Consumers’ motivations to purchase green organic foods with special reference to the consumers in Dhaka City

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World Journal of Advanced Research and Reviews, 2023, 19(03), 1496–1507

Publication history: Received on 08 August 2023; revised on 27 September 2023; accepted on 29 September 2023

Article DOI: https://doi.org/10.30574/wjarr.2023.19.3.1902

Abstract

Green organic food is manufactured with environment-friendly technology and has no negative effect on the environment. The aim of this study is to investigate the motivators that influence Bangladeshi consumers’ green organic foods purchasing behavior. Data were collected from 100 people using the convenience sampling technique. Questionnaires were employed as research instruments. The Statistical Package for Social Science (SPSS) for Microsoft Windows version 11 was used to analyze the data. The researcher carried out correlation analysis to investigate the relationship between the variables, as well as regression analysis to evaluate the effect of the independent variables on the dependent variable. All of the factors, including peer influence, green advertising, environmental knowledge, and willingness to pay were found to be highly correlated with green purchasing behavior. Regression analysis revealed that environmental knowledge and willingness to pay have a significant role in the suggested model. Peer influence and green advertising have the lowest effect on consumers’ green purchasing behavior. The study’s implication is that it allows companies to focus more on these motivators that motivate consumers to purchase green organic foods.

Keywords: Green organic food; Motivations; Peer influence; Advertising; Marketing; Bangladesh

1. Introduction

Rapid economic growth and technological advancement make people's lives more convenient, but they also create numerous environmental challenges, including air pollution, water pollution, climate change, and global warming [1]. The sustainability of economic progress, the environment, and society are all directly affected by these issues. Additionally, it has drawn everyone's attention to the environment. Environmentally conscious consumers have increased environmental protection activities and knowledge during the last few decades [1]. Environmental awareness is growing which has a direct impact on how people live their lives and what they value. Many consumers are aware of the value of the environment and the impact that their purchase decisions will have on the ecological environment. Consumers have started changing their habits and purchasing patterns, and they have gradually preferred to buy more environmentally friendly goods [2]. Research interests in how food choices affect health and well-being are growing as a result of public challenges [22, 23, 67].

Green products are intended to reduce or eliminate toxic waste, pollution, and the usage of toxic substances while conserving energy and resources [3]. They may be recyclable, renewable, reusable, and have fewer negative environmental effects than traditional products [4]. Green products not only decrease environmental danger but also develop consumer and societal living standards [1]. Companies are now more aware of the market for green products as a result of consumer demand for environmentally friendly goods. As sustainable development gains popularity, the production of green products has expanded into a vast area of social advancement and economic growth that involves both consumers and businesses. Companies themselves have started to pay attention to environmental issues as an important component of economic development. Since the growth of green businesses contributes to the reduction of
the expense of excessive waste, the provision of safe and healthy working conditions for employees, and the maintenance of an organization's sustainability and efficiency consequently, businesses are working to create a green economy by coordinating the expansion of environmental protection with the economy. Companies have created a variety of green products to fulfill customer needs in order to expand the market for green products [4, 69]. Companies are looking for solutions to these issues because of the shift in consumer preferences for green products and the requirement for prompt action to reduce environmental challenges. As a result, many businesses have started implementing green production and marketing strategies to satisfy consumers' choices and generate long-term profits [6]. Many customers mention organic food when speaking about foods and health [24]. Organic foods are grown using practices that are both environmentally and socially responsible, such as avoiding using artificial fertilizers or pesticides [25]. In accordance with The U.S. Department of Agriculture (USDA), organic is defined as “a labeling term that indicates that the food or other agricultural product has been produced through approved methods. These methods integrate cultural, biological, and mechanical practices that foster recycling of resources, promote ecological balance, and conserve biodiversity.” Organic food is thought to be safer, healthier, and more delicious than traditional food [26, 27, 68].

Although there is a greater demand from consumers for green products and businesses are eager to create green marketplaces, the level of market development for green products is still insufficient. In a previous study, about 30% of customers attempted to incorporate their environmental concerns into their purchasing habits [7]. However, the rate of green product purchases is still relatively low [8]. The growth of the green product industry depends on modifications in consumer purchasing behavior, studying consumer behavior is challenging yet since it takes into account so many different variables. Studying the variables influencing customers' purchase intentions is of utmost importance for businesses as it helps them develop marketing strategies since consumers' green purchasing intentions are a significant expression of consumers' green behavior [1].

