Moderating Effect of Facilitators and Barriers for Purchase of Green Products in India

Vishal Kumar Laheri [1]

Abstract

The paper aimed to study the influence of factors that enable and inhibit consumers to purchase selected green product categories, that is, organic food products, organic personal-care products, and energy-efficient products. The enabling and inhibiting factors were examined as a moderator between purchase intention and purchase behavior of consumers for green products. Data for the research were collected from 506 Indian consumers. It was found that facilitators (i.e. health, environment friendly, certification, minimum use of pesticides, superior quality, and recyclability) for selected green product categories significantly influenced the purchase intention and purchase behavior of consumers. However, with respect to barriers (i.e. high price, lower availability, lower promotion, lack of certification, lack of well-known brands, resistance to change), it was found that for organic food products and organic personal care products, there was an interaction effect, but for energy-efficient products, there was no significant interaction effect on purchase intention and purchase behavior of consumers for green products. The identified facilitators and barriers for selected green product categories can be helpful for the marketers in minimizing the 'intention-behavior gap' among Indian consumers for the purchase of selected green products. The study provides novel insights on the complex buying behavior of Indian consumers for selected green product categories using important variables, that is, facilitators and barriers as moderator between purchase intention and purchase behavior of consumers. The study examined separate models using the process tool for each green product category for both facilitators and barriers for its purchase by consumers.

Keywords : **green products, organic food products, organic personal-care products, energy-efficient products, moderation**

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Environmental problems are increasing day-by-day, and people around the world are conscious towards its continuous degradation. The issues of environmental concern are gaining importance both in business and academia. This movement is gaining attention because of unsustainable manufacturing and consumption processes by the industry and consumers, respectively. According to a study by Grunert and Juhl (1995), 30% of the environmental problems are as a result of unsustainable consumption practices by the consumers. It is grievous that efforts to change people's environmentally unsustainable behaviour through interventions have not been met with success (Fransson & Gärling, 1999).

It has been witnessed in the past that due to rising concern for the environment, people around the world are becoming pro-environmental in their consumption activities (Grunert & Juhl, 1995). It is evident that with an increase in demand for environmentally safer products, the companies are also modifying their products and processes to shift their production and communication processes to be greener.

North America and Europe are the countries that have given a trend of organic food products. The organic food trend is now emerging in developing economies such as India and China. Although North America and Europe hold the biggest consumption rate for organic foods, the market for organic foods in Asia would exhibit the highest

[1] *Assistant Professor*, Institute of Management Studies, Banaras Hindu University, Varanasi – 221 005, Uttar Pradesh. (E-mail : vishal.laheri_phd@fms.edu) ; ORCID ID : https://orcid.org/0000-0001-5390-3623

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growth rate in the coming years. The level of awareness for organic food products in India is on a surge, which is portrayed as natural and chemical-free. The demand for organic foods is arising from Tier I cities such as Mumbai, Delhi, Chennai, Bangalore, Gurugram, and Pune. One of the reasons for the increase in the demand for organic products in metro cities is its availability on online platforms.

According to a report released by ASSOCHAM and EY (2018), it is estimated that the market share of organic food is expected to increase by three folds by the year 2022 as mentioned in Table 1. As per the report, the market for organic food in India is $533 million as compared to $360 million in 2014. The report unveiled that the organic food market in India can grow more than 25% annually to reach $871 million by 2021. As per another research by Research and Markets (2016) (see Table 1), the consumption of organic personal care products is on a surge. With many international and national players entering this market, the growth opportunity is promising. The organic personal care market is estimated to grow twice by the year 2022. The organic personal care market at current is estimated at ₹ 500 crores with CAGR at 20 – 25%.

Table 1. Selected Green Products' Market Size and Growth

Green Products Category	CAGR	Estimated Market Size (in 2022)
Organic food products	25 %	$871 million
Organic personal-care products	17.27%	$1 billion
Energy-efficient products	9.6 %	₹ 1.6 lakh crore

Source : ASSOCHAM & EY (2018), Research and Markets Report (2016), and Sarkar et al. (2016)

Witnessing the demand for green products in India for various product categories, the present study aims to investigate the various factors which incite and impede consumers to buy these green products. Another objective of the research is to examine the interaction effects of identified facilitators and barriers of green products across purchase intention and purchase behavior of consumers for these green products. The variables for purchase intention and purchase behavior are taken from standard scales (see Table 2) which have been discussed in the Methodology section.

The present study is an attempt to identify the facilitators and barriers for purchase of green products in India. It is found that concern for health, certification, superior quality, free from pesticides, no chemical, availability at online stores, recyclability, etc. are the motivating factors for consumers to buy various categories of green products. On the other hand, lack of well-known brands, lower availability, lower promotion, difficulty in identifying, higher prices, etc. are the factors that impede consumers to purchase various categories of green products. In this study, these identified facilitators and barriers are examined as moderator across purchase intention and purchase behavior for green product categories. It is found that identified facilitators of organic food products, organic personal-care products, and energy-efficient products significantly moderate the relationship between purchase intention and purchase behavior for purchase of green products. Similar results are found for barriers for purchase of organic food products and organic personal-care products. It is interesting to note that barriers for purchase of energy efficient products (i.e. higher price, lack of certifications, lower promotion, lack of well-known brands, lower awareness) do not moderate the relationship between purchase intention and purchase behavior. The research can be valuable for the marketers to understand the factors which can be used for promotion, packaging, and positive word of mouth to enhance the sales of various categories of green products in India.

