



Factors Influencing Green Product Purchase Intention among Young Consumers in Bangladesh

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Research Note

Abstract

The present study aims to determine critical factors affecting the green product purchase intention of Bangladeshi young consumers. In order to investigate the relationship, a formal questionnaire survey has been conducted targeting young Bangladeshi consumers, aged between 18 and 32 years old. A total of 400 responses have been finally screened out for analysis. Data analysis was carried out through partial least square structural equation modeling (PLS-SEM). The findings show that young consumers' green purchase intention (GPI) is largely determined by their attitude, environmental concern (EC), and willingness to pay (WTP). However, the impact of perceived moral obligation (PMO), on green purchase intention has been found insignificant. The study leaves specific implications for the strategic marketing decision-makers who strive to promote green product consumption in Bangladesh.

Keywords: Environmental Concern, Willingness to Pay, Moral Obligation, Green Products, Purchase Intention, Young Consumers.

1. Introduction

To protect our environment from further degradation and preserve our natural resources for our future generation, the need for adopting sustainable consumption is crucial. In recent times, the necessity to protect our environment through sustainable consumption has been growing among the citizens, specifically in developed countries (Han, Hsu, & Lee, 2009). If people worldwide start showing a sensible attitude while making consumption decisions, the world would have to dispose of the least amount of waste which eventually reduce our ecological burden (Leonidou, Katsikeas, & Morgan, 2013; Ramayah, Lee, & Mohamad, 2010). Moreover, consumers' increasing awareness towards sustainable consumption is changing consumers' purchase decision pattern (Dean, Raats, & Shepherd, 2012). Concerned consumers look for the alternatives that must be benign towards the environment. Therefore, the demand for environment-friendly green products is rising across the world (Laroche, Bergeron, & Barbaro-Forleo, 2001). As an emerging country, like Bangladesh also can play a vital role in

promoting sustainable consumption perspective that can be promoted by encouraging its consumers to buy green products more. Here, the term “green product” can be defined as a product that does not pollute the earth or deplete the natural resources and can be recycled or conserved further (Shamdasani, Chon-Lin, & Richmond, 1993).

Organizations inclined to promote green brands among the prospective buyers need to know the underlying motivational factors that could potentially encourage Bangladeshi buyers to adopt green products. However, the concept of green purchase behavior has largely been unexplored in Bangladesh. Thus, the undertaking study aims to bridge the existing literature gap by identifying key determinants that foster green purchase intention among young Bangladeshi consumers. The study has purposefully given much importance to youths since they are our future consumers. Understanding their pro-environmental orientation will help the strategic policymakers to develop sustainable marketing strategies. Besides, it is expected that educated young consumers have adequate awareness about the ongoing environmental movements and keen to incorporate sustainable green consumption practices. Therefore, the prime objective of this study is to identify key determinants that have a significant impact on young consumers' intention to buy green products in Bangladesh. Specifically, the study aims to evaluate the possible impacts of attitude, environmental concern, perceived moral obligation, and willingness to pay on the young Bangladeshi buyers' purchase intention of green products. The structure of the research paper has been arranged in the following order. The next section includes a review of the literature followed by research methodology in the third section. The fourth section presents the data analysis, followed by a discussion in the fifth section. The sixth section concludes the paper with research implications, limitations, and future research direction.

2. Literature Review

2.1. Attitude (Att) and Green Purchase Intention (GPI)

Attitude refers to the way one can evaluate the performance of a particular behavior. According to Cheng, Lam, and Hsu (2006), an individual determines whether to perform an action based on his/her cost and benefit analysis resulting from the intended behavior. If the individual positively evaluates the possible outcomes, he/she forms a favorable attitude towards that and is more likely to engage in that specific behavior (Ajzen, 1991; Cheng et al., 2006). In the present study, attitude represents how young consumers evaluate green products while making their purchase decisions. Attitude is one of the powerful determinants in the consumer behavior literature, which has been incorporated in several popular theoretical models such as the Theory of Planned Behavior - TPB (Ajzen, 1991) and Theory of Reasoned Action –TRA (Ajzen & Fishbein, 1977) with better ability to explain consumers' behavioral intention and actual purchase behavior. Several studies found that consumers' favorable attitude towards particular green products leads to the development of positive purchase intention (Wang, Wong, & Narayanan, 2020; Yadav & Pathak, 2017). For instance, a study aimed to predict green product consumption found that attitude towards green products significantly impacts green purchase intention (Paul, Modi, & Patel, 2016). A similar consistent impact of attitude on purchase

intention has been evident in other existing literature for predicting organic foods, green hotel visit intention, and eco-friendly packaging (Carfora et al., 2019; Prakash & Pathak, 2017; Wang et al., 2020). Therefore, the present study assumes that Bangladeshi young consumers' attitudes towards green products significantly influence their intention to buy them. Hence, the following hypothesis is proposed;

H1. Attitude significantly and positively influences young consumers' green purchase intention (GPI).

