.	
PS-3	In my opinion, the environmental problems of BD must be dealt with urgently	
PS-4	Bio-diversity challenges are harming the reputation of BD.	
Perceived Environmental Responsibilities		
PER-1	Environmental safeguard begins with me.	[153]
PER-2	I think I should have wider obligation for safeguarding the environment.	
PER-3	Since I was young, I have taken resolution for environmental conservation.	
PER-4	I am able to take responsibility for environmental conservation in BD.	
PER-5	Environmental conservation is not my obligation, but that of the government.	
Response Efficacy		
RE-1	I think that I will contribute to our world if I care about environment in my daily life.	[133]
RE-2	I hope that my involvement in environmental conservation will also positively affect my family and friends.	
RE-3	Bangladesh’s environmental standard will remain the same even if I indulge in pro-environmental behavior.	
RE-4	Even if I recycle and reuse stuff, the ecological quality of BD will remain the same.	
Green Buying Behavior (GBB)		
GBB-1	Before any purchase, I check product labels and see if it contains things that are harmful to the environment	[153]
GBB-2	When the characteristics of the products are identical, I prefer green goods to non-green products.	
GBB-3	I prefer to purchase items that are environmentally friendly.	
GBB-4	I buy green goods even though they are costlier than non-green products.	

4. Data Analysis and Findings

Using Smart-PLS version 3.0, the data were analyzed. Although the software has two covariance-based competing strategies (SEM and PLS-SEM), we used the partial least

square structural equation modeling (PLS-SEM) technique to evaluate theories in this current analysis due to several reasons. First, PLS-SEM gives the intensity and statistical value of each path in particular. Therefore, it allows the investigator to analyze structural models, including multiple objects with direct and indirect pathways in order to determine the predictor's variation. Second, PLS-SEM was reported to be an efficient research method for assessing and managing interactions by reducing type 2 error [155]. Thirdly, it is a non-parametric method, as indicated by statistical experts [156–158]. This means that normally distributed data are not needed, and the technique can be used in a small-sample study. Recently, PLS-SEM has attracted significant attention in several areas, such as marketing, strategic management, management of operations, and human resources [159].

4.1. Measurement Model: Reliability and Validity Test

In the measurement model, the internal reliability (consistency), convergent and discriminant validity of the factor were investigated. Construct reliability has been inspected with Cronbach's alpha and composite reliability. Table 4 shows that Cronbach's alpha ranges from 0.806 to 0.925, and composite reliability varies between 0.885 and 0.943, both of which exceed 0.70 [160], indicating that the measurements are accurate. Besides, the values of Dillon–Goldstein rho were greater than 0.9 for all constructions. Convergent validity was tested by extracting factor item loads, composite reliability, and average variance (AVE). Convergent validity was achieved in this analysis since the factor item load, composite reliability, and AVE were greater than 0.60, 0.70, and 0.50, respectively [160]. To avoid any objections, variables such as perceived severity (PS4 = 0.421) and subjective norms (SN2 = 0.673) were removed for not meeting the criteria above (Figure 3).

In addition, the discriminant validity of constructs was tested by applying the Fornell–Larcker criterion and Heterotrait–Monotrait Ratio (HTMT) estimates in this investigation. As per the Fornell–Larcker's method for assessing the discriminating validity of a construct [161], the square root of an AVE value of a variable should be higher than its highest correlation with every other model variable [160]. Consequently, the square root of each AVE construct surpasses its highest correlation with all the other constructs in this study, suggesting that the discriminating validity was accomplished (Table 5).

Likewise, the Heterotrait–Monotraits ratio (HTMT), which is compatible with the deattenuated construct score, is a measure of the correlation between the constructs (Table 6). This study finds no discriminant validity problem [162], as all indicators did not exceed the threshold value of 0.9. In general, the study indicates that the reliability and validity of the data are adequate.

4.2. Testing Normality, Multicollinearity and Coefficient of Determination

The variance equality measures, multivariate normal distribution, and error independence were initially tested in the present analysis. As indicated, this study included a comparatively large sample (305 study participants), which culminated in the Central Limit Theorem being adopted. Subsequently, the normality of the data was uneven. The variance inflation factor (VIF) method was used to evaluate the existence of multicollinearity among predictors in this analysis [163]. The regression analysis results reveal VIF values ranging from 1.586 to 3.980, i.e., between 1 and 5 [164], indicating a lack of multicollinearity problem in this study (Table 7).