Literature Review

This section of the research has been categorized according to the selected green product categories. In this

research, three categories of green products have been selected, that is, organic food products, organic personal-care products, and energy efficient products. The primary focus is to emphasize on studies that have investigated the role of facilitators and barriers for purchase of green products.

Hughner, McDonagh, Prothero, Shultz II, and Stanton (2007) aimed to understand the rationales used by the consumers while purchasing organic food products. The study identified : (a) consumers' buying motives, that is, health and nutrition contents, better taste, environmental concern, animal welfare concern, local economy support, nostalgic feeling, element of fashion and (b) deterrents, that is, price premium, organic food availability issues, lack of certification, poor marketing strategies, higher current food satisfaction, and sensory defects as barriers of purchasing organic food products. Roitner - Schobesberger, Darnhofer, Somsook, and Vogl (2008) focused on measuring the consumer perception of organic food products. The results reported that the main reasons for purchasing organic food products are that the customers anticipate these to be healthier and environmentally safe.

According to the study of Shafie and Rennie (2012), the fundamental objective of the study was to investigate consumer perception towards organic food. The results of the study reported that the premium price of organic foods impede consumers to make purchase decisions. Mills and Schleich (2009) investigated the factors influencing consumer understanding of the energy label for household electric appliances. The results reported that there was lack of awareness among consumers for the energy label. Grundey (2010) investigated the impact of packaging of four different brands of organic cosmetics products in understanding the attitude of consumers towards the purchase of organic cosmetic products. These findings exhibited that manufacturers of organic personal-care products were effectively working towards brand positioning as a tool for promoting the idea of organic personal-care products. Kim and Chung (2011) conducted their study to understand the consumer purchase intention towards organic personal-care products. The results indicated that the concern for the environment and appearance consciousness significantly influenced consumers' attitude concerning the purchase of organic personal-care products. According to Chakrabarti and Baisya (2011), health was considered as the prime factor for purchase of organic food products. The other factors that influenced the purchase intention of consumers were utility of organic food, reputation of store, and certification process-related information.

Paul and Rana (2012) aimed to determine the factors influencing consumer behavior towards organic food. The results interpreted that health, availability of organic food, and education profile of respondents positively influenced the customers' attitude to purchase organic food products. Nath, Kumar, Agarwal, Gautam, and Sharma (2014) identified various impediments for purchase of green products and examined the influence of these barriers in decision making for purchase of green products. The identified barriers were low willingness to pay, lack of credibility in promotion, low environmental awareness, low literacy rate, low availability, lack of support service, lack of incentives, low functional performance, lack of trust, and difficulty of integration. Jayanthi (2015) studied the level of awareness of consumers for purchase of organic food products and it was found that around 40% were aware and 38% were partly aware of it. Only 14% of the respondents were highly aware of organic food products. Khandelwal, Bajpai, Tripathi, and Yadav (2015) in their study measured intention of consumers towards purchase of hybrid cars. The study found that green product information and social value derived were positively associated with intention to purchase hybrid cars ; whereas, self-image and emission importance did not have a significant relationship with intention to purchase hybrid cars. Garcia and Manon (2016) focused on understanding the credibility of green marketing among Generation Y consumers as it was reported that this segment of consumers was not purchasing the green products because they had lesser trust on the advertisements by the green marketers. Ghose and Chandra (2018) investigated the role of demographic variables as moderating variables across consumption behavior towards durable green products. The results reported location of living as a significant moderating variable ; whereas, gender, income, and educational qualifications of respondents were not found to be the significant moderating variables across purchase behavior for durable green products. Jose and Koshy (2018)

examined the factors influencing young consumers to purchase organic food products for healthy lifestyles. It was found that food safety concern and fear were the prime factors that motivated young consumers to purchase organic food products.

Pasricha and Jain (2019) in their study unveiled the factors that lead to purchase satisfaction and re-purchase intention for luxury Ayurvedic skincare products among youngsters. Ideal self-congruity, product knowledge, and sense of power were found to be strong antecedents for purchase satisfaction. However, product satisfaction was a key factor for re-purchase intention for Ayurvedic skincare products. Wong, Wong, and Wong (2020) examined the intention of consumers for purchase of green products in Malaysia. The study exhibited attitude for green purchase, health consciousness, attitude towards the environment, and societal norms as antecedents for green product purchase intention.

This section of the study exhaustively discusses the various facilitators and barriers for selected green product categories. But there is a paucity of the literature regarding the role of facilitators and role of barriers towards the purchase of green products in India. Nath et al. (2014) identified the basic enablers like the role of literacy, consumers' awareness, and cultural values that facilitate the customers to purchase green products in India. They also suggested factors like higher price, lack of trust, lower availability, etc. that restrict consumers to buy green products. These studies examined the facilitators and buyers for green products as a whole ; whereas, the present study unveils the enablers and inhibitors for each green product category in India. Additionally, no study has aimed to study the role of facilitators and barriers and examined these as a moderator between purchase intention and purchase behavior of consumers for selected green product categories. The present research bridges this research gap.