2.2. Environmental Concern (EC) and Green Purchase Intention (GPI)

Dunlap and Jones (2002), defined environmental concern as "the degree to which people are aware of problems regarding the environment and support efforts to solve them and or indicate the willingness to contribute personally to their solution." Understanding the green receptiveness of consumers of a particular nation starts with analyzing their views about environmental issues. Consumers' concern for the environment might have significant implications in the consumer behavior literature. Several studies found increasing attention of buyers towards the environmental concern, affecting their positive intents to buy green or sustainable products (M.-F. Chen & Tung, 2014; Van Doorn & Verhoef, 2011). Consumers who have a high degree of environmental concern are more likely to purchase green products (Heo & Muralidharan, 2019). For instance, Paul et al. (2016), in their study on predicting green consumption, found a significant and positive influence of EC over green purchase intention (GPI). In addition to that, EC has been found to have a strong and positive influence on consumers' purchase intention while buying organic foods, energy-efficient appliances, electric vehicles, and so on (He, Zhan, & Hu, 2018; Katt & Meixner, 2020; Waris & Hameed, 2020). Moreover, the positive relationship between EC and GPI in the context of young consumers was verified by earlier studies (Ahmed et al., 2020; Prakash & Pathak, 2017). Therefore, the present study proposes the following hypothesis:

H2. Environmental Concern (EC) significantly and positively influences young consumers' green purchase intention (GPI).

2.3 Perceived Moral Obligation (PMO) and Green Purchase Intention (GPI)

Perceived moral obligation can be defined as a personal norm or belief by which one shows his/her intent to perform particular behavior or action based on his/her responsibility or duty (Manstead, 2000). In other words, when dealing with an ethical situation, perceived moral obligation makes someone feels responsible for behaving morally. The operationalized concept "perceived moral obligation" has been found in other studies interchangeably termed as "moral norm" and "personal norm" to predict an individual's behavioral intention (Arvola et al., 2008; Olsen, Sijtsema, & Hall, 2010). The founder of the TPB model, Professor Ajzen (1991), also recommended incorporating moral norms and others to improve the prediction of behavior or intention. The use of perceived moral obligation in several studies has been found to improve the predictability of one's intention and behavior regarding issues involving ethical considerations (Kurland, 1995; Lam, 1999). Perceived moral obligation (PMO) and other additional variables have been widely used in explaining consumers' green purchase intention

and behavior (M. F. Chen, 2020; Petschnig, Heidenreich, & Spieth, 2014). For instance, M.-F. Chen and Tung (2014) found that the PMO positively influences consumers' green hotel visiting intention. While studying the purchase intention of energy-efficient household appliances in Malaysia, Tan, Ooi, and Goh (2017), moral norm or PMO has significantly influenced consumers' buying intention.

Hence, in our present study, it can be hypothesized that individuals having a strong moral obligation to protect the environment may be more inclined to develop green purchase intention. Therefore, the following hypothesis is made:

H3. Perceived moral obligation (PMO) significantly and positively influences young consumers' green purchase intention (GPI).

2.4 Willingness to Pay (WTP) and Green Purchase Intention (GPI)

Price is a significant aspect for consumers while evaluating different product alternatives and choosing final purchasing decisions (de Medeiros, Ribeiro, & Cortimiglia, 2016; Moser, 2015). The prices of green products are perceived to be naturally higher than that of conventional products (Vega-Zamora, Torres-Ruiz, Murgado-Armenteros, & Parras-Rosa, 2014). Therefore, it is considered one of the critical barriers in forming prospective consumers' green purchase intention and behavior. Especially for young consumers, price is a crucial factor for any purchase decision (Benedetto, Rugani, & Vázquez-Rowe, 2014). However, some studies found that higher price is not a significant obstacle when intending and buying green products (Grankvist & Biel, 2001). Instead, environmentally concerned individuals are willing to spend higher prices for purchasing green products given that premium prices are justifiable by other gains (Olson, 2013; Thøgersen, Jørgensen, & Sandager, 2012). Consumers are willing to pay up to a 13% premium for purchasing organic products and up to a 30% premium for purchasing energy-efficient household appliances (Van Doorn & Verhoef, 2011). Contrary to that, some other studies reported consumers' hesitation and reluctance to pay higher prices for purchasing green products and services (Choi & Parsa, 2007; Jauhari & Manaktola, 2007).

Nonetheless, several researchers applied the consumers' willingness to pay (WTP) variable in their research framework for predicting green purchase intention and behaviors of buyers and found it empirically significant (Chaudhary, 2018; Chaudhary & Bisai, 2018).

For instance, Prakash and Pathak (2017), studied the purchase intention of eco-friendly packaged products among young Indian consumers and found that consumers' willingness to pay a premium price significantly influences their purchase intention.

The present study aims to predict the green purchase intention of young Bangladeshi consumers, where it is presumed that the idea of a green product is still very new and consumers are highly price-sensitive. Therefore, their willingness to pay higher prices is a critical matter of evaluation while predicting green purchase intention. Hence, the following hypothesis has been proposed:

H4. Willingness to Pay (WTP) significantly and positively influences young consumers' green purchase intention (GPI).

Based on the above discussion, the conceptual framework of the study is presented in Figure 1.