The consideration that consumers give to the environment and green products will influence their purchasing choices [9]. Marketers must pay attention to consumer preferences and decision-making processes in order to promote green products [10]. There have been numerous studies on the variables influencing consumers' intentions to make green purchases [11, 12, 13, 15]. A lightweight plastic bottle was the subject of an investigation by Lam et al. [14], who investigated that consumers' purchase intentions were significantly and positively influenced by the product's perceived green value. Additionally, it has been found that green trust influences consumers' intention to buy [16] again, subjective norms of consumers [17, 73]. According to [19], consumer attitudes toward green purchasing can influence their intention to buy and eventually their buying behavior. However, contradicting findings from other studies have been found. In terms of consumption cognition, some researchers believe that green perceived value has little influence on green purchasing intention [18]. Other mentionable finding includes the fact that awareness of the environment did not encourage eco-friendly purchasing [20] and the intention to make green purchases was not significantly influenced by consumer attitudes [21]. There is no enough in-depth review in the literature because of the controversy in findings. The purpose of this study is to determine the variables that affect the consumption behavior of green organic food of the residents of Dhaka city. This study also aims to measure consumer experience, perception, and awareness of green organic foods, as well as the present food consumption scenario.

2. Literature Review

Based on the previous studies, it is found that a variety of elements, including brand name, ecological advertising, environmental packaging, peers, consumer perception of effectiveness, and environmental concerns influence customers' green organic food purchase behavior [28, 29, 30, 72]. The study shows that the following variables have an effect on the purchasing behavior of green organic food.

2.1. Peer Influence

Peer influence is the term used to describe how other people who are viewed as peers affect a person's attitudes, behaviors, and beliefs [32, 33]. Previous research has found that peer influence directly influences on adolescents' green buying behavior [81]. Again, Green involvement and purchasing are significantly influenced by social influence [82]. According to the social learning theory, individuals learn by seeing, imitating, and seeking advice from their peers, and so peers constitute a primary source of knowledge for consumers. Peer network supports green consciousness and behavior, including local environmental involvement and general green purchasing behavior [82]. Thus, customers' purchasing decisions are frequently influenced by coworkers, salesmen, and celebrities [34, 72]. Peer influence, however, can be divided into three categories: utilitarian, value-expressive, and informative [33, 34, 35, 36, 37, 38]. Bangladesh customers are frequently affected by friends, family, salespeople, and celebrities while making green purchases [39]. However, the study proposes the following hypothesis:
2.2. Green Advertising
Advertising is defined as the clarity of advertising to imprint consumers' desire to convince and introduce purchasing intention [87]. Green advertising can be perceived as advertising that connects food to the natural environment [88]. One of the most effective ways to reach consumers who are already engaged in environmentally friendly actions is green advertising [41]. Previous research has revealed that green advertising and packaging have a major impact on customer purchasing behavior and can help improve their opinions and improve the likelihood of purchasing green products [42]. Similarly, other researchers believe that green advertising has a major impact on consumer buying intention, which assists customers in making a final purchasing decision [43, 73]. Green advertising, on the other hand, may help consumers who have no prior awareness of any green product to build an understanding of the ecological implications of those products. Consequently, green advertising may increase the interest of customers in green products [44]. However, the study proposes the following hypothesis:

- **H2:** Green advertising has a significant and positive effect on green purchasing behavior.

2.3. Environmental Knowledge
Environmental knowledge can be defined as a set of concepts, ideologies, facts, and interconnected interactions centered on the environment and ecological elements [45, 46]. Environmental knowledge can also be defined as the thoughts, attitudes, and relationships that individuals know and hold about the environment, as well as the collective tasks that are required to achieve sustainable development [47, 48, 49, 67]. Because of the environmental challenges that have arisen in the modern era, there is a growing public concern [83, 84, 85, 86]. The study of green consumption intentions began with a study of environmental concerns [82]. Previous research has found that environmental knowledge directly influences on adolescents' green buying behavior [81]. Additionally, environmental knowledge is crucial in creating consumer interest in purchasing green products [28]. There is a significant relationship between environmental knowledge and consumer pro-environmental behavior [48]. Previous studies found that environmental knowledge can be categorized as broad or particular [50, 73]. However, the study proposes the following hypothesis:

- **H3:** Environmental knowledge has a significant and positive effect on green purchasing behavior.