Based on the theoretical gaps identified, the broad objective of the study is to examine the interaction effects of facilitators and barriers of selected green product categories on purchase intention and purchase behavior of consumers for green products. The specific objectives of the study are as below :

(i) To identify the facilitators and barriers for purchase of different categories of green products in India.

(ii) To study the interaction effects of facilitators for purchase of selected green product categories on purchase intention and purchase behavior of green products.

(iii) To examine how the barriers for purchase of selected green product categories moderate the relationship between purchase intention and purchase behavior for green products.

To examine the influence of facilitators for purchase of selected green product categories on purchase intention and purchase behavior of green products, the following hypotheses are developed :

↳ **$H_0$1 :** The facilitators for the purchase of organic food products do not moderate the relationship between purchase intention and purchase behavior.

↳ **$H_0$2 :** The facilitators for the purchase of organic personal-care products do not moderate the relationship between purchase intention and purchase behavior.

↳ **$H_0$3 :** The facilitators for the purchase of energy-efficient products do not moderate the relationship between purchase intention and purchase behavior.

The influence of barriers for purchase of selected green product categories on purchase intention and purchase behavior of consumers is investigated using the following hypotheses :

↳ **$H_0$4 :** The barriers for the purchase of organic food products do not moderate the relationship between purchase intention and purchase behavior.

↳ **$H_0$5 :** The barriers for the purchase of organic personal-care products do not moderate the relationship between purchase intention and purchase behavior.

↳ **$H_0$6 :** The barriers for the purchase of energy-efficient products do not moderate the relationship between purchase intention and purchase behavior.

The testing of the hypotheses is done using the process tool developed by Prof. Andrew Hayes, which is discussed in the later section of the study.

Research Methodology

This section of the study has been divided into research design, research instrument, sampling, area of the study, and data collection method. A two-way research design is employed for the present study. An exploratory study at the beginning was used to understand the theoretical background and descriptive research design at the secondary stage was employed to collect the data and examine the stated hypotheses of the research.

A structured questionnaire was developed to collect the data from 506 respondents in November 2018. The scales of the constructs were modified from their standard scales, which is represented in Table 2.

Table 2. Measures of the Study

S. No	Constructs of the Study	Scales Used
1.	Purchase intention for green products	Bolton & Drew (1991)
2.	Purchase behavior for green products	Schlegelmilch, Bohlen, & Diamantopoulos (1996)

The items were measured on a 5 - point scale from *"strongly disagree"* (1) to *"strongly agree"* (5). Purchase intention of consumers was measured through three items. The items are : "Trustworthiness of organization manufacturing green products" (INT1) ; "Reasonable price of green products" (INT2), "Information regarding the certification on the packaging of green products" (INT3). Consumers' purchase behavior is measured through three items namely, "I prefer to purchase green products with certification labels" (PB1) ; "Before purchasing, I compare the various available brands of green products" (PB2) ; "The price I pay for green products is worth the benefits I receive" (PB3).

In the study, interviews from the manufacturers (n = 9) and consumers (n = 100) (not included in final sample) were conducted to finalize the items for facilitators and barriers of organic food products, organic personal-care products, and energy efficient products. Based on the ranking of facilitators and barriers of selected green product categories, top five items were selected for each product category. The items of facilitators for purchase of organic food products are : (a) are good for health, (b) higher on nutrition, (c) no use of harmful pesticides, (d) better taste and true flavor, (e) and certified from regulatory body. The measures of facilitators for purchase of organic personal-care products are : (a) safer on skin, (b) superior quality of ingredients used, (c) chemical free, (d) environmentally friendly, (e) use of recycled material for packaging. The indicators of facilitators of energy-efficient products are : (a) saving of scarce resources, (b) less electricity consumption, (c) economical in long term use, (d) Energy Star certification, and (e) certified from regulatory body. The items of barriers for purchase of organic food products are : (a) lack of well-known brands, (b) lower availability, (c) lower promotional activities, (d) difficulty in identifying, and (e) higher price. The measures of barriers for purchase of organic

personal-care products are : (a) lack of well-known brands, (b) lower availability, (c) higher price, (d) difficulty in identifying, and (e) resistance to change from traditional personal care. The indicators of barriers for purchase of energy-efficient products are : (a) higher price, (b) lack of certification of products, (c) lack of promotion, (d) lack of well-known brands, and (e) lower knowledge about green electronics.

The individual consumers were considered as the sampling unit for the study. A two-way sampling technique is followed in the present research. Firstly, judgmental sampling technique was employed to collect the primary information from the manufacturers of selected green products ; whereas, cluster-sampling technique was administered at the second stage to collect the data from the individual consumers. The data for the research were collected within the area of Delhi – NCR.