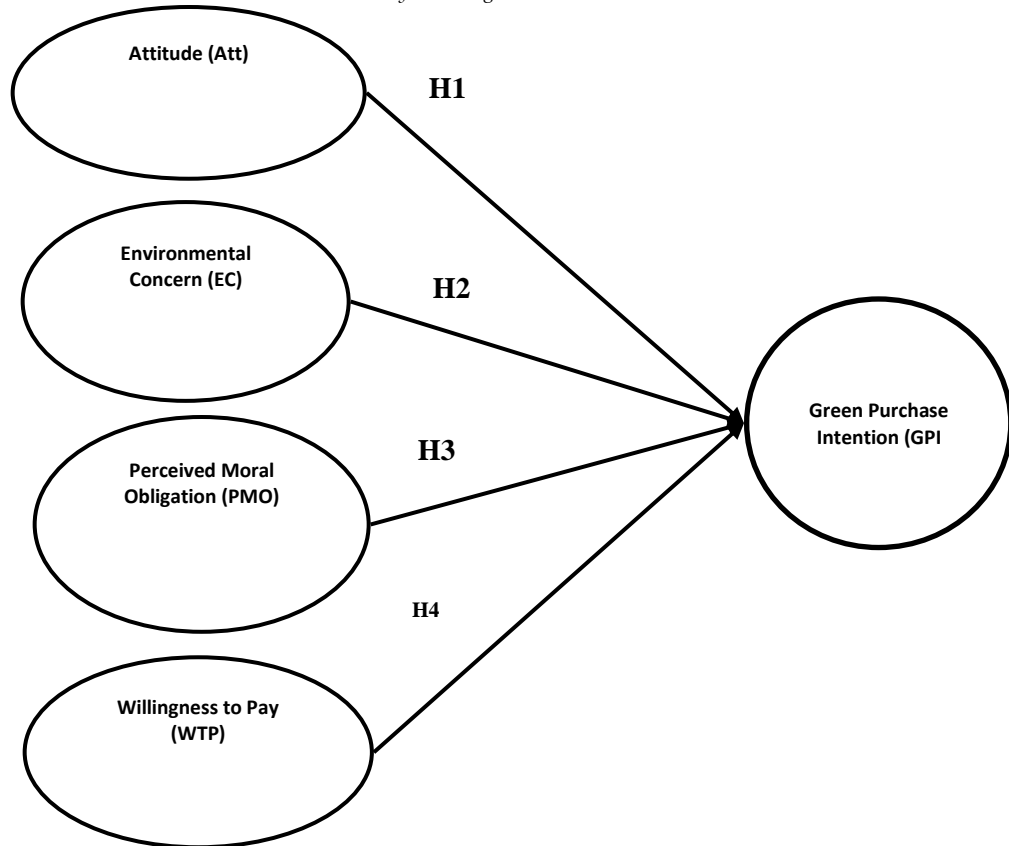


Fig. 1: Conceptual Research Framework

3.0 Methodology

3.1 Sample and data collection

As part of data collection, 500 questionnaires designed through Google form were distributed to 500 prospective young respondents aged between 18 and 32 to their email addresses. Respondents were selected by utilizing the convenience sampling technique and employing interpersonal networks. Young consumers have been chosen as they are more concerned about green products and traditional products and their impact on the environment. Participants were allowed to respond to the survey anonymously. Finally, 420 questionnaires were received at the end of the cut-off time. Out of 420 returned questionnaires, 400 responses were considered for analysis since the rest of them were incomplete.

3.2 Measures

Questionnaires were used to obtain data on the variables encompassed in this study, namely young consumer’s attitude, environmental concern (EC), perceived moral obligation (PMO), and willingness to pay (WTP). We have adopted measures from the existing literature. To contextualize the measurement items, we have conducted a preliminary field study. Following the pre-tests, some of the items were slightly modified to better fit this study's context. Six-point Likert scales were applied for all the measures anchoring 1= strongly disagree to 6= strongly agree.

Multiple item indicators were adapted from the literature to operationalize the five study constructs in the context of the study. Consumer's attitude towards purchasing green products (Att) is operationalized with six items (Tanner and Wölfling Kast (2003); Taylor and Todd (1995); McCarty and Shrum (1994)). In addition to that, Environmental Concern (EC) has been measured by adopting six items from the popular and widely used revised New Environmental Paradigm (NEP) scale (Dunlap, Van Liere, Mertig, & Jones, 2000) originally developed by Dunlap and Van Liere in 1978. Moreover, the present study has adapted two scale items from Tanner and Wölfling Kast (2003) and another two items from M.-F. Chen and Tung (2014) earlier developed by Lam (1999) for measuring Perceived Moral Obligation (PMO). Furthermore, consumer's Willingness to Pay (WTP) is measured by adopting three scale items developed by Jang, Kim, and Bonn (2011) and Kang, Stein, Heo, and Lee (2012), respectively. Finally, green purchase intention (GPI) has been measured by adopting four scale items from Ling-Yee (1997) and Armitage and Conner (1999). Since the items mirror the essence of the construct, all constructs were deemed reflective constructs. When all the indicators measure the same underlying phenomenon, it is considered to be reflective (Wynne W Chin, 1998). The detailed scale items along with adopted sources have been provided in the Appendix part of the study.

3.3 Data analysis

This study adopted a partial least squares (PLS) approach using SmartPLS 2.0 (C. M. Ringle, S. Wende, & A. Will, 2005) software to estimate the measurement and structural parameters in the structural equation model. PLS is appropriate where measurement scales have few items, and distributional characteristics are unknown (Hair, Ringle, & Sarstedt, 2011). Significance testing of the PLS path modelling is based on bootstrapping procedures. Thus, this study investigated both measurement and the structural models by using SmartPLS 2.0 (C. M. Ringle et al., 2005).