The scholars Santosa et al. [165] suggested a need to calculate the model's explanatory strength by evaluating the dependent variables (R^2). Falk and Miller [166] suggested that the dependent variable R^2 should equal to 0.10. According to Cohen [166], the R^2 value of 0.26 is considered meaningful, followed by a fair estimate of 0.13 and a disappointingly low value of 0.02. The R^2 estimates of each dependent variable value (see Table 7) in this study are based on preconditions in the partial least square analysis, as indicated by Falk and Miller [167]. Here, the R^2 estimate of the endogenous variable was 0.334, signifying that the independent variables explain 33.4% of the variance in consumers' purchasing behaviors

regarding green products. Given the above 0.8 R^2 value of all the dependent constructs of the experiment, the model is assumed to have a very high explanatory strength [168].

4.3. Structural Model

The current study assessed the value of the path coefficients of the structural model using the 95 percent bias-corrected and accelerated confidence interval (BCa CI) obtained by bootstrapping with 5000 re-samples. The predictive relevance of the structural model is well established based on the blindfolding with an omission distance of 7, as a cross-validated redundancy result (Stone Geisser test, Q^2) of the independent variable was higher than 0 ($Q_2 = 0.693$ and 0.655) [169]. Furthermore, the overall model was below 0.08, and was thus found adequate using the “standardized root mean square residual” (SRMR = 0.059) for model validation [169]. Besides this, the bootstrapping method shows that all five variables directly affect the relationship between constructs (due to a non-zero in 95 percent BCa bootstrap intervals). Hair et al. [156] clarified that the path coefficient is relevant if “the confidence interval is other than zero.”

Table 4. Factor loadings and reliability statistics.

Constructs	Items	Loadings	Cronbach's Alpha	Composite Reliability	AVE	rho_A
Attitude	Att1	0.924	0.920	0.941	0.761	0.936
	Att2	0.927				
	Att3	0.930				
	Att4	0.750				
	Att5	0.815				
Environmental Concern	EC1	0.859	0.806	0.885	0.720	0.807
	EC2	0.823				
	EC3	0.864				
Perceived Environmental Responsibility	PER1	0.869	0.925	0.943	0.767	9.42
	PER2	0.914				
	PER3	0.828				
	PER4	0.933				
	PER5	0.831				
Perceived Severity	PS1	0.935	0.893	0.933	0.823	0.895
	PS2	0.885				
	PS3	0.901				
Response Efficacy	RE1	0.731	0.907	0.907	0.710	0.907
	RE2	0.877				
	RE3	0.844				
	RE4	0.908				
Subjective Norms	SN1	0.903	0.842	0.904	0.759	0.868
	SN3	0.835				
	SN4	0.874				
Green Buying Behavior	GBB1	0.912	0.915	0.942	0.802	0.915
	GBB2	0.934				
	GBB3	0.771				
	GBB4	0.949				