Analysis and Results

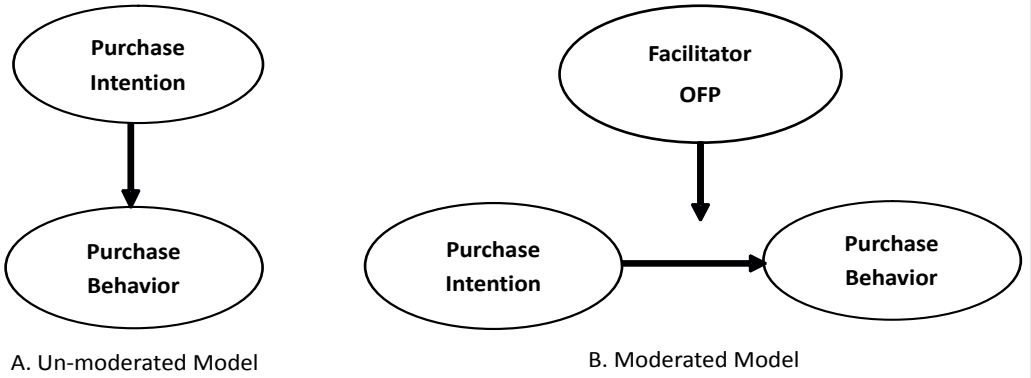
(1) Demographic Profile of the Respondents : The demographic profile of the respondents is presented in Table 3 and it shows that majority of the respondents were females (64.6%) as compared to male respondents (35.4%). As far as age of the groups of consumers is concerned, most of the respondents were of the age group of 25 – 40 years (58.3%). It was found that 2.6% of the respondents were of the age group of above 55 years. The reason for the low participation of elderly (above 55 years) could be low involvement in purchase decisions of green products. The collected data for the research shows that majority of the respondents had high monthly family earnings of above ₹ 65,000 (41.3%) and 14.6% of the respondents had a monthly family income below ₹ 25,000 (see Table 3). One of the reasons the present research targeted higher income group respondents is their affordability of buying the green products, which are priced higher as compared to non-green products. The primary data shows that majority of the respondents were graduates (45.1 %).

(2) Moderating Effect : The role of facilitators and barriers for purchase of different categories of green products is examined as a moderator between purchase intention and purchase behavior of consumers for green products. In order to examine the interaction effects, the models for facilitators and barriers for purchase of different categories of green products are developed, which is shown in Figure 1.

Table 3. Demographic Profile of the Respondents (*n* = 506)

S. No.	Demographic	Categories	Frequency	Percentage	Cumulative Percentage
1.	Gender	Male	179	35.4	35.4
		Female	327	64.6	100
2.	Age (in years)	Below 25 years	162	32	32
		25–40 years	295	58.3	90.3
		41–55 years	36	7.1	97.4
		Above 55 years	13	2.6	100
3.	Monthly Family Income (in ₹)	Below 25,000	74	14.6	14.6
		25,001–45,000	105	20.8	35.4
		45,001–65,000	118	23.3	58.7
		Above 65,000	209	41.3	100
4.	Education	High school	74	14.6	14.6
		Graduate	228	45.1	59.7
		Post-graduate	204	38.5	100

Figure 1. Facilitators of Organic Food Products as Moderator of Purchase Intention and Purchase Behavior of Green Products



Note. OFP stands for organic food products.

The purpose of this model is to understand if there is any interaction effect of facilitators for purchase of organic food products on purchase intention and purchase behavior of consumers for green products as shown in Figure 1.

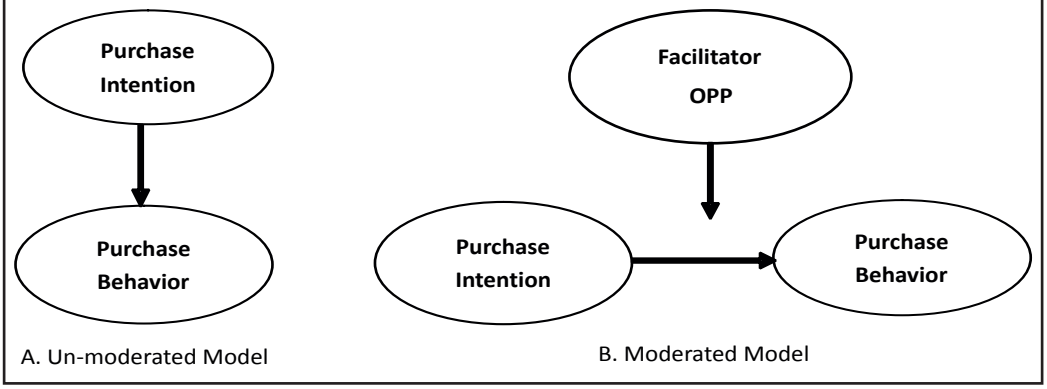
Regression analysis is conducted to understand the interaction effect between purchase intention and purchase behavior of consumers for green products. The results in Table 4 show that there is an interaction effect between purchase intention and purchase behavior of consumers as a result of facilitators for purchase of organic food products ($p < 0.05$).

Table 4. Facilitators of Organic Food Products as Moderator

S. No.	Model	Coefficient	S.E	*t*	*p*
A	Facilitators for purchase of organic food products	0.260	0.059	4.404	0.000*
B	Purchase intention for green products	0.460	0.060	7.667	0.000*
C	(Facilitators for purchase of organic food products) * (Purchase intention for green products)	0.190	0.039	2.347	0.000*

Note. Outcome variable is purchase behavior for green products. S.E stands for standard error.
* Significant at 0.05.