4.0 Results

4.1 Common-method bias

In a survey method, the issue of common method bias is very critical. To reduce the possibility of having common-method bias, several initiatives were made by following the guidance of Podsakoff, MacKenzie, Lee, and Podsakoff (2003). First, all the scale items were constructed by adopting the previously tested scales with slight modifications and checked against ambiguity, vagueness, and unfamiliarity. Second, data were collected carefully from the young consumers who have relevant knowledge on the subject area.

4.2 Measurement model

The convergent and discriminant validity of the respective measurement items and the estimation of internal consistency were checked. The adequacy of each multi-item scale was tested for all of the constructs of the measurement model. Before testing the hypothesis, the study critically evaluated internal consistency, reliability, convergent validity, and discriminant validity. The results of the Partial Least Square (PLS) analysis have been shown in Figure 2.

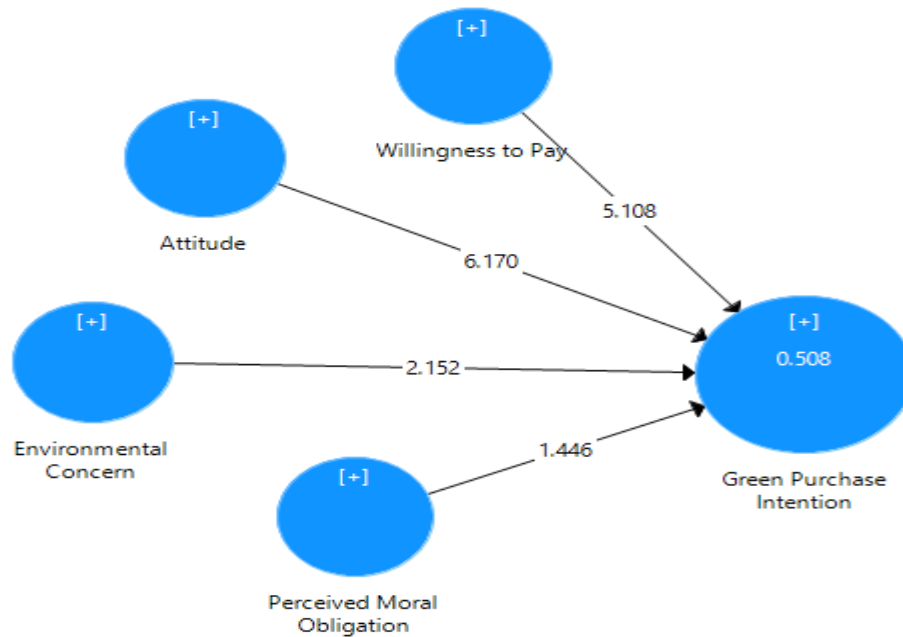


Fig. 2: Results of PLS analysis

Initially, the model was comprised of 23 observed variables. The minimum cut-off level for each item was set at 0.6 in line with the prior reference and recommendation given by Igbaria, Guimaraes, and Davis (1995) and Hulland (1999). Following this rule, five items (ATT1, EC4, EC5, EC6, PMO2) have been eliminated. SmartPLS2.0M3 (C. M. Ringle et al., 2005) was used for testing the revised model comprised of 18 items further and found all items exceeding cut-off value 0.6 (see Table 1). The results positively confirmed that scale items were sufficient enough to represent their respective construct. Table 1 also elucidates that the composite reliability for all measures exceeded the cut-off value of 0.80 (Claes Fornell & David F Larcker, 1981). AVE of all measures also exceeded the cut-off value of 0.50 suggested by Claes Fornell and David F Larcker (1981); the lowest AVE is 0.51 in the null model.

Measurement validation included the evaluation of the discriminant validity of the measures. By examining the cross-loadings of the constructs and measures adequate discriminant validity was established (W. W. Chin, 1998; Chin, 2010). A construct should share more variance with its measures than with other constructs in the model (Barclay, Higgins, & Thompson, 1995; W. W. Chin, 1998). Measures are also considered to have adequate discriminant validity if the square root of the average variance extracted (AVE) for each construct is larger than the correlation between the construct and any other construct in the model (C. Fornell & D. F. Larcker, 1981). All constructs in the estimated model fulfilled this condition (see Table 2). Finally, it can be concluded that the results exhibited satisfactory discriminant validity of the young consumer's green purchase intention model.

Table 1: Measurement items and validity assessment

Constructs	Factor Loading	(CR)*	AVE
Young Consumer's attitude (Att)		0.895	0.631
Att2	0.794		
Att3	0.822		
Att4	0.819		
Att5	0.789		
Att6	0.747		
Environmental Concern (EC)		0.812	0.53
EC1	0.726		
EC2	0.756		
EC3	0.702		
Perceived Moral Obligation (PMO)		0.805	0.51
PMO1	0.606		
PMO3	0.779		
PMO4	0.717		
Willingness to pay (WTP)		0.911	0.774
WTP1	0.885		
WTP2	0.906		
WTP3	0.847		
Green Purchase Intention (GPI)		0.91	0.718
GPI1	0.836		
GPI2	0.857		
GPI3	0.857		
GPI4	0.839		

*CR = Composite Reliability

Table 2: Discriminant validity

	Att.	EC	GPI	PMO	WTP
Att.	0.795				
EC	0.316	0.728			
GPI	0.636	0.313	0.847		
PMO	0.458	0.33	0.467	0.714	
WTP	0.573	0.239	0.61	0.572	0.88

*Note: Bold figures on the diagonal are the square root of the AVE.

