



Consumer Awareness and Perceptions toward Eco-friendly Green Products: Evidence from Hanumangarh District, Rajasthan, India

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Any product or service that is not destructive to the environment is termed an "eco-friendly product". Consumer preferences have changed due to the awareness of ongoing environmental issues, as a result of the expansion of greener, more suitable, and environmentally friendly products that need to be produced. Despite rising global concern for sustainability, limited research explores consumer awareness of eco-friendly green products. This study investigates the demographic profile, awareness, satisfaction, and purchasing behaviour of consumers regarding eco-friendly products in Hanumangarh district, Rajasthan, India. The sample size for this study

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consisted of 100 respondents, and this study used a convenience sampling method. Primary data was collected using a structured questionnaire distributed among consumers in the Hanumangarh district. Data collection tools included surveys, face-to-face interviews (where feasible) and at last through online (Google Forms/Email). The findings reveal that the region predominantly comprises well-educated, middle-income consumers—an ideal demographic for examining environmentally conscious consumerism. High awareness of green products, primarily driven by digital and social media, reflects the growing influence of modern communication in promoting sustainability. Despite this awareness, the adoption of green practices varies across product categories. Most consumers express moderate to high satisfaction with green products, especially in terms of quality and environmental impact, and are willing to recommend these products to others. The highest satisfaction was recorded in product recommendation (81%), reflecting strong word-of-mouth potential. This indicates a scope for policy or marketing interventions to make green products more accessible, especially in terms of cost-effectiveness. Although price remains a concern, it is outweighed by the perceived health and social benefits of sustainable consumption. Quality and eco-certification emerged as the most influential purchase factors, indicating a shift from cost-centric to conscious purchasing behaviour.

Keywords: *Green marketing; sustainability; eco-friendly products; purchasing behaviour; Hanumangarh.*

1. INTRODUCTION

Product is known to be the soul of the market. It can include anything, such as commodities, services, or ideas that could meet market demands and wants. The progress of the market determines the effectiveness of the product in meeting the demands and wishes of customers, whether it is a success or a failure (Alamsyah et al., 2021). As a result, it's critical to ensure that the product can satisfy both the customer's desires and protect the environment (Hapsari et al., 2023). To this the best alternative solution is an eco-product, which is also known as a green product. Eco-consumerism is about leveraging the purchasing power of individual consumers to bring about a transformation toward sustainable consumption and a green economy (Panizzut et al., 2021; Ansu-Mensah, 2021). The basic idea is for citizens to induce market changes by "voting" for eco-friendly products with their shopping dollars. State- and private-led labelling and certification programs verify that these products are actually eco-friendly (Khan et al., 2025).

Any product or service that is not destructive to the environment is termed an "eco-friendly product" (Kishore Kumar & Anand, 2013). Consumer preferences have changed due to the awareness of ongoing environmental issues, as a result of the expansion of greener, more suitable, and environmentally friendly products that need to be produced (Kim and Lee, 2023; Monir et al., 2021). There are so many factors that are incorporated in green products, such as a few raw materials that release a small amount of contamination to the environment, as

compared to other non-green products (Sirohi, 2023).

A green product is designed with as little environmental impact throughout its entire life cycle, also after it is no longer in use (Bhardwaj et al., 2020). Its characteristic features are, it is biodegradable in nature, recyclable and reusable (Sivaselvan et al., 2021). It requires the least number of available resources. It maintains sustainability and minimises the carbon as well as plastic footprint (Cholakkal, 2018). It focuses on generating revenue, thereby making a responsible contribution to the environment (Moshood et al., 2022). Lastly, its packaging is in an eco-friendly manner. They are typically determined by two primary tasks: one is waste minimisation, and the other is resource efficiency optimisation. They are built with non-toxic ingredients and environmentally friendly procedures, and are certified by leading institutions such as Energy Star, Forest Stewardship Council, and many others (Sintowoko and Hidayat, 2021; Haque et al., 2020). Green marketing, also referred to as "sustainable marketing" and "eco-friendly marketing," promotes products and services based on the environmental advantages and values (Kaur et al., 2022). Previous researchers have elucidated the impact of green marketing mix elements on the buying intentions and behaviour of consumers in different nations (Kaur et al., 2022).