Figure 2. Facilitators of Organic Personal-Care Products as Moderator of Purchase Intention and Purchase Behavior of Green Products



Note. OPP stands for organic personal-care products.

As can be seen from Table 4, the construct facilitators for purchase of organic food products (A) and purchase intention for green products (B) influence the outcome variable, that is, purchase behavior of consumers for green products ($p < 0.05$). Further, it is observed that the product of facilitators for purchase of organic food products and purchase intention for green products, that is, (A*B) is significant ($p < 0.05$). This concludes that there is an interaction between purchase intention and purchase behavior of consumers as a result of facilitators for purchase of organic food products. Hence, the null hypothesis $H_0 1$ is rejected.

The role of facilitators for purchase of organic personal-care products is examined as a moderator between purchase intention and purchase behavior of consumers for green products. In order to test the interaction effects, the following model is developed as shown in Figure 2.

The purpose of this model is to understand if there is any interaction effect of facilitators for purchase of organic personal-care products on purchase intention and purchase behavior of consumers for green products as exhibited in Figure 2.

Regression analysis is conducted to understand the interaction effect between purchase intention and purchase behavior of consumers for green products. The results exhibited in Table 5 show that there is an interaction effect between purchase intention and purchase behavior of consumers as a result of facilitators for purchase of organic personal-care products ($p < 0.05$).

As can be seen from Table 5, the construct facilitators for purchase of organic personal-care products (A) and purchase intention for green products (B) influence the outcome variable, that is, purchase behavior of consumers for green products ($p < 0.05$). Further, the results exhibit that the product of facilitators for purchase of

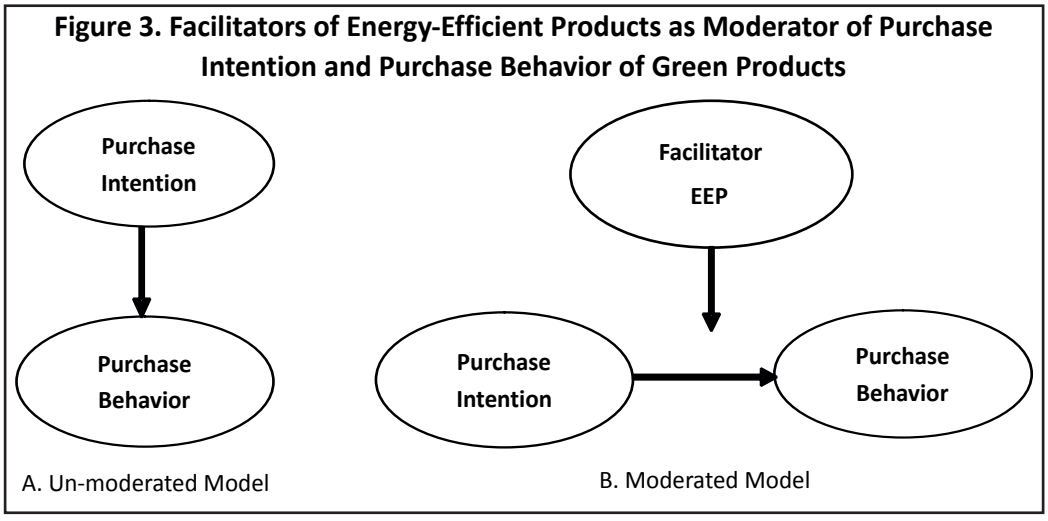
Table 5. Facilitators of Organic Personal - Care Products as Moderator

S. No.	Model	Coefficient	S.E	*t*	*p*
A	Facilitators for purchase of organic personal-care products	0.228	0.0568	3.98	0.000*
B	Purchase intention for green products	0.449	0.062	7.73	0.000*
C	(Facilitators for purchase of organic personal-care products) * (Purchase intention for green products)	0.209	0.041	4.34	0.017*

Note. Outcome variable is purchase behavior for green products. S.E stands for standard error.

* Significant at 0.05.

Figure 3. Facilitators of Energy-Efficient Products as Moderator of Purchase Intention and Purchase Behavior of Green Products



Note. EEP stands for energy-efficient products.

organic personal-care products and purchase intention for green products, that is, (A*B) is significant ($p < 0.05$) (see Table 5). This reports that there is an interaction between purchase intention and purchase behavior of consumers as a result of facilitators for purchase of organic personal-care products. Hence, the null hypothesis $H_0 2$ is rejected.

The role of facilitators for purchase of energy-efficient products is examined as a moderator between purchase intention and purchase behavior of consumers for green products. In order to test the interaction effects, the following model is developed as shown in Figure 3. The purpose of this model is to understand if there is any interaction effect of facilitators for purchase of energy-efficient products on purchase intention and purchase behavior of consumers for green products as depicted in Figure 3.

Regression analysis is conducted to understand the interaction effect between purchase intention and purchase behavior of consumers for green products. The results exhibit an interaction effect between purchase intention and purchase behavior of consumers as a result of facilitators for purchase of organic food products ($p < 0.05$) as shown in Table 6.