Keys: Att-Young consumer's attitude; EC- Environmental concern; PMO- Perceived moral obligation; WTP- Willingness to pay; GPI- Green purchase intention

4.3 Assessment of the structural model

4.3.1 Path coefficient (β) and statistical significance of t-value

To evaluate the relationship among the constructs as hypothesized in this study, the path coefficients and corresponding t-values were calculated (Hair et al., 2011; Ringle, Sarstedt, & Straub, 2012). A bootstrapping procedure was used in this regard (W. W. Chin, 1998; C. Ringle, M. S. Wende, & S. Will, 2005). Positive relation between the constructs and vice-versa is indicated by the positive path coefficient value. The t-value evaluates whether the relationships among the constructs are significant (Jörg Henseler, Christian M Ringle, & Rudolf R Sinkovics,

2009). The structural model results indicate that all of the proposed relationships received strong support except one (PMO-GPI); hence, the remaining three hypotheses were confirmed. The results reveal that young consumer's attitudes (Att), environmental concern (EC), and willingness to pay (WTP) exhibit a positive influence on the green purchase intention of the young consumers. Perceived moral obligation (PMO) does not suggest any significant impact on green purchase intention. Hence, H3 is not supported ($\beta = 0.084$, $t = 1.446$). The results also reveal that the young consumers' attitude towards green products influences their purchase intention in support of H1 ($\beta = 0.388$, $t = 6.17$). Environmental concern also positively and significantly influences purchase intention and supports H2 ($\beta = 0.085$, $t = 2.152$). Willingness to pay is another important indicator for green purchase attention and is supported by H4 ($\beta = 0.321$, $t = 5.108$). The results of the structural model detailing the path coefficients and t-statistics are presented in Table 3. The model's nomological validity or explanatory power can be observed by assessing R^2 values of the endogenous constructs. Based on the R^2 -value, it can be inferred that the structural model explains 51% of the variance in the green purchase intention (GPI) construct. The generated R^2 value of purchase intention is moderate, acceptable for an endogenous latent variable with only a few exogenous latent variables (J. Henseler, C. M. Ringle, & R. R. Sinkovics, 2009).

Table 3: Structural properties of the constructs

Hypothesis	Relationship	Coefficient (β)	t-value	Result
H ₁	Att \rightarrow GPI	0.388	6.17	Supported
H ₂	EC \rightarrow GPI	0.085	2.152*	supported
H ₃	PMO \rightarrow GPI	0.084	1.446	Not-supported
H ₄	WTP \rightarrow GPI	0.321	5.108	Supported
	Endogenous Construct	Model		
R^2	WTP	0.508		

Keys: Att-Young consumer's attitude; EC- Environmental concern; PMO- Perceived moral obligation; WTP- Willingness to pay; GPI- Green purchase intention

* 5 percent level of significance

5.0 Discussion

First of all, the present study hypothesized that attitude positively influences youths' green purchase intention (H1), and we found support in favor of the hypothesis. The finding is consistent with the earlier researches done in a similar context (Kautish, Paul, & Sharma, 2019; Yadav & Pathak, 2017). Evidence suggests that if young consumers possess a positive attitude towards green products, they will eventually develop positive buying intentions. Therefore, marketers must look to build a positive attitude towards green products to earn buying intention from the targeted youths.

Secondly, we hypothesized that youths' concern about the environment positively impacts their green purchase intention (H2). The present study supported this hypothesis, which is also consistent with earlier studies (Ahmed et al., 2020; Yadav & Pathak, 2016). The outcome suggests that youths' degree of concern has crucial impacts on their response towards green

consumption. Marketers must look for ways to increase young consumers' concern for the environment, which would allow them to change their mindset and build positive buying intents.

Thirdly, we hypothesized that youths' PMO has a positive influence on GPI (H3). Contrary to the few earlier research (M.-F. Chen & Tung, 2014; Tan et al., 2017), the present study found an insignificant relationship between PMO and GPI. However, the result is identical to an earlier study conducted by Lam (1999), who found that PMO neither influences people's intention to conserve water nor influences their intention to use retrofit water appliances. The findings suggest that young consumers may not develop green purchase intention despite having a perceived moral obligation towards ecology. However, further research may find the causes of insignificant association and modify the scale for getting more insight into this issue.

Last of all, we have found support in favor of the proposition that youths' willingness to pay higher prices impacts green purchase intention (H4). A similar positive impact of WTP on GPI has been found in earlier studies (Chaudhary, 2018; Prakash & Pathak, 2017).

Since the prices of green products are generally higher than conventional, to what extent consumers are willing to pay has been a very influential factor in gaining green purchase intention and subsequent actual purchase decision. Green products are priced higher than the conventional ones because they add ecological costs associated with the production, distribution, and consumption of the given products. Therefore, marketers must work on pricing issues so that targeted markets get to know why they need to pay more.