2.4. Willingness to pay
First, the price response model, which gives information for optimal pricing and promotion decisions, is built around consumers' willingness to pay [89]. Second, the price at which new items are introduced must be carefully addressed, since badly chosen prices might imperil development investment and threaten innovation success [90]. Consumers consider price while considering their options for various products and making final buying decisions [56, 57]. Pricing for green foods is thought to be inherently more expensive than for traditional foods [55]. Price is an important consideration in every purchasing choice, especially for young customers [58]. However, several researches revealed that the higher cost is not a significant barrier to purchase green foods [59]. Several researchers found the variable consumers' willingness to pay (WTP) to be empirically significant in their research framework for predicting green buying intention and buyer behavior [53, 54, 71]. Instead, those who care about the environment are willing to pay more for green products as long as the increased cost is justified by other benefits [51, 52]. However, the study proposes the following hypothesis:

- **H4:** Willingness to pay has a significant and positive effect on green purchasing behavior.
3. Material and methods

3.1. Data Collection

To collect primary data, the personal interview technique was used [60]. Data was collected from consumers who are familiar with the term “green organic food” using convenience sampling. The literature was used to establish the standard scales constructs. It is easier to answer an organized questionnaire. As a result, the researcher has made a well-structured questionnaire [50, 51]. Buyer responses were gathered using a five-point Likert scale. Here, 1 said "strongly disagree" and 5 said "strongly agree". The researcher employed 19 statements for performance ratings in the domains of the motives of green organic foods purchasing. The dependent variable, green purchasing behavior, consists of four statements. The statements are included in the appendix. The questionnaire was distributed to a total of 100 respondents. SPSS software was used to conduct the analysis.

3.2. Consumers’ Demographic Analysis

Numerical method is used to summarize information from a data set in an ordered manner [73]. There are 53 females and 47 males among the 100 responses. The majority of buyers (52%) are between the ages of 26 and 30, and the majority (53%) are graduates. Here, the majority of buyers of green organic food items are professionals. Only 43% of consumers earn more than 50,000 Bangladeshi taka, while 17 percent earn less than 30,000 taka.

Table 1 Demographic profile of the respondents

<table>
<thead>
<tr>
<th>Age</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-25</td>
<td>8 (17.02%)</td>
<td>9 (16.98%)</td>
<td>17 (17%)</td>
</tr>
<tr>
<td>26-30</td>
<td>28 (59.57%)</td>
<td>24 (45.28%)</td>
<td>52 (52%)</td>
</tr>
<tr>
<td>31-35</td>
<td>8 (17.02%)</td>
<td>10 (18.87%)</td>
<td>18 (18%)</td>
</tr>
<tr>
<td>36-40</td>
<td>3 (6.38%)</td>
<td>10 (18.87%)</td>
<td>13 (13%)</td>
</tr>
<tr>
<td>Undergraduate</td>
<td>1 (2.13%)</td>
<td>2 (3.77%)</td>
<td>3 (3%)</td>
</tr>
</tbody>
</table>
4. Results

4.1. Reliability Statistics

Internal reliability test was performed to determine the research instrument's stability and dependability [63]. A reliability statistic (Cronbach’s alpha) was used to assess the dependability and internal consistency of each of the 19 attributes examined. The scale has been found to be internally consistent (alpha = .942). This alpha has above the minimum of .70 [74]. According to table 2, the internal reliability for the dependent variable, green purchasing behavior is 0.942.

Table 2 Reliability Statistics

<table>
<thead>
<tr>
<th>Cronbach’s Alpha</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.942</td>
<td>19</td>
</tr>
</tbody>
</table>

4.2. Correlation Analysis

Correlation analysis is used in marketing research to demonstrate the relationship and strength between two variables. Karl Pearson is a popular correlation coefficient since it explains linear relationships between variables [65]. The greater the number of samples, the more accurate the computation of correlation coefficient. The correlation value should be between +1 and -1, depending on whether the correlation is positive or negative. When the value is +1, the variables are positively related; when the value is -1, the variables are negatively related; and 0 shows that there is no relationship between the variables. Correlation values ranging from .01 to .29 suggest a weak relation, .30 to .49 show a moderate relationship, and .50 to 1.0 indicate a significant relationship between the variables. Bivariate correlation is based on the two-tailed statistical significance level, whereby the highly significant level is p<.01 and the significant level is p<.05 [61].

