



# Determinants of Green Purchase Behaviour of Consumers in Ernakulam District, Kerala

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## Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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## ABSTRACT

**Aims:** The study aimed to identify the determinants of green purchase behaviour of consumers.  
**Methodology:** Primary data were collected from the consumers (200) who use at least one green product with an eco-label in Ernakulam District. A purposive sampling was employed to select 100 consumers both from Kochi Corporation area and Mulanthuruthy panchayath of Ernakulam district of Kerala, during the month of august and september 2023. Secondary data were collected from websites, government reports, and publications.  
**Results:** The factor analysis revealed that respondents in grama panchayat influenced by three factors like eco consumer insight, concern towards nature and green product value perspective. Whereas the factors like concern towards nature, government intervention, green product value perceptive and green promotion were acting as the major determinants of green purchase

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behaviour in the corporation area. The overall response of green consumers in Ernakulam district highlighted, three main factors that influence their purchase decision such as eco consumer insight, concern towards nature, and green product value perspective.

**Conclusion:** The marketers and policymakers need to consider the factors like eco consumer insight, concern towards nature, green product value perspective, green promotion for popularising and increasing the sale of green products.

*Keywords: Green purchase behaviour; eco consumer insight; concern towards nature and green product value perspective; green promotion; factor analysis.*

## 1. INTRODUCTION

“The recent dramatic growth of the economy, as well as consumer consumption and behaviour patterns around the world are the primary causes of environmental degradation. Approximately 70% of the planet's greenhouse gas footprint is thought to be influenced by the products that consumers choose” [1]. Awareness about environmental degradation has resulted in increasing ecological consciousness and desire to purchase green products. The growing awareness of environmental issues has also affected consumer behaviour and practices, as well as industry in the production and marketplace [2]. Green marketing puts major emphasis on satisfying the needs of consumers without deteriorating the environment. It is a holistic marketing concept that comprises a broad range of activities, where the manufacturing, promotion, utilisation, and disposal of products and services happen in a way that is less harmful to the environment and society [3]. Compared to other Indian states in Kerala environmentally sustained consumption is rising over time [4]. Many consumers prefer green products that cause no harm to the environment. Even though some studies have been conducted on factors determining purchasing behaviour for environmentally friendly products in India, there is shortage of the studies in Kerala. By identifying the determinants, corporates and policymakers can develop strategies to encourage and promote eco-conscious consumer choices and drive the adoption of green products and practices. Since green marketing is still in its infancy, much more research is needed to fully realise its potential [5].

## 2. LITERATURE REVIEW

Kapse et al. [6] studied “consumer purchase behaviour for green products. The study aimed to identify the factors affecting the consumer purchase behaviour for green products in Central

India. Convenient sampling method were used to collect the data from 390 samples of the five major cities of Madhya Pradesh. They discovered that the following factors influence green purchase behaviour in central India: awareness and concern, price and quality, information, attitude, promotional activity, and information”.

Ching and Lasuin [2] focused “the study on factors influencing green purchase intention among university students. The study aimed to investigate the relationship between environmental concern, social influence, self-image and moderating effect of demographic factors (gender and ethnic group) on green purchase intention among university students in Kota Kinabalu. The results of the study revealed that environmental concern and self-image showed positive significant relationship toward green purchase intention”.

Lu et al. [7] conducted a study on "Assessing the variables that influence the intention of green purchase". “The study aimed to identify the factors that significantly contribute the most to the intention to buy green products. The data were collected from 458 samples of various strategic locations in the Klang Valley. They classified determinants of green purchase into social influence, environmental attitude, environmental concern, perceived environmental problem, perceived environmental responsibility, perceived environmental behaviour, concern for self-image and role of government and also found that all the factors are positive predictors of green purchase intentionality”.

Barua et al. [8] conducted a study on "Analysing Factors that Affect Green Purchase Behavior: From the Context of Bangladeshi Consumers". The study aimed to understand the purchase behavior of green products of Bangladeshi consumers. The data were collected from 200 samples of Dhaka city who purchase green products and analysed through percentage,

correlation and regression. The study concluded that attitude, local environmental awareness, peer influence and knowledge directly influenced the consumers' green purchase behaviour.

Liebenberg and Bischoff [9] conducted a study on "Identifying Factors that Influence Green Purchasing Behavior in South Africa". "The study attempted to close the gap by exploring the possible factors that influence green purchasing behaviour. A total of 100 respondents from the Gauteng province of South Africa were selected for the study. The data were analysed by means of multivariate, correlational and descriptive statistics. They identified seven factors using exploratory factor analysis: environmental concern, environmental beliefs, environmental awareness, environmental attitude, social consciousness, purchase intention, and environmental knowledge. Also, it was found that the factors possessed satisfactory reliability, whilst the variance explained that all of them contribute positively to green buying behaviour".