6.0 Conclusion

The study investigated the underlying motivational factors behind the green product purchase intention in the context of Bangladeshi young consumers. Applying the partial least square structural equation modeling (PLS-SEM) technique on collected data from 400 respondents revealed that attitude, environmental concern, and willingness to pay significantly determined youths' intention to buy green products in Bangladesh. The empirical results support the earlier research works (Ahmed et al., 2020; Prakash & Pathak, 2017) who found similar results in the respective contexts for explaining green behavioral intention. However, unlike few earlier studies (Tan, Ooi, & Goh, 2017), the perceived moral obligation was found to have an insignificant relationship with the green product purchase intention.

7. Implications

The present study leaves some critical implications for the marketers and policymakers who want to promote green product consumption in Bangladesh. Firstly, the study attempted to determine key determinants behind green purchase intention that would enrich the knowledge and understanding of the marketers for developing a green product marketing strategy. The study showed that if the marketers can develop positive attitudes towards green products by creating a favorable image which would lead to purchase intention. Moreover, concern for the environment can be raised by making proper integration with the choice of green products and their environmental impacts as the study postulates that increased environmental concern is

conducive to green purchase behavior. Moreover, marketers can influence the youths' willingness to pay a premium price by properly justifying the reasons for charging higher prices and how that can give a maximum return in the long run. In addition to that, policymakers can get insights from the present study too. They can work on achieving sustainable development by encouraging both the producers and consumers to behave in an environmentally responsive manner.

8. Limitations and Future Research Directions

The present study is not devoid of certain limitations. First of all, the study is based on green products in general. Therefore, future research may work on specific green product categories such as organic foods, energy-saving appliances, recycled products, etc. Secondly, the study considers Bangladeshi youths only. Hence, the outcome of the study cannot be generalized over the mass market. Future studies can be done targeting households and their green purchasing intention. Thirdly, the study is solely based on the quantitative aspect. Qualitative studies or the combination of both would have given a much deeper understanding. Finally, apart from the existing variables, some other relevant variables can be further added and checked for their statistical significance in explaining green purchase intention.

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

REFERENCES

- Ahmed, N., Li, C., Khan, A., Qalati, S. A., Naz, S., & Rana, F. (2020). Purchase intention toward organic food among young consumers using theory of planned behavior: role of environmental concerns and environmental awareness. *Journal of Environmental Planning and Management*, 1-27.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179-211.
- Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological bulletin*, 84(5), 888.
- Armitage, C. J., & Conner, M. (1999). Distinguishing perceptions of control from self-efficacy: Predicting consumption of a low-fat diet using the theory of planned behavior 1. *Journal of applied social psychology*, 29(1), 72-90.
- Arvola, A., Vassallo, M., Dean, M., Lampila, P., Saba, A., Lähteenmäki, L., & Shepherd, R. (2008). Predicting intentions to purchase organic food: The role of affective and moral attitudes in the Theory of Planned Behaviour. *Appetite*, 50(2-3), 443-454.
- Barclay, D., Higgins, C., & Thompson, R. (1995). The partial least squares (PLS) approach to causal modeling: Personal computer adoption and use as an illustration. *Technology studies*, 2(2), 285-309.
- Benedetto, G., Rugani, B., & Vázquez-Rowe, I. (2014). Rebound effects due to economic choices when assessing the environmental sustainability of wine. *Food policy*, 49, 167-173.

- Carfora, V., Cavallo, C., Caso, D., Del Giudice, T., De Devitiis, B., Viscecchia, R., . . . Cicia, G. (2019). Explaining consumer purchase behavior for organic milk: Including trust and green self-identity within the theory of planned behavior. *Food Quality and Preference*, 76, 1-9.
- Chaudhary, R. (2018). Green buying behavior in India: an empirical analysis. *Journal of Global Responsibility*.
- Chaudhary, R., & Bisai, S. (2018). Factors influencing green purchase behavior of millennials in India. *Management of Environmental Quality: An International Journal*.
- Chen, M.-F., & Tung, P.-J. (2014). Developing an extended theory of planned behavior model to predict consumers' intention to visit green hotels. *International journal of hospitality management*, 36, 221-230.
- Chen, M. F. (2020). The impacts of perceived moral obligation and sustainability self-identity on sustainability development: A theory of planned behavior purchase intention model of sustainability-labeled coffee and the moderating effect of climate change skepticism. *Business Strategy and the Environment*, 29(6), 2404-2417.
- Cheng, S., Lam, T., & Hsu, C. H. (2006). Negative word-of-mouth communication intention: An application of the theory of planned behavior. *Journal of Hospitality & Tourism Research*, 30(1), 95-116.
- Chin, W. W. (1998). Commentary: Issues and opinion on structural equation modeling. *MIS Quarterly*, 22(1), vii-xvi.
- Chin, W. W. (1998). Commentary: Issues and opinion on structural equation modeling: JSTOR.
- Chin, W. W. (2010). How to write up and report PLS analyses *Handbook of partial least squares* (pp. 655-690).
- Choi, G., & Parsa, H. (2007). Green practices II: Measuring restaurant managers' psychological attributes and their willingness to charge for the "green practices". *Journal of Foodservice Business Research*, 9(4), 41-63.
- de Medeiros, J. F., Ribeiro, J. L. D., & Cortimiglia, M. N. (2016). Influence of perceived value on purchasing decisions of green products in Brazil. *Journal of Cleaner Production*, 110, 158-169.
- Dean, M., Raats, M. M., & Shepherd, R. (2012). The role of self-identity, past behavior, and their interaction in predicting intention to purchase fresh and processed organic food 1. *Journal of applied social psychology*, 42(3), 669-688.
- Dunlap, R. E., & Jones, R. E. (2002). Environmental concern: Conceptual and measurement issues. *Handbook of environmental sociology*, 3(6), 482-524.
- Dunlap, R. E., Van Liere, K. D., Mertig, A. G., & Jones, R. E. (2000). New trends in measuring environmental attitudes: measuring endorsement of the new ecological paradigm: a revised NEP scale. *Journal of Social issues*, 56(3), 425-442.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 18(1), 39-50.
- Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of marketing research*, 18(3), 382-388.
- Grankvist, G., & Biel, A. (2001). The importance of beliefs and purchase criteria in the choice of eco-labeled food products. *Journal of environmental psychology*, 21(4), 405-410.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing theory and Practice*, 19(2), 139-152.
- Han, H., Hsu, L.-T. J., & Lee, J.-S. (2009). Empirical investigation of the roles of attitudes toward green behaviors, overall image, gender, and age in hotel customers' eco-friendly decision-making process. *International journal of hospitality management*, 28(4), 519-528.
- He, X., Zhan, W., & Hu, Y. (2018). Consumer purchase intention of electric vehicles in China: The roles of perception and personality. *Journal of Cleaner Production*, 204, 1060-1069.
- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. *Advances in international marketing*, 20, 277-319.
- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing *New challenges to international marketing*: Emerald Group Publishing Limited.
- Heo, J., & Muralidharan, S. (2019). What triggers young Millennials to purchase eco-friendly products?: the interrelationships among knowledge, perceived consumer effectiveness, and environmental concern. *Journal of Marketing Communications*, 25(4), 421-437.
- Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: A review of four recent studies. *Strategic management journal*, 20(2), 195-204.