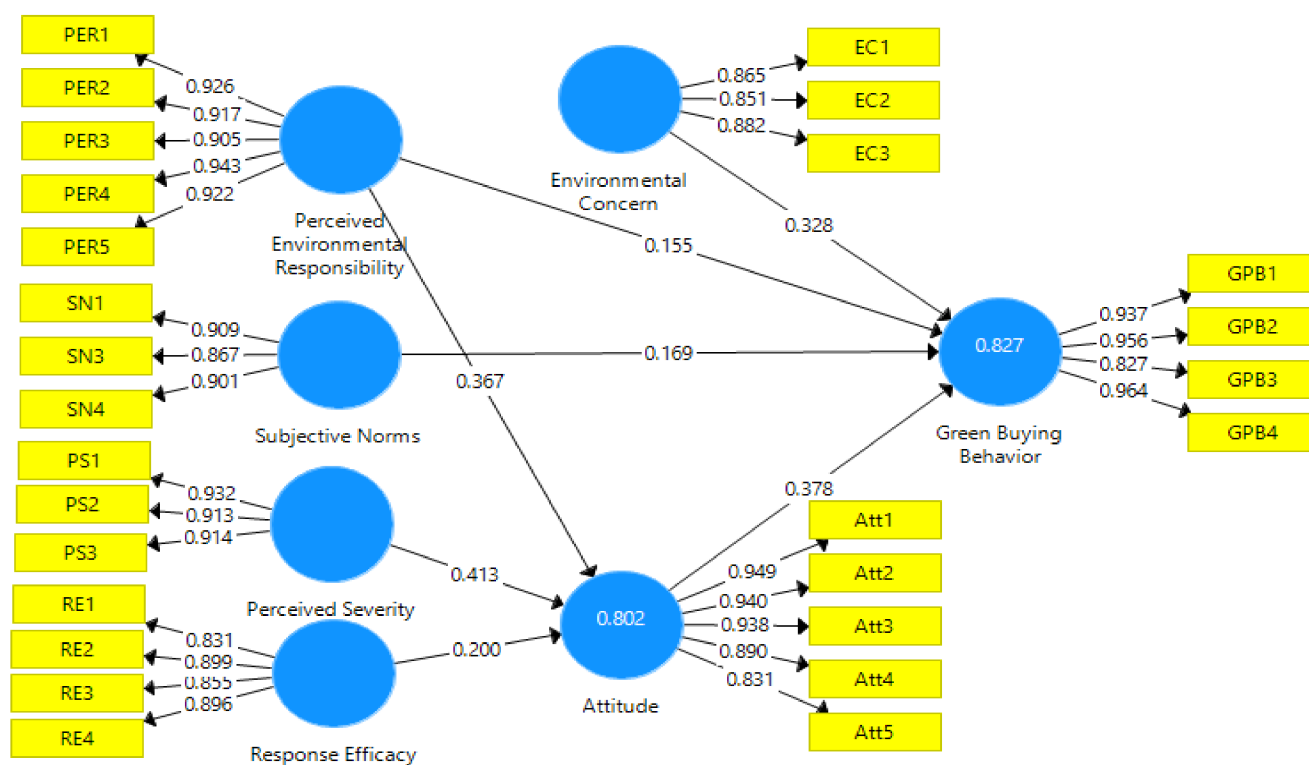


Figure 3. Measurement model of green buying behavior.

Table 5. Fornell–Larcker correlation matrix.

	Att	EC	GBB	PER	PS	RE	SN	Discriminant Validity
Att	0.911 *							Yes
EC	0.746	0.866						Yes
GBB	0.846	0.825	0.923					Yes
PER	0.833	0.774	0.817	0.923				Yes
PS	0.829	0.770	0.787	0.754	0.920			Yes
RE	0.770	0.710	0.717	0.773	0.695	0.871		Yes
SN	0.562	0.565	0.653	0.556	0.536	0.602	0.893	Yes

* Diagonal-bold values are the Square root of AVE.

Table 6. Heterotrait–Monotrait ratio (HTMT).

	Att	EC	GBB	PER	PS	RE	SN
Att	–						
EC	0.834	–					
GBB	0.893	0.897	–				
PER	0.869	0.866	0.859	–			
PS	0.888	0.884	0.852	0.803	–		
RE	0.823	0.813	0.774	0.828	0.759	–	
SN	0.612	0.658	0.717	0.602	0.601	0.670	–

Table 7. VIF value and coefficient of determination (R^2).

Construct	VIF		R^2	
	Attitude	GBB	Value	Strength
Attitude		3.644	0.802	Very strong
Environmental concern		2.842		
Perceived environmental responsibility	3.205	3.980		
Perceived severity	2.497			
Response efficacy	2.674			
Subjective norms		1.586		
Green buying behavior			0.827	Very strong

The outcome of this research (Table 8 & Figure 4) indicates that there were statistically significant and positive relationships between subjective norms ($\beta = 0.169$, $p < 0.01$), attitudes ($\beta = 0.378$, $p < 0.05$), environmental concern ($\beta = 0.328$, $p < 0.01$), and the green buying behavior of consumers. It was also observed that the relationship between perceived severity ($\beta = 0.413$, $p > 0.01$), response efficacy ($\beta = 0.200$, $p < 0.01$), perceived environmental responsibilities ($\beta = 0.367$, $p < 0.01$), and attitude is significant. However, perceived environmental responsibilities ($\beta = 0.155$, $p > 0.05$) are not significantly related to green buying behavior. Therefore, the result supports all the proposed hypotheses (H_1 , H_2 , H_3 , H_5 , H_6 , and H_7) except the fourth hypothesis.