2. METHODOLOGY

This research is conducted in the Hanumangarh district of Rajasthan, focusing specifically on

urban and semi-urban consumers. Hanumangarh is a developing district where awareness and consumption of environmentally friendly products are gradually gaining attention in recent trends. This research adopts a descriptive research design to explore consumer buying behaviour towards environmentally friendly green products. The study is both qualitative and quantitative in nature and is based on data collected from both primary and secondary sources. This study targets consumers residing in the Hanumangarh district, who have awareness or experience with environmentally friendly products. The sample size for this study consists of 100 respondents, and this study uses a convenience sampling method, allowing for easy access to willing participants who match the research criteria. Primary data was collected using a structured questionnaire distributed among consumers in the Hanumangarh district. The questionnaire was designed to extract data related to consumer awareness, satisfaction, and perception of the impact of green products on quality of life. Data collection tools included surveys, face-to-face interviews (where feasible) and at last through online (Google Forms/Email).

3. RESULTS AND DISCUSSION

Demographic factors play a significant role in shaping consumer behaviour, particularly in emerging domains like green product adoption. In this study, 100 respondents were surveyed using a structured questionnaire in the Hanumangarh district.

Males accounted for 56% of the respondents, while females constituted 42%. An additional 2% preferred not to disclose their gender. The relatively balanced gender distribution ensures inclusivity in the consumer behaviour analysis.

The largest segment (47%) fell within the 21–30-year age bracket, followed by 33% in the 31–40 age group, and 20% in the 41–50 age group. This indicates that younger consumers are more likely to engage with or be surveyed about green purchasing practices.

A majority (65%) were graduates, 20% had postgraduate degrees, and 15% had studied up to the 10+2 level. This high level of education among the sample suggests greater exposure to environmental awareness and sustainable lifestyle practices.

Employed individuals comprised 40%, while 30% were students. Self-employed and homemakers made up the rest. The occupational diversity offers insights into both earning and non-earning consumer segments.

A significant proportion (45%) had a monthly income between ₹20,001 and ₹30,000. About 30% earned ₹30,001–₹40,000, and 25% earned above or below these thresholds. This indicates a strong middle-income base, which is ideal for analysing eco-conscious but cost-aware consumer behaviour.

Awareness of Green Products: Awareness is the first step in the consumer decision-making process. The data reveal that a significant 89% of respondents are aware of green products. This high level of awareness is an encouraging sign for marketers and environmental stakeholders.

Source of Awareness:

- Social media was the most cited source (45%), followed by traditional advertisements (30%).
- Friends and family influenced 15%, while other sources such as seminars, NGOs, and educational institutions contributed 10%.

This data underscores the growing influence of digital platforms in shaping eco-consciousness, especially among the younger population. It also hints at the virality potential of green product marketing when coupled with social endorsements.

Most Commonly Used Products:

- Biodegradable products were used by 62% of the sample.
- Eco-friendly cleaning items (48%) and organic food products (40%) also found considerable acceptance.

The adoption pattern suggests that consumers are more inclined toward green products with everyday utility and visible environmental impact. Still, products like organic food may face hesitancy due to cost or availability concerns.

Satisfaction level with Green products: Here, the Likert scale responses were converted to percentages. Most consumers are satisfied with product quality and are willing to recommend it, although price remains a moderate concern.

The highest satisfaction was recorded in product recommendation (81%), reflecting strong word-of-mouth potential. While satisfaction with quality and performance was high, only 58% were content with pricing, suggesting a perceived premium associated with green products.