It can be seen from Table 6 that the construct facilitators for purchase of energy-efficient products (A) and purchase intention for green products (B) influence the outcome variable, that is, purchase behavior of consumers for green products ($p < 0.05$). Further, it is found that the product of facilitators for purchase of energy-efficient products and purchase intention for green products, that is, (A*B) is significant ($p<0.05$). This implies that there is an interaction between purchase intention and purchase behavior of consumers as a result of facilitators for purchase of energy-efficient products. Hence, the null hypothesis $H_0 3$ is rejected.

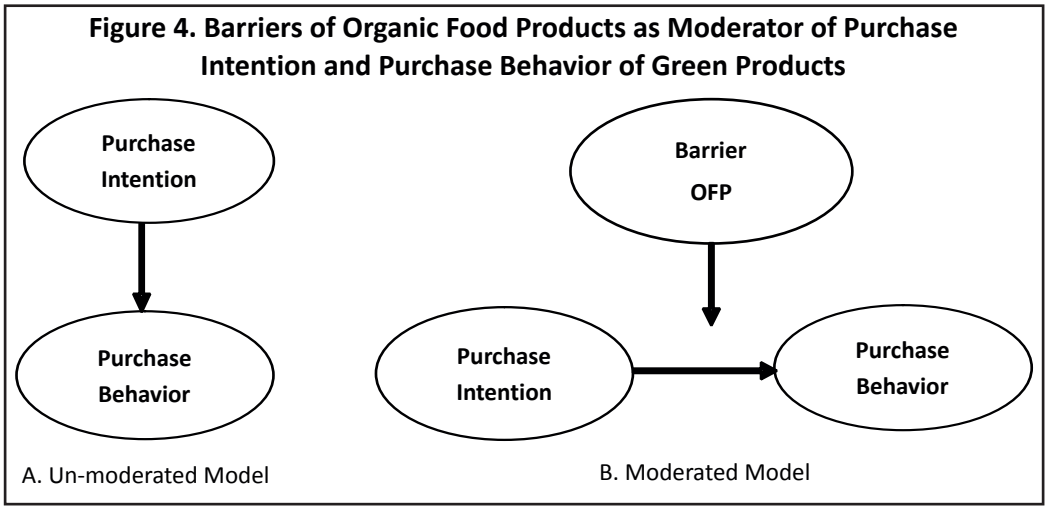
Table 6. Facilitators of Energy-Efficient Products as Moderator

S. No.	Model	Coefficient	S.E	*t*	*p*
A	Facilitators for purchase of energy-efficient products	0.287	0.066	4.352	0.000*
B	Purchase intention for green products	0.466	0.056	8.185	0.000*
C	(Facilitators for purchase of energy-efficient products) * (Purchase intention for green products)	0.313	0.077	3.173	0.000*

Note. Outcome variable is purchase behavior for green products. S.E stands for standard error.

* Significant at 0.05.

Figure 4. Barriers of Organic Food Products as Moderator of Purchase Intention and Purchase Behavior of Green Products



Note. OFP stands for organic food products.

In this section, the role of barriers for purchase of organic food products is examined as a moderator between purchase intention and purchase behavior of consumers for green products. A model is developed as shown in Figure 4 in order to test the interaction effects.

The purpose of this model is to understand if there is any interaction effect of barriers for purchase of organic food products on purchase intention and purchase behavior of consumers for green products (see Figure 4).

Regression analysis is conducted to understand the interaction effect between purchase intention and purchase behavior of consumers for green products, which is exhibited in Table 7. The results show that there is an interaction effect between purchase intention and purchase behavior of consumers as a result of barriers for purchase of organic food products ($p < 0.05$).

As can be seen from Table 7, the construct barriers for purchase of organic food products (A) and purchase intention for green products (B) influence the outcome variable, that is, purchase behavior of consumers for green products ($p < 0.05$). Further, it is reported that the product of barriers for purchase of organic food products and purchase intention for green products, that is, (A*B) is significant ($p<0.05$). This indicates that there is an interaction between purchase intention and purchase behavior of consumers as a result of barriers for purchase of organic food products. Hence, the null hypothesis $H_0 4$ is rejected.

In this section, the role of barriers for purchase of organic personal-care products is examined as a moderator between purchase intention and purchase behavior of consumers for green products. A model is developed as shown in Figure 5 to test the interaction effects.

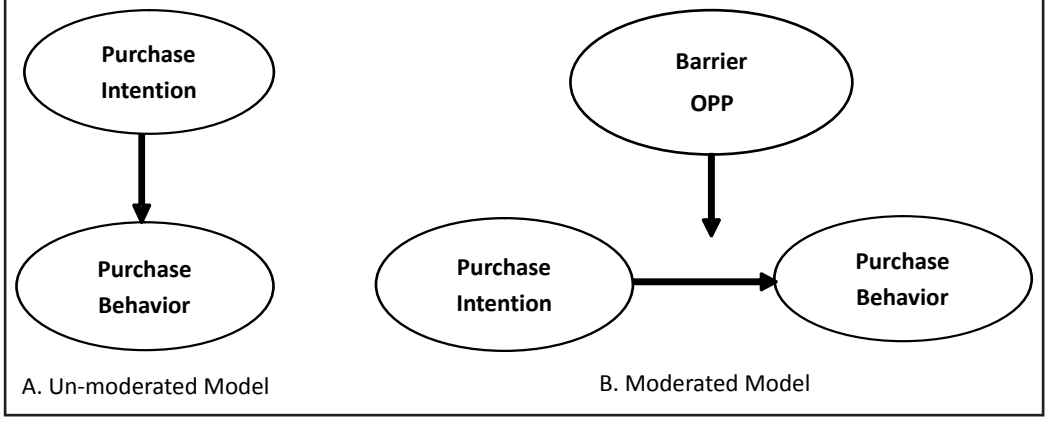
Table 7. Barriers of Organic Food Products as Moderator