- Igbaria, M., Guimaraes, T., & Davis, G. B. (1995). Testing the determinants of microcomputer usage via a structural equation model. *Journal of management information systems*, 11(4), 87-114.
- Jang, Y. J., Kim, W. G., & Bonn, M. A. (2011). Generation Y consumers' selection attributes and behavioral intentions concerning green restaurants. *International journal of hospitality management*, 30(4), 803-811.
- Jauhari, V., & Manaktola, K. (2007). Exploring consumer attitude and behaviour towards green practices in the lodging industry in India. *International journal of contemporary hospitality management*.
- Kang, K. H., Stein, L., Heo, C. Y., & Lee, S. (2012). Consumers' willingness to pay for green initiatives of the hotel industry. *International journal of hospitality management*, 31(2), 564-572.
- Katt, F., & Meixner, O. (2020). Is It All about the Price? An Analysis of the Purchase Intention for Organic Food in a Discount Setting by Means of Structural Equation Modeling. *Foods*, 9(4), 458.
- Kautish, P., Paul, J., & Sharma, R. (2019). The moderating influence of environmental consciousness and recycling intentions on green purchase behavior. *Journal of Cleaner Production*, 228, 1425-1436.
- Kurland, N. B. (1995). Ethical intentions and the theories of reasoned action and planned behavior 1. *Journal of applied social psychology*, 25(4), 297-313.
- Lam, S. P. (1999). Predicting intentions to conserve water from the theory of planned behavior, perceived moral obligation, and perceived water right 1. *Journal of applied social psychology*, 29(5), 1058-1071.
- Laroche, M., Bergeron, J., & Barbaro-Forleo, G. (2001). Targeting consumers who are willing to pay more for environmentally friendly products. *Journal of Consumer Marketing*.
- Leonidou, C. N., Katsikeas, C. S., & Morgan, N. A. (2013). "Greening" the marketing mix: do firms do it and does it pay off? *Journal of the Academy of Marketing Science*, 41(2), 151-170.
- Ling-Yee, L. (1997). Effect of collectivist orientation and ecological attitude on actual environmental commitment: The moderating role of consumer demographics and product involvement. *Journal of international consumer marketing*, 9(4), 31-53.
- Manstead, A. S. (2000). The role of moral norm in the attitude-behavior relation.
- McCarty, J. A., & Shrum, L. (1994). The recycling of solid wastes: Personal values, value orientations, and attitudes about recycling as antecedents of recycling behavior. *Journal of business Research*, 30(1), 53-62.
- Moser, A. K. (2015). Thinking green, buying green? Drivers of pro-environmental purchasing behavior. *Journal of Consumer Marketing*.
- Olsen, N. V., Sijtsma, S. J., & Hall, G. (2010). Predicting consumers' intention to consume ready-to-eat meals. The role of moral attitude. *Appetite*, 55(3), 534-539.
- Olson, E. L. (2013). It's not easy being green: the effects of attribute tradeoffs on green product preference and choice. *Journal of the Academy of Marketing Science*, 41(2), 171-184.
- Paul, J., Modi, A., & Patel, J. (2016). Predicting green product consumption using theory of planned behavior and reasoned action. *Journal of retailing and consumer services*, 29, 123-134.
- Petschnig, M., Heidenreich, S., & Spieth, P. (2014). Innovative alternatives take action—Investigating determinants of alternative fuel vehicle adoption. *Transportation Research Part A: Policy and Practice*, 61, 68-83.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of applied psychology*, 88(5), 879.
- Prakash, G., & Pathak, P. (2017). Intention to buy eco-friendly packaged products among young consumers of India: A study on developing nation. *Journal of Cleaner Production*, 141, 385-393.
- Ramayah, T., Lee, J. W. C., & Mohamad, O. (2010). Green product purchase intention: Some insights from a developing country. *Resources, conservation and recycling*, 54(12), 1419-1427.
- Ringle, C., Wende, M. S., & Will, S. (2005). *SmartPLS 2.0 (M3) Beta*. Hamburg.
- Ringle, C. M., Sarstedt, M., & Straub, D. W. (2012). Editor's comments: a critical look at the use of PLS-SEM in "MIS Quarterly". *MIS quarterly*, iii-xiv.
- Ringle, C. M., Wende, S., & Will, A. (2005). *SmartPLS 2.0 (beta)*: Hamburg.
- Shamdasani, P., Chon-Lin, G. O., & Richmond, D. (1993). Exploring green consumers in an oriental culture: Role of personal and marketing mix factors. *ACR North American Advances*.