Table 3 Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>PI</th>
<th>GA</th>
<th>EK</th>
<th>WTP</th>
<th>GPB</th>
</tr>
</thead>
<tbody>
<tr>
<td>PI</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GA</td>
<td>0.724</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EK</td>
<td>0.876</td>
<td>0.754</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WTP</td>
<td>0.781</td>
<td>0.670</td>
<td>0.868</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
According to the correlation matrix, there is a considerable relationship between peer influence and green buying behavior. The correlation between peer influence and green purchasing behavior was found to be strong and statistically significant (r=.840, p<.001). There is a strongly positive relationship between green advertising and green purchasing behavior. The relationship between green advertising and green purchasing behavior was found to be positive and statistically significant (r=.716, p<.001). The table demonstrates a positive relationship between environmental knowledge and green purchasing behavior. The relationship between environmental knowledge and green purchasing behavior was found to be favorable and statistically significant (r=.927, p<.001). The relationship between willingness to buy and green purchasing behavior was found to be favorable and statistically significant (r=.870, p<.001).

4.3. Regression analysis

Regression analysis is used to determine and analyze the relationship between independent and dependent variables [78]. Correlation and regression analysis vary in that correlation reveals the relation between the variables, whereas regression analysis shows the changes in the dependent variables caused by the independent variables [65, 79]. The p-value is calculated to demonstrate the significance of the result. If the p-value is less than .05, the result is at least 95% significant. P value less than .01 denotes that the result is significant by at least 99%.

Table 4 Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.937</td>
<td>0.877</td>
<td>0.872</td>
</tr>
</tbody>
</table>

Table 5 Hypotheses Results

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Relations</th>
<th>B</th>
<th>t</th>
<th>p-value</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>PI → GPB</td>
<td>0.092</td>
<td>1.218</td>
<td>0.226</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H2</td>
<td>GA → GPB</td>
<td>0.013</td>
<td>0.325</td>
<td>0.746</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H3</td>
<td>EK → GPB</td>
<td>0.603</td>
<td>6.232</td>
<td>0.000</td>
<td>Supported</td>
</tr>
<tr>
<td>H4</td>
<td>WTP → GPB</td>
<td>0.241</td>
<td>3.513</td>
<td>0.001</td>
<td>Supported</td>
</tr>
</tbody>
</table>

The study intends to look into the impact of peer influence, green advertising, environmental knowledge, and willingness to pay on green purchasing behavior. The dependent variable (green purchasing behavior) was regressed on predictive variables such as peer influence, green advertising, environmental knowledge, and willingness to pay. The R-square value in table 4 is .877, indicating that the independent variables, namely peer influence, green advertising, environmental knowledge, and willingness to pay, cause a 87.7% change in the dependent variable, namely green purchasing behavior.

Furthermore, coefficients were calculated to determine the impact of each factor on the criterion variable (green purchasing behavior). H1 investigated whether peer influence has a significant and positive effect on green purchasing behavior. The findings demonstrated that peer influence has no effect on green purchasing behavior (B=.092, t=1.218, and p=.226). As a result, H1 was not supported. H2 investigated whether green advertising has a significant and positive effect on green purchasing behavior. The findings demonstrated that green advertising has no effect on green purchasing behavior (B=.013, t=.325, and p=.746). As a result, H2 was not supported. H3 investigated whether environmental knowledge has a significant and positive effect on green purchasing behavior. The findings demonstrated that environmental knowledge has a significantly positive effect on green purchasing behavior (B=.603, t=6.232, and p=.000). As a result, H3 has contributed to the model. H4 investigated whether willingness to pay has a significant and positive effect on green purchasing behavior. The findings demonstrated that willingness to pay has a significantly positive effect on green purchasing behavior (B=.241, t=3.513, and p=.001). So, H4 was supported.
5. Discussion