In estimating a structural model by employing Cohen f^2 , the impact size has to be calculated [148]. Cohen [148] suggests that $f^2 \geq 0.02$, 0.15, and 0.30 indicate small, medium, and large effect sizes, respectively. Table 5 reveals that all factors affecting the intention to adopt green buying behavior had a medium effect size except for the perceived severity, which had a large effect size.

Table 8. Structural model and hypothesis testing result.

Hypothesis	STD Beta	STD Error	t-Values	p-Values	Confidence Interval 95%	Sig ($p < 0.05$)	Q^2	f^2
H1: SN \rightarrow GBB	0.169	0.064	2.651	0.008	(0.054, 0.304)	S	0.104	medium
H2: Att \rightarrow GBB	0.378	0.171	2.207	0.027	(0.048, 0.659)	S	0.693	medium
H3: EC \rightarrow GBB	0.328	0.089	3.679	0.000	(0.169, 0.514)	S	0.219	medium
H4: PER \rightarrow GBB	0.155	0.146	1.056	0.291	(−0.109, 0.443)	NS	0.035	None
H5: PER \rightarrow Att	0.367	0.123	2.995	0.003	(0.113, 0.580)	S	0.212	medium
H6: PS \rightarrow Att	0.413	0.105	3.951	0.000	(0.223, 0.627)	S	0.655	High
H7: RE \rightarrow Att	0.200	0.083	2.419	0.016	(0.059, 0.383)	S	0.075	medium

Note: S = Supported, NS = Not supported, Att = Attitude, EC = Environmental concern, GBB = Green buying behavior, PS = Perceived severity, RE = Response efficacy, SN = Subjective norms.

4.4. Testing the Mediating Effect of Attitude

In this research, the bootstrapping approach has been used to examine the mediation impact of attitude on the connection between perceived environmental responsibility, perceived severity, response efficacy, and green buying behavior based on the suggestions of Hair Jr. et al. [170,171]. The bootstrapping approach does not need to presume the products' sampling distributions or the indirect effect [170,171]. The mediating impact was checked on 305 cases as well as 5000 subsamples using SmartPLS 3.0.

The research outcome is demonstrated in Table 9. Attitude mediates the association between perceived environmental responsibility and green buying behavior ($\beta = 0.139$, t -value = 2.157, $p < 0.05$). In reverse, attitude does not mediate between perceived severity ($\beta = 0.156$, t -value = 1.682, at $p > 0.05$), response efficacy ($\beta = 0.075$, t -value = 1.559, at $p > 0.05$) and green buying behavior, thus supporting H8, while rejecting H9 and H10.

However, the mediation effect is full, as the direct (β_{XY}) relation is insignificant, while the indirect relationship between (β_{XM}) and (β_{MY}) was found to be significant, with the inclusion of mediators in all cases.