Wang [10] evaluated "the determinants of consumers' purchase behaviour towards green brands. The study focused on consumers who had the experience of purchasing products from green brands in Taiwan's food and restaurant service industry. A total of 217 samples were collected. The study results showed that purchase intentions are positively associated with purchase behaviour. Additionally, the research showed that purchase intentions effects perceived quality, value, information costs avoided, and perceived risk on purchasing behaviour. Green perceived risk specifically acted as a mediator between green perceived value, information costs saved, and purchase intentions and negatively influenced by green perceived value and information costs saved".

Kumar and Pooja [11] studied "the green purchase behaviour among young generation: mediating role of purchase intention. The study aimed to know the factors affecting the young generation's green purchase behaviour. Primary data were collected from 317 samples of Delhi. Data were analysed by descriptive statistics, correlation, regression and structural equation modelling a multivariate technique. The result of the study showed that attitude, subjective norms, perceived behavioural patterns and environmental concern had a significant positive impact on the intention to buy green products".

Negi and Bhatti [12] attempted "to identify the effect of consumer behaviour factors towards the

purchase of green products in India. Both primary and secondary data were used for the study. Factors affecting consumer behaviour were identified through a survey done for green food products purchased by 472 consumers in the Delhi Region. The study concludes that consumers in India are aware of environmental degradation, which is not only harming the habitat but also affecting health and depleting resources from the planet Earth. Green products were in the inception stage and priced high, which affected the wallets of consumers. Continuous purchase and production would reduce the additional prices of green products".

Pompei et al. [13] attempted "to study the determinants of green purchase behaviour in Italian consumers. Primary data were collected from 921 consumers of Italy. They identified three dimensions of green purchase behaviour, namely, the willingness to pay a premium price, the green purchase frequency and the green purchase satisfaction. The study revealed that the three dimensions of green purchase behaviour had different antecedents. Green purchase behaviour is a multi-faceted phenomenon that should not be studied as a single general concept".

Ioanid et al. [1] aimed "to conduct a systematic literature review on consumer behavior, as well as identify the main factors that interfere with consumer behavior toward green products. A total of 37 studies were found and systematised using inclusion and exclusion criteria. They revealed that the various factors that influenced consumer behavior toward green products were, such as social norms, natural environmental orientation, the company's perceived green image, green product characteristics, perceived risks and inconvenience of buying green products, perceived benefits of buying green products, institutional trust, sociodemographic characteristics, and consumer confidence".

Etrata et al. [14] conducted a study on "Going green: factors influencing green purchase intention". "The study aimed to determine the influence of environmental knowledge and environmental attitude and concern on green purchase intention. They used a quantitative method to analyse the data gathered from 150 respondents from major cities of the Philippines using a self-administered questionnaire. In order to test the relationship of variables, multiple regression analysis were utilised. They found that environmental knowledge and environmental

attitude and concern were found to have a significant influence on green purchase intention”.

Singh and Kharbanda [15] conducted a study on "Factors Determining Sustainable Consumption Behaviour: A Guiding Framework from Literature". "For conducting the study, they selected research papers that were empirical cross-sectional studies based on samples drawn from different populations any time during the decade 2011-2021. Only secondary data were used for the study. They found thirty-two factors, segregated into five broad categories viz. Endogenous, Exogenous, Situational, Product Attributes, and Demographic. The factors influence individually or in combination with each other to impact sustainable consumption behaviour, directly or indirectly, and sometimes act as moderating and mediating variables”.

### 3. MATERIALS AND METHODS

For the purpose of primary data collection, 200 respondents were selected from Kochi Corporation area (100) and Mulanthuruthy panchayath (100) of Ernakulam district of Kerala. Those who use at least one green product with an eco-label were purposively selected. Purposive sampling is a sampling method where the researcher selects participants from population for the study using only their own judgement. Primary survey was conducted through a prestructured interview schedule during the month of August and September 2023. Secondary data were collected from websites, government reports, and publications. For the purpose of analysis data collected through five point Likert's summated rating scale and analysed by employing factor analysis.