The hypotheses established and evaluated in this study explained the impact of motivations (peer influence, green advertising, environmental knowledge, willingness to pay) on the purchase behavior of green organic foods. Data were collected from the residents of Dhaka city. The study revealed a strong positive relationship among the variables. Four hypotheses were proposed to investigate the relationships between the independent variables (peer influence, green advertising, environmental knowledge, and willingness to pay) and the dependent variable (green purchasing behavior). It was found that environmental knowledge and willingness to pay have a substantial influence on green organic foods consumers’ purchasing intentions in Dhaka city of Bangladesh. Therefore, the third hypothesis \( H_3 \) and fourth \( H_4 \) have been accepted. Peer influence and green advertising have no significant influence on green organic foods consumers’ purchasing intentions. So, the first hypothesis \( H_1 \) and the second hypothesis \( H_2 \) have not been accepted. Producers and sellers of green organic foods should implement these motivating aspects to ensure high levels of customer satisfaction. These findings will help green organic foods marketers persuade green organic foods buyers and therefore grow sales satisfactorily.

6. Conclusion

Although many consumers are still unfamiliar with the term "green organic foods", expanding marketing tactics will help this industry. If marketers prioritize the reasons people buy green organic foods, it will cause a revolution in the food industry, as sales are increasing rapidly. The four motivations for purchasing green organic foods are peer influence, green advertising, environmental knowledge, and willingness to pay. Environmental knowledge and willingness to pay are important contributors to this study as a result, companies must develop a green concept in green organic foods and focus on environmental knowledge and willingness to pay however, peer influence, and green advertising are not. As a result, there is a greater opportunity to do additional research on the factors that influence customers’ perceptions of buying green organic foods in Dhaka city of Bangladesh.

Compliance with ethical standards

Acknowledgments
The author expresses heartiest gratitude to Farhana Akter and Sanjoy Kumar Roy who have helped carry out this study apart from the author.

Disclosure of conflict of interest
There is no conflict of interest with the publication of the manuscript or an institution or product that is mentioned in the manuscript.

Statement of ethical approval
The present research work does not contain any studies performed on animals/humans subjects by the author.

Statement of informed consent
The study involves information about the participants and informed consent was obtained from all individual participants included in the study.

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[46] Conraud-Koellner E, Rivas-Tovar LA. Study of green behavior with a focus on Mexican individuals.


Appendix

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Items and Statements</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peer Influence</td>
<td>PI1: My friends often discuss the environmental issues related to green organic food with me.</td>
<td>(Khare, 2015)</td>
</tr>
<tr>
<td></td>
<td>PI2: My friends often recommend green organic food to me.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PI3: My friends often share their experiences and knowledge about green organic foods with me.</td>
<td></td>
</tr>
</tbody>
</table>
| Green Advertising | GA1: I believe that green advertising is a good source of information about green organic foods.
I know that green advertising is good at addressing environmental problems.
GA3: Because of the green advertising of green organic foods I believe they are safer to eat.
GA4: I have more confidence in advertised green products than in unadvertised green ones.
GA5: I think green advertising presents a true picture of the product being advertised. | (Haytko & Matulich, 2008) |
| Environmental Knowledge | EK1: I know more about environmental issues than the average person.
EK2: I know the reasons to select green organic foods which helps to protect the environment.
EK3: I understand the environmental phrases and symbols on the package of green organic foods.
EK4: I know that buying green organic foods is environmentally safe. | (Mostafa, 2006) |
| Willingness to Pay | WTP1: I would pay more for a green product that is making efforts to be environmentally sustainable.
WTP2: I would be willing to pay this extra percentage on the green products to support the organization's/ product efforts to be environmentally sustainable.
WTP3: I feel proud to have environment-friendly products in my house even though they are more costly than conventional ones. | (Kang et al. 2012 & Jang et al. 2011) |
| Green Purchasing Behavior | GPB1: I prefer green organic foods over non-green products when their product qualities are similar.
GPB2: I buy green organic foods because they are environmentally-friendly.
GPB3: I buy green organic foods even if they are more expensive than the nongreen ones.
GPB4: When I want to buy a green organic food, I look at the ingredient label to see if it contains environmentally damaging things. | (Lee, 2008) |