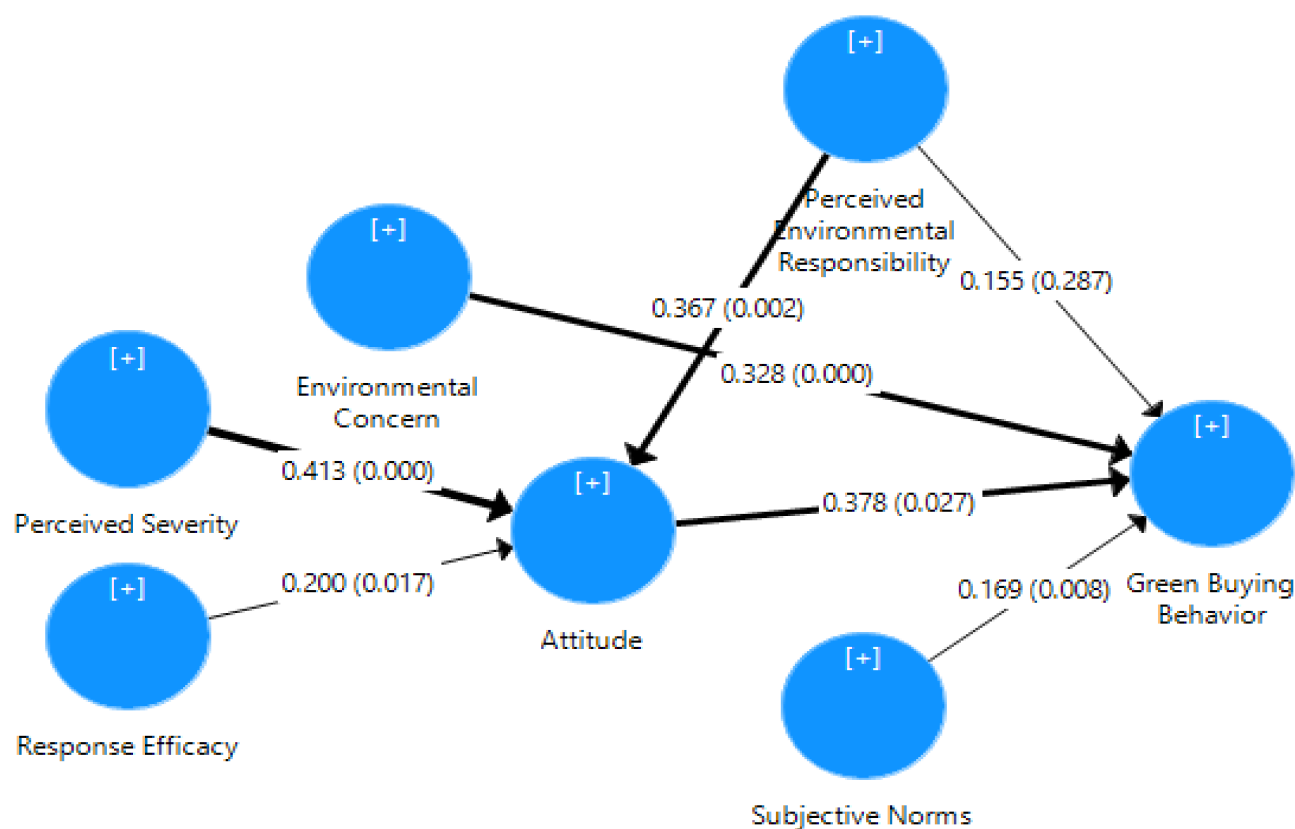


Figure 4. Structural model of green buying behavior.

Table 9. Mediating effect of attitudes.

Hypotheses	Relationships	beta	Standard Error	t-Value	p-Value	Decision at 5% Significance Level
H8	PER → Att → GBB	0.139	0.064	2.157	0.031	Full Mediation
H9	PS → Att → GBB	0.156	0.093	1.682	0.093	No Mediation
H10	RE → Att → GBB	0.075	0.048	1.559	0.119	No Mediation

5. Discussion

The study experimented with selected constructs of TPB and PMT to determine the predictors of green consumer behavior in the context of the least developed countries. The study examines the impact of attitude, subjective norms, and environmental concern on green buying behavior. It creates a path from the cognitive factors (risk and coping assessment) to green buying behavior through mediators such as attitude. In the combined model, the R^2 value of buying behavior was 0.827, which means that the independent variables explain 82.7% of the variation in consumers' green buying behavior. This value is higher than 0.271 in the initial TPB model [172]. With respect to the green buying behavior being the dependent variable, the explanatory power is much higher than the TPB's previously extended studies [173]. These findings dictate that, since the preferred TPBs can interpret green buying activity, the proposed model is considered robust, sufficient, reliable, and efficient for explaining eco-labeling purchases.