### 4. RESULTS AND DISCUSSION

The marketers try to understand the actions of the consumers in the marketplace and the underlying motives for such actions. These motives are the factors that influence consumer behaviour and the study attempt to bring the factors influencing green purchase behaviour both in Grama Panchayat and Corporation area. The study also highlighted the determining of green purchase in Ernakulam district. For the purpose of analysis data collected through five point Likert's summated rating scale and analysed by employing factor analysis.

## 4.1 Factor Analysis in Grama Panchayat

### 4.1.1 Factor -1 (F<sub>1</sub>)

The first factor is consisted of variables like green product accessibility and differentiation (0.331), awareness about green product (0.537), habits (0.676), convenience and ease of use (0.583), past experience (0.696), belief about product safety for use (0.796), health benefits and consciousness (0.585), willingness to pay premium price (0.554), transparency of trade practices of green products (0.469), green policies of government (0.532) had highest significant positive loadings. Hence factor 1 was characterized as "Eco consumer Insight".

### 4.1.2 Factor -2 (F<sub>2</sub>)

The second factor consisted of variables like friends and family (0.534), concern for the self-image in environmental self-protection (0.707), environment responsibility (0.792), environment consciousness and outlook (0.579), environmental concern (0.728) had significant positive loadings. Hence factor 2 was characterized as "Concern towards nature".

### 4.1.3 Factor -3 (F<sub>3</sub>)

The third factor consisted of variables like compassion for green products (0.703), eco label credibility (0.307), promotion and availability of green product information (0.836), green product attributes (0.651), trust on green products (0.703), brand image (.625) had significant positive loadings. Hence factor 3 was characterized as a "Green product value perspective".

## 4.2 Factor Loadings of Grama Panchayat (n=100)

From the factor matrix, the new factors were derived. From the table given below, it could be understood that the different factors that had been given were named according to the nature of the statement. Factor loadings were also given.

The variables given in Table 1 were derived with the highest factor loadings by means of factor analysis. The 3 factors like belief about product safety for use (0.796), Environment responsibility (0.792), and Promotion and availability of green product information (0.836) were concluded to be acting as the major determinants of green purchase behaviour in Grama Panchayat.

**Table 1. Factor loadings of grama panchayat**

Sl.no	Factors	Variables	Factor loading
1.	Eco consumer insight	Belief about product safety for use	0.796
2.	Concern towards nature	Environment responsibility	0.792
3.	Green product value perspective	Promotion and availability of green product information	0.836

Source: Compiled from Primary data

In grama panchayat mainly three factors like eco-consumer insight, concern towards nature, and green product value perspective were influencing consumers to purchase green products. Eco consumer insight factor were influenced by green product accessibility and differentiation awareness about the green product, habit, convenience and ease of use, past experience, belief about product safety for use, health benefits, and consciousness, willingness to pay premium price, transparency of trade practices of green products, green policies of government. Marketers and policymakers must consider these factors to encourage eco-friendly consumer behavior. Most of the respondents in panchayat were concerned towards nature, it is a significant driver of their choice to purchase green products. When people prioritize environmental values and concerned about environmental issues, they are more likely to seek out and support eco-friendly products, encouraging a market for environmentally responsible and green goods. Their purchasing decisions are frequently motivated by a desire to reduce environmental damage and contribute to a more sustainable future. Green product value perceptible is another important factor influence them to purchase green products. People value the idea of reducing their harmful effects on the environment while also saving money in the long run by using green product.

### 4.3 Factor Analysis in Corporation (n=100)

#### 4.3.1 Factor -1 (F<sub>1</sub>)

The first factor is consisted of variables like environment responsibility (0.716), environment consciousness and outlook (0.657), environmental concern (0.862), convenience and ease of use (0.557), belief about product safety for use (0.516), health benefits and consciousness (0.480) had highest significant positive loadings. Hence factor 1 was characterized as “Concern towards nature”.

#### 4.3.2 Factor -2 (F<sub>2</sub>)

The second factor consisted of variables like habits (0.437), past experience (0.441), willingness to pay premium price (0.683), transparency of trade practices of green products (0.723), and green policies of government (0.803) had significant positive loadings. Hence factor 2 was characterized as “Government intervention”.

#### 4.3.3 Factor -3 (F<sub>3</sub>)

The third factor consisted of variables like green product attributes(0.683), trust on green products(0.553), friends and family (.586), brand image (.433), concern for the self-image in environmental self-protection(0.699), awareness about green product (0.517) had significant positive loadings. Hence factor 3 was characterized as “Green product value perceptible”.