S. No.	Model	Coefficient	S.E	*t*	*p*
A	Barriers for purchase of organic food products	0.592	0.042	4.138	0.000*
B	Purchase intention for green products	0.535	0.054	9.911	0.000*
C	(Barriers for purchase of organic food products) * (Purchase intention for green products)	0.364	0.065	3.273	0.000*

Note. Outcome variable is purchase behavior for green products. S.E stands for standard error.

* Significant at 0.05.

Figure 5. Barriers of Organic Personal-Care Products as Moderator of Purchase Intention and Purchase Behavior of Green Products



Note. OPP stands for organic personal-care products.

The purpose of this model is to understand if there is any interaction effect of barriers for purchase of organic personal-care products on purchase intention and purchase behavior of consumers for green products (see Figure 5).

Regression analysis is conducted to understand the interaction effect between purchase intention and purchase behavior of consumers for green products. The results exhibited in Table 8 unveil that there is an interaction effect between purchase intention and purchase behavior of consumers as a result of barriers for purchase of organic personal-care products ($p < 0.05$).

As can be seen from Table 8, the construct barriers for purchase of organic personal-care products (A) and purchase intention for green products (B) influence the outcome variable, that is, purchase behavior of consumers for green products ($p < 0.05$). Further, it is observed that the product of barriers for purchase of organic personal-care products and purchase intention for green products, that is, (A*B) is significant ($p < 0.05$). This concludes that there is an interaction between purchase intention and purchase behavior of consumers as a result of barriers for purchase of organic personal-care products. Hence, the null hypothesis $H_0 5$ is rejected.

Here, the role of barriers for purchase of energy-efficient products is tested as a moderator between purchase intention and purchase behavior of consumers for green products. The following model is developed as shown in Figure 6 to test the interaction effects.The purpose of this model is to understand if there is any interaction effect of barriers for purchase of energy-efficient products on purchase intention and purchase behavior of consumers for green products (see Figure 6).

Regression analysis is conducted to understand the interaction effect between purchase intention and purchase

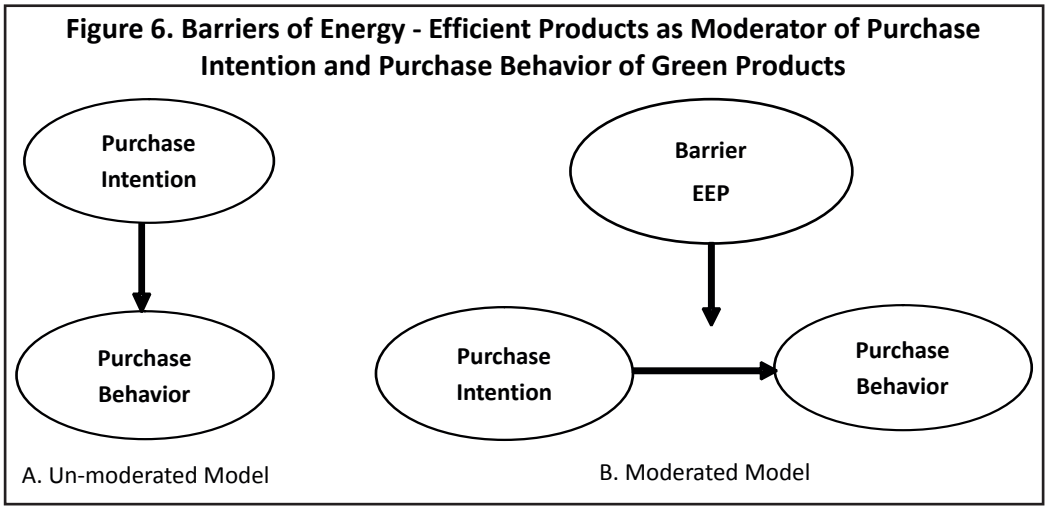
Table 8. Barriers of Organic Personal - Care Products as Moderator

S. No.	Model	Coefficient	S.E	*t*	*p*
A	Barriers for purchase of organic personal-care products	0.281	0.063	3.961	0.000*
B	Purchase intention for green products	0.535	0.051	10.347	0.000*
C	(Barriers for purchase of organic personal-care products) (Purchase intention for green products)	* 0.404	0.061	7.801	0.000*

Note. Outcome variable is purchase behavior for green products. S.E stands for standard error.

* Significant at 0.05.

Figure 6. Barriers of Energy - Efficient Products as Moderator of Purchase Intention and Purchase Behavior of Green Products



Note. EEP stands for energy-efficient products.