Tan, C.-S., Ooi, H.-Y., & Goh, Y.-N. (2017). A moral extension of the theory of planned behavior to predict consumers' purchase intention for energy-efficient household appliances in Malaysia. *Energy policy*, 107, 459-471.

Tanner, C., & Wölfling Kast, S. (2003). Promoting sustainable consumption: Determinants of green purchases by Swiss consumers. *Psychology & Marketing*, 20(10), 883-902.

Taylor, S., & Todd, P. (1995). Understanding household garbage reduction behavior: a test of an integrated model. *Journal of Public Policy & Marketing*, 14(2), 192-204.

Thøgersen, J., Jørgensen, A. K., & Sandager, S. (2012). Consumer decision making regarding a "green" everyday product. *Psychology & Marketing*, 29(4), 187-197.

Van Doorn, J., & Verhoef, P. C. (2011). Willingness to pay for organic products: Differences between virtue and vice foods. *International Journal of Research in Marketing*, 28(3), 167-180.

Vega-Zamora, M., Torres-Ruiz, F. J., Murgado-Armenteros, E. M., & Parras-Rosa, M. (2014). Organic as a heuristic cue: What Spanish consumers mean by organic foods. *Psychology & Marketing*, 31(5), 349-359.

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

Waris, I., & Hameed, I. (2020). Promoting environmentally sustainable consumption behavior: an empirical evaluation of purchase intention of energy-efficient appliances. *Energy Efficiency*, 13(8), 1653-1664.

Yadav, R., & Pathak, G. S. (2016). Young consumers' intention towards buying green products in a developing nation: Extending the theory of planned behavior. *Journal of Cleaner Production*, 135, 732-739.

Yadav, R., & Pathak, G. S. (2017). Determinants of consumers' green purchase behavior in a developing nation: Applying and extending the theory of planned behavior. *Ecological economics*, 134, 114-122.



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Appendix

Study Constructs with Measurement Items		
Constructs	Measurement Items	Sources
Environmental Concern (EC)	Strongly Disagree (+1)/Strongly Agree (+6)	Dunlap et al. (2000)
	EC1 We are approaching the limit of the number of people the earth can support.	
	EC2 When humans interfere with nature it often produces disastrous consequences.	
	EC3 The balance of nature is very delicate and easily upset.	
	EC4 Humans have the right to modify the natural environment to suit their needs. (R)	
	EC5 Humans are severely abusing the environment.	
Perceived Moral Obligation (PMO)	Strongly Disagree (+1)/Strongly Agree (+6)	Lam (1999)
	PMO1 Everybody is obligated to treasure natural resources.	
	PMO2 Everybody should save natural resources because they are limited.	Tanner and Wölfling Kast (2003)
	PMO3 Everybody has a responsibility to contribute to environmental preservation by purchasing green products.	
	PMO4 I feel morally obligated to refrain from purchasing products that somehow pollute or harm our environment.	

Willingness to Pay (WTP)	Strongly Disagree (+1)/Strongly Agree (+6)	Kang et al. (2012)
	WTP1I would pay more for a green product that is making efforts to be environmentally sustainable.	
	WTP2I would be willing to pay this extra percentage on the green products to support the organization's/ product efforts to be environmentally sustainable.	Jang et al. (2011)
WTP3I feel proud to have environment- friendly products in my house even though they are more costly than conventional ones.		
Attitude towards Purchasing Green Products (ATT)	Strongly Disagree (+1)/Strongly Agree (+6)	Tanner and Wölfling Kast (2003)
	ATT1 Environmental protection is important to me when making product purchases.	
	ATT2 If I can choose between green and conventional products, I prefer the green one.	Taylor and Todd (1995)
	ATT3 I like the idea of purchasing green products.	
	ATT4 I have a favorable attitude towards purchasing a green version of a product.	McCarty and Shrum (1994)
	ATT5 I believe that green products assist in reducing several kinds of pollution (air, water, etc.)	
ATT6 I believe that green products contribute to conserving natural resources.		
Green Purchase Intention (PI)	Very Unlikely (+1)/Very Likely (+6)	Ling-Yee (1997)
	PI1 I will consider purchasing green products because they are less polluting.	
	PI2 I will consider switching to green products for ecological reasons.	Armitage and Conner (1999)
	PI3I intend to purchase green products next time.	
PI4I plan to purchase green products in near future.		
R = items measured in reverse scale		