This indicates a scope for policy or marketing interventions to make green products more accessible, especially in terms of cost-effectiveness.

Perception of Green Product's Role in Quality of Life: The data below interprets that the consumers see a direct link between the environmentally friendly products and personal as well as social well-being, with increasing readiness to invest more in sustainability.

The data reveals that 84% of respondents see a direct connection between eco-friendly products and environmental well-being, while 78% associate their purchases with social responsibility.

Interestingly, 63% are willing to pay a premium for green products, implying a shift in value perception—where benefits beyond cost drive purchase decisions.

Ranking of purchase influencing factors: Average rank score indicates that the lower the

score, the more important the factor. Quality and certification are more influential than price, indicating a shift from cost to eco-conscious purchasing.

The analysis shows that quality and eco-certification are the most influential factors, which is a positive sign. It implies that consumers are prioritising authenticity and environmental compliance over just cost or convenience.

The Demographic profile of respondents in the Hanumangarh district of Rajasthan indicates that the district mainly consists of well-educated and middle-income consumers, who are ideal for studying environmentally conscious consumerism.

High awareness that as indicated by the tables, indicates that the effectiveness of digital media was more in promoting sustainability. However, the adoption of maintaining sustainability still varies with the product category.

The majority of consumers are satisfied with the product quality and are willing to recommend it to neighbours and the surrounding even though the price remains a moderate concern. To invest in maintaining sustainability, consumers mostly see a direct link between green products and social well-being, with increasing readiness to invest more in sustainability.

Table 1. Demographic profile of respondents in Hanumangarh district

Gender Distribution	56% male	42% female	2% prefer not to say
Age Group	47% (21-30)	33% (31-40)	20% (41-50)
Education	65% (Graduates)	15% (10-12)	20% (PG)
Occupation	40% (Employed)	30% (Students)	15% (Others)
Monthly income	45% (20,001- 30,000)	30% (30,000- 40,000)	25% (Others)

Table 2. Awareness of Green Products in Hanumangarh district of Rajasthan

Awareness of eco-friendly products	89%
Source of awareness	45% through social media 30% through advertisements 15% through friends/family 10% through other sources
Most commonly used green products	62% used biodegradable products 48% used eco-friendly cleaning items 40% used organic food products

Table 3. Percentages of satisfaction level with green products

Statement	Agree/Strongly Agree (%)
Performance satisfaction	76%
Expectations met	72%
Price satisfaction	58%
Preference over conventional products	66%
Likely to recommend	81%

Table 4. Perception of Green Products' role in quality of life

Statement	Agree/Strongly Agree (%)
Improved health/ lifestyle	69%
Environmental impact awareness	84%
Sense of social responsibility	78%
Willing to pay more for green products	63%

Table 5. Average Rank Score of purchase influencing factors

Factor	Average Rank Score
Quality	1.8
Eco Certification	2.3
Brand Trust	2.7
Price	3.2
Availability	3.5

Ranking of purchase influencing factors indicates that the quality and certification are more influential than price, which shows a shift from cost to conscious purchasing. Through anova analysis, it was found that the income levels significantly affect satisfaction with eco-friendly/green products. The higher the income groups tend to express greater satisfaction, possibly due to better access and affordability.

4. CONCLUSION

The present study aimed to explore consumer awareness, satisfaction, and the perceived impact of eco-friendly green products on quality of life among consumers in Hanumangarh district, Rajasthan. Through the analysis of responses from 100 participants, the study provides valuable insights into the evolving behaviour of modern consumers who are becoming increasingly conscious of environmental sustainability.

The findings reveal that a significant majority of respondents are aware of green products, largely due to the influence of social media, advertisements and peer networks. Consumers are particularly familiar with biodegradable products, organic foods, and eco-friendly cleaning items. The high level of awareness demonstrates the effectiveness of digital platforms and modern communication in spreading information about environmental sustainability.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models

(ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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