Given the severity of the existing environmental issues, market environmental conditions are becoming popular. The Hypothesis 2 results showed that attitude has a pos-

itive impact on sustainable purchases. The results are consistent with earlier findings, demonstrating the existence of a positive connection between attitude and green consumption [16,174]. The outcome can be highlighted by the fact that a person's cognitive and logical assessment of the value of sustainable consumption activities forms part of their attitude towards sustainable consumption [35]. Consumers are likely to make logical and cognitive judgments when exhibiting sustainable behavior [175]. In this research, the attitude was discovered to be a strong predictor of intentions, which is consistent with several past studies [53,74,176–179]. Additionally, there are other studies [180–182] that reported the significant but weaker relationship of attitude. People became aware of the advantages of environmentally friendly goods after using them for some time. In addition, the attitude towards green goods also mediated the relationship between perceived environmental responsibility and green buying behavior [H₈]. This result entails the necessity of a green obligation to green activity, in order to attain a positive attitude towards environmentally friendly goods.

The second most powerful predictor is environmental concern. This study explored factors that affect the green buying behavior of consumers in a developing world. Empirical findings (Hypothesis 3) found that environmental issues have a substantial effect on consumers' behavior towards the consumption of green goods. This implied that the greater the concern for environmental sustainability, the more likely customers would be to deliberately buy green goods. These findings confirm previous studies [128,183] and also compliment other studies [53,184,185]. Consumers are concerned about the protection of the environment and search for ways to improve environmental sustainability.

As hypothesized (H₁) in an inquiry into whether subjective expectations positively impact consumers' green buying behavior, the PLS-SEM approach has shown that peers affect the green buying behavior of consumers. The findings indicate that peer advice, particularly for young people who want to behave like their peers to preserve the subjective standard, is strong. In other words, as friends eventually share their experiences of green product purchases and inspire people to follow suit, they are also subjected to environmental questions. These findings authenticate the findings of past researchers [72,183,186]. The greater influence on consumers' sustainable buying behavior of subjective norms can also suggest the "group effect" [187]. This result contradicts many past studies [180,187,188] that failed to prove the relationships.

Surprisingly, the predicted (H₄) positive impact of perceived environmental responsibility (PER) on the green buying behavior of consumers was proved wrong. Thus, it is deduced that customers' green buying behavior is not primarily affected by PER. This finding also shows that the preservation of the environment is beyond the consumers' responsibility in society. Such findings may result from respondents' failure to live up to the need to protect the environment, and their unwillingness to recognize their responsibilities in this respect. The findings of the analysis are similar to those reported in several previous studies [37,126,127,130]. According to Paco and Gouveia Rodrigues [130], people exhibit low participation in environmental causes, despite their perceived environmental obligation. However, when an attitude mediates green buying intention, the perceived environmental obligation is renewed. This finding suggests that the predictability of PER in green consumer behavior is limited to the negative effects of green goods. In accordance with Hypothesis 5, the study revealed that perceived environmental responsibility positively affects the attitude towards green buying. This means that the relationship shows that environmental consciousness does not necessarily translate into real actions unless a positive attitude is observed.

This relationship is both evident and important regarding consumer's perceptions towards green goods with respect to the perceived seriousness of environmental problems. The findings (Hypothesis 6) indicate that customers with a profound understanding of the problem of the deterioration of the environment are prone to accept green products. Concerning the mindset as a mediator in this regard, the outcome was insignificant. The results show that a stronger attitude does not affect the consumer's green buying behavior

despite their awareness of the seriousness of existing environmental problems. In other words, although consumers are fully convinced of the severity of the environmental challenges, they act differently when judging corporations' green credentials. This observation implied that a link is missing between the building blocks that form a consumer's green buying behavior. This link may be other behavioral, personal, and situational variables, possibly overshadowing the impact of consumer environmental responsibility. The perceived severity of the environmental problem is confirmed to have strong predicting power for attitude towards green behavior, which is in line with the study of Sinnapan et al. [153].