Table 9. Barriers of Energy-Efficient Products as Moderator

S. No.	Model	Coefficient	S.E	*t*	*p*
A	Barriers for purchase of energy-efficient products	0.216	0.041	2.017	0.034*
B	Purchase intention for green products	0.515	0.053	9.577	0.000*
C	(Barriers for purchase of energy-efficient products) * (Purchase intention for green products)	0.052	0.060	0.871	0.384

Note. Outcome variable is purchase behavior for green products. S.E stands for standard error.

* Significant at 0.05.

behavior of consumers for green products. The results shown in Table 9 exhibit that there is an interaction effect between purchase intention and purchase behavior of consumers as a result of barriers for purchase of energy-efficient products ($p<0.05$).

As can be seen from Table 9, the construct barriers for purchase of energy-efficient products (A) and purchase intention for green products (B) influence the outcome variable, that is, purchase behavior of consumers for green products ($p < 0.05$). Further, it shows that the product of barriers for purchase of energy-efficient products and purchase intention for green products, that is, (A*B) is not significant ($p > 0.05$). This concludes that there is no interaction between purchase intention and purchase behavior of consumers as a result of barriers for purchase of energy-efficient products. Hence, the research fails to reject the null hypothesis $H_0$6.

The study identifies factors that motivate consumers to purchase various categories of green products, that is, good for health, higher on nutrition, no use of harmful pesticides, better taste and true flavor, certified from regulatory body, safer on skin, superior quality of ingredients used, chemical-free, environmentally friendly, use of recycled material for packaging, saving of scarce resources, less electricity consumption, economical in long term use, Energy Star certification, and certified from regulatory body for organic food products, organic personal care products, and energy-efficient products. The results are consistent with the findings obtained by Hughner et al. (2007), Shafie and Rennie (2012), Paul and Rana (2012), Nath et al. (2014), Jose and Koshy (2018), and Wong et al. (2020).

The reason for consistency in the results with the various studies could be the uniform promotional strategies used by green product marketers while communicating the features of green products. For instance, the majority of the organic food marketers promote safer for health, free from pesticides, better taste, etc. as communication strategies. The energy-efficient electronic marketers use economy in the long run, saves electricity and resources, emits extra light, etc. as tools for promotion. Secondly, the present study investigates the interaction effects of facilitators and barriers of green products across purchase intention and purchase behavior for green products. The results are observed to be significant for facilitators of selected green product categories. For barriers of selected green product categories, the results are found to be significant except for energy-efficient products. The study did not find any literature which has used facilitators and barriers as moderators between purchase intention and purchase behavior. Ghose and Chandra (2018) did a similar analysis and investigated the role of demographic variables as moderating variables across consumption behavior towards durable green products. The results reported location of living as a significant moderating variable ; whereas, gender, income, and educational qualifications of respondents were not observed to be significant moderating variables across purchase behavior for durable green products.

Managerial Implications

The results report that the facilitators for organic food products, organic personal care products, and energy-

efficient products significantly moderate the relationship between purchase intention and purchase behavior. The identified facilitators for selected green product categories can be helpful for the marketers in minimizing the 'intention-behavior gap' among Indian consumers for the purchase of green products as identified by Jain and Kaur (2004) and Verma (2012). The policy makers can fill this gap by using the facilitators for selected green product categories as identified by the research.

Additionally, the present research identifies the factors, which are inhibiting the consumers to buy the green products. It is examined if these identified barriers are moderating the relationship between purchase intention and purchase behavior of consumers for the selected green product categories. The findings exhibit that the barriers of organic food products and organic personal-care products moderate the relationship between purchase intention and purchase behavior for green products. It is imperative to note that the barriers for energy-efficient products do not have any interaction effect on purchase intention and purchase behavior for green products. The marketers and policy makers of organic food products and organic personal-care products can take care of these barriers in avoiding the pitfalls that are refraining consumers in buying these products. On the other hand, the marketers of energy-efficient products can note that the consumers are aware of their electronic products and their certification processes ; the advertisements done by them are reaching to their customers, and consumers are familiar that using premium priced energy-efficient products are economical in the long term.

Limitations of the Study and Scope for Future Research

The present research is confined to the metropolitan area of Delhi – NCR only. The results of the research may not be generalized to other geographical locations in India. Additionally, the present research has taken only three green product categories and the findings may not be consistent for other categories of green products in India. Future researchers can focus on other categories of green products such as green buildings, green furniture, green toys, green automobile, green laundry, etc. These are absence of studies that have taken these green product categories in the Indian context. Secondly, there is a dearth of research that has focused on green labeling and certification of green products. Researchers can focus their studies on these under-researched areas to fill gaps.

Author's Contribution

Dr. Vishal Kumar Laheri conceived the idea to work on the factors that motivate and impede consumers to purchase various categories of green products. He interviewed various manufacturers of green products to gain insights about the factors considered by consumers to purchase or not to purchase green products. He developed a structured questionnaire and collected data. He analyzed the data and concluded the findings and results of the study.

Conflict of Interest

The author certifies that he has no affiliations with or involvement in any organization or entity with any financial interest, or non-financial interest in the subject matter, or materials discussed in this manuscript.

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About the Author

Vishal Kumar Laheri is currently working as an Assistant Professor at Institute of Management Studies, Banaras Hindu University, Varanasi, Uttar Pradesh. He obtained his doctoral degree from Faculty of Management Studies, University of Delhi. He has worked as an Assistant Professor at University of Delhi.