#### 4.3.4 Factor -4 (F<sub>4</sub>)

The fourth factor consisted of variables like green product accessibility and differentiation (0.627), compassion for green products (0.569), eco label credibility (0.773), promotion and availability of green product information (0.628) had significant positive loadings. Hence factor 4 was characterized as “Green promotion”.

### 4.4 Factor Loadings of Corporation

From the factor matrix, the new factors were derived. From the table given below, it could be understood that the different factors that had been given were named according to the nature of the statement. Factor loadings were also given.

The variables given in above Table 2 were derived with the highest factor loadings by means of factor analysis. The 4 factors like environmental concern (0.862), Green policies of Government (0.803), Concern for the self-image in environmental self-protection (0.699), Eco

label credibility (0.773) were concluded to be acting as the major determinants of green purchase behaviour in the corporation.

In corporation area the determinants of green purchase behaviour were concern towards nature, government intervention, and green product value perceptive and green promotion. The two elements that are additionally visible in corporation compared to grama panchayat are government intervention and green promotion. The government encourages people to buy green products by making them more affordable through, establishing environmental standards, and promoting green labelling. They also educate the public about the advantages of environmentally conscious choices through various policies. Green promotion is another major determinant of green purchase behaviour among consumers in corporation. Green promotion can influence consumers to buy green products by educating them about their benefits, showcasing their quality and design, and aligning them with ethical and social responsibility. Marketers believe that promotion enhances consumer's knowledge about green products and guides them into making an informed decision.

#### 4.5 Factor Analysis in Ernakulam District (N=200)

##### 4.5.1 Factor -1 (F<sub>1</sub>)

The first factor is consisted of variables like habits(0.653),convenience and ease of use(0.523),past experience(0.631),belief about product safety for use (0.724),health benefits and consciousness(0.594),willingness to pay premium price(0.570),transparency of trade practices of green products(0.552),green policies of government (0.637) had highest significant positive loadings. Hence factor 1 was characterized as “Eco consumer Insight”.

##### 4.5.2 Factor -2 (F<sub>2</sub>)

The second factor consisted of variables like friends and family (0.461), concern for the self-

image in environmental self-protection (0.713), environment responsibility (0.768), environment consciousness and outlook (0.646), environmental concern (0.737), awareness about green product (0.508) had significant positive loadings. Hence factor 2 was characterized as “Concern towards nature”.

##### 4.5.3 Factor -3 (F<sub>3</sub>)

The third factor consisted of variables like green product accessibility and differentiation (0.355), compassion for green products (0.659), eco label credibility (0.400), promotion and availability of green product information (0.766), green product attributes (0.597), trust on green products (0.588), brand image (.477) had significant positive loadings. Hence factor 3 was characterized as “Green product value perspective”.

#### 4.6 Factor Loadings of Ernakulam District

From the factor matrix the new factors were derived. From the table given below it could be understood that the different factors that had been given were named according to nature of the statement. Factor loadings were also given.

The variables given in above Table 3 were derived with the highest factor loadings by means of factor analysis. The 3 factors like belief about product safety for use (0.724), environment responsibility (0.768), Promotion and availability of green product information (0.766) were concluded to be acting as the major determinants of green purchase behaviour of overall consumers.

The overall response of green consumers highlighted three main factors that influence their purchase decision such as eco consumer insight, concern towards nature, and green product value perspective.

**Table 2. Factor loadings of corporation**

Sl.no	Factors	Variables	Factor loading
1.	Concern towards nature	Environmental concern	0.862
2.	Government intervention	Green policies of Government	0.803
3.	Green product value perceptive	Concern for the self-image in environmental self-protection.	0.699
4	Green promotion	Eco label credibility	0.773

Source: Compiled from Primary data

**Table 3. Factor loadings of Ernakulam district**

Sl.no	Factors	Variables	Factor loading
1.	Eco consumer Insight	Belief about product safety for use	0.724
2.	Concern towards nature	Environment responsibility	0.768
3.	Green product value perspective	Promotion and availability of green product information	0.766

Source: Compiled from Primary data

## 5. CONCLUSION

The increasing environmental concern among the people resulted in increasing demand for green product throughout the country especially in Kerala state. The marketers and policymakers need to consider the factors like eco consumer insight, concern towards nature, green product value perspective, green promotion for popularising and increasing the sale of green products. Further there is necessity of more category of green products. Through government initiatives and by extensive promotion of green products environment degradation can be bring to the minimal level. Lastly, future studies might also concentrate on examining other variables that contribute to the observed variation in green purchasing behaviour and determining the impact of variables that have received relatively little attention in the majority available research.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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