Response efficacy is an alternative to consumers' responsiveness or perceived effectiveness in eliminating a barrier to reach actual behavior. Against Hypothesis 7, the outcome indicates that response efficacy is a valid predictor of attitude towards the purchase of green product. These findings satisfy past studies [132–134]. Furthermore, response efficacy seems to have the least impression on green product behavior among the variables considered—the more successful the response, the greater the customer's attitude towards green purchases. Subsequently, further analysis was performed to check the moderating role of response efficacy in this relationship. As such, the posited hypothesis was not supported. This implies that responsiveness alone does not persuade the consumer to buy the green product despite their positive attitude. The outcome suggests other situational factors, such as attitude–behavior disparity, might be responsible for economic costs and the lack of environmental education [189].

6. Conclusions

The study aimed to identify the factors that influence the consumers' green buying behavior and ascertain the relationships of these factors with green buying behavior. After rigorous data analysis in the SEM approach, it was found that five of the six proposed factors, i.e., subjective norms, environmental attitude, response efficacy, environmental concern, and perceived severity of ecological problems, predict green buying behavior. Among the significant factors, perceived severity has the strongest predictive power in understanding attitude towards green products, while attitude becomes the mightiest predictor of green buying intention. The subsequent mediation analysis confirmed that attitude mediates between the perceived environmental responsibility and green buying behavior. Thus, the research offers a bridging stone for both the managers and academics involved in policymaking, and facilitates new knowledge generation for the concerned people.

7. Implications of the Study

7.1. Managerial Implications

This paper has critical management insights. It advises decisionmakers and campaign managers about the main predictors of the green purchasing behavior of the customer. Marketers should understand the factors and challenges of green buying activity, as this awareness allows them to adapt their goods to facilitate green purchasing behavior. First, the current study identifies the main predictors of green purchasing. It will allow advertisers to build strategies to persuade customers to buy sustainable goods. The study shows a beneficial correlation between driving environmental responsibility and the sustainable purchasing decisions of consumers. Therefore, marketing experts should clarify to consumers that they would meet their environmental conservation obligations and responsibilities by purchasing and utilizing environmentally friendly goods. Consumer-oriented policies stressing customers' environmental obligations and proposing sustainable purchases to satisfy them would drive sustainable goods sales.

Second, since subjective norms were shown to be key predictors of green consumer behavior, a person will probably participate in ecological behaviors based on the existing subjective norms. McMillan and Chavis [190] proposed that a sense of community could catalyze the involvement of active groups. This sense of unity will promote the participation of people in the community's growth, tourism, civic engagement, elections, voluntary

services, preservation of public space quality and recycling [191]. Awareness of the society can reinforce people's perceptions regarding pressing needs, and consequently attracts a fast solution. Pro-environmental action has a social significance. If collaborative measures are taken, crises can be effectively resolved. Advertisers and marketers may affect the youth's sustainable purchasing behavior by improving social standards. Strengthening green social standards and generating social forces could affect the sustainable consumption actions of people of all ages. To accomplish this, sustainable marketing strategies must consider persuading consumers to address sustainable consumer practices in social groups, and to circulate sustainable goods among their family members openly. Similarly, the involvement of parents, peers, and other community participants in sustainable projects such as tree planting should be encouraged.

Third, attitudes towards green buying and perceived marketing impact often emerge as significant green buying behavior measures. The above means that consumers are attentive to the environmental effects of green buys. Moreover, as young consumers, in particular, appear to think more critically, messages appealing to their logic could be disseminated to promote green buying behavior promptly. Additionally, green marketers can target young buyers, as mature people tend to follow the trend gradually. Messages may be formulated with emotional and logically appealing content to illustrate particular environmental or social problems in order to educate and inspire shoppers.

7.2. Policy Implications

The current research also has important public policy ramifications. First, the findings suggest that environmental issues and principles are the key driving factors for a customer to research green goods. Policymakers may further sustain and cultivate this pattern by educating the community. Consumers are typically doubtful of manufacturers' sustainability claims and find it difficult to distinguish green goods. Environmental education should, therefore, communicate an awareness of how customers can recognize green goods. Second, the government might establish schemes for engaging more consumers in different types of sustainability practices, such as tree planting and recycling, to encourage green behavior against environmental issues. Schools and colleges should coordinate programs and activities to teach students about environmental problems and their contributions to ecological conservation. Eco-friendly activities could also be enlisted as an essential component of companies' corporate social responsibility. Besides this, in partnership with private companies, the government could conduct environmental campaigns in schools and other public platforms.

Third, since subjective norms provide valuable foresight as regards green buying behavior, the value of (peer group) collaboration in protecting and enhancing the environment should be stressed in various ways. A successful way to make consumers understand the ecosystem and its value is to create more prospects for them to witness natural beauty within their surroundings. Some team-building projects such as tree planting may be offered to teach people how to be involved. Such actions can give participants a feeling of empowerment. The government should encourage public understanding of ecological and sustainable issues in order to raise public awareness.

Fourth, relevant reminders may be placed in rooms to encourage consumers to protect the environment without being self-centered [190]. This will give them a sense of environmental responsibility. Given consumers' socio-economic and educational history, increasing market behavior among Bangladeshi consumers might be a challenge for governments. Many customers believe that governments and companies should solve ecological problems and do not feel directly responsible for them. Consequently, the government may need to regularly advertize and emphasize the capability of each user in saving the world. As such, this environmental attachment will have a major effect on environmental degradation problems [54].

Fifth, the government should come up with eco-labeling initiatives according to the standards of various developed and developing countries. Eco-labeling can inform the

consumers about the status of products in terms of the green practices associated with their production. The consumer has the right to be informed about the green practices of firms. In Bangladesh, the government only informs about the label of the Bangladesh Standard Testing Institute (BSTI) pasted on the product as an indication of quality. They should set up an independent institution similar to Malaysia's one (MyHIJAU) to oversee the administration of eco-labeling [192]. Bangladesh could emulate the strategies of Malaysia or India, as these countries have handled similar customer experiences. Besides, the agricultural ministry, energy regulatory commission, and water development board in Bangladesh may also engage in eco-labeling via exercising good agricultural practice, energy efficiency, water-saving, and organic certification [193] to shape consumer's behavior in the right direction. Bangladesh should be enlisted as a full member of the global eco-labeling network (GEN), which currently consists of 26 member countries, including India [192].

8. Limitations and Scope of the Future Study

While the estimators of behavior inclined towards green products have been established, few issues remain unaddressed. The perceived behavioral controls of cognitive aspects and the cost of the product could be included in this model as internal and external factors respectively. There is a need for further empirical tests to establish the causes of the attitude–behavior gap and justify the strength of this model's predictability. The model could also have further experimented with the other PMT constructs in the study, for the same reason mentioned earlier. Furthermore, the impact of demographic factors was unexplored in this study. Future studies may integrate this dimension as a moderator with multi-group analysis (MGA). Similarly, more factors that influence or provoke the recorded inconsistency in green buying behavior, and the effects of relatively less-studied factors in the current literature, can also be explored. The study adopted samples from only Dhaka on purpose, and it could be further improved if the samples can be extended to other cities.

Author Contributions: Conceptualization, G.-W.Z., M.M., and A.B.S.; methodology, A.B.S., M.M., S.S.A., and A.A.; software, A.B.S., G.-W.Z., and M.M.; validation, G.-W.Z., A.B.S., and M.M.; investigation, M.M., A.B.S. and A.A.; resources, A.B.S., S.S.A., and M.M.; data curation, M.M., A.B.S., and A.A.; writing—original draft preparation, A.B.S., G.-W.Z., A.A., and M.M.; writing—review and editing, G.-W.Z., S.S.A., and M.M.; visualization, A.A., A.B.S. and M.M.; supervision, G.-W.Z., S.S.A., and M.M.; Funding acquisition, G.-W.Z. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by the Ministry of Education of the People's Republic of China, Grant Number is 20XJC790015. And APC was funded by the same grant.

Institutional Review Board Statement: Ethical review and approval were waived for this study, due to having no ethical approval committee in Bangladesh.

Informed Consent Statement: Patient consent was waived due to producing representative (institutional) approval to conduct survey and publication.

Data Availability Statement: The data that support the findings of this study are available from the corresponding author, [A.B.S & S.S.A], upon reasonable request.

Acknowledgments: The researchers would like to express their gratitude to the anonymous reviewers for their efforts to improve the quality of this paper.

Conflicts of Interest: The authors declare no conflict of interest.

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