

Original Article

# Studying the Impact of Environmental Consciousness on Perceived Effectiveness of Eco-Friendly Products in Delhi NCR

Parth Aggarwal

*The British School, Dr Jose P Rizal Marg, Chanakyapuri, New Delhi, India.*

Corresponding Author : [parth903@icloud.com](mailto:parth903@icloud.com)

Received: 15 March 2024

Revised: 29 April 2024

Accepted: 16 May 2024

Published: 30 May 2024

**Abstract** - The changing times have brought along a new wave of environmental awareness among consumers, wherein consumer behavior and perception towards green-labeled goods is now an essential area of research. The study aims to understand how the environmental consciousness of a consumer affects the perception of the effectiveness of eco-friendly products. The study consisted of a sample of 80 respondents out of which 30% were males and 70% were females belonging to the age group of 36-45 residing in Delhi NCR [National Capital Region], India. A survey was carried out to measure their environmental consciousness using a scale developed by Thorman et al. (2022). Additionally, the perception of eco-friendly products was gauged through the questions centered around detergent as the product. It was found that regardless of age, gender and income, consumers perceive eco-friendly goods to perform effectively. Various firms and marketers can use the findings of the study to develop marketing strategies for a diverse and vast consumer base.

**Keywords** - Sustainability, Green products, Consumer perception, Environmental consciousness, Eco-Friendly products.

## 1. Introduction

In an era when environmental awareness and ethical consumerism are on the rise, the confluence of marketing techniques and consumer behavior in the context of green products and labeling has emerged as a critical field of study. According to the World Wildlife Fund [1], there has been an amazing 71% rise in the search for a sustainable products industry between the years 2016 to 2022. This spike in sustainable product use represents a significant shift in consumer tastes and market dynamics.

Furthermore, as of 2023, sustainable products hold a 17 percent market share and a 32 percent share of growth [2]. It has been seen that products which were marketed as eco-friendly grew 2.7 times faster than those which were not. A survey by Deloitte indicates consumers are increasingly adopting a sustainable lifestyle [3].

To meet the growing demand for environmentally friendly products, marketing strategies have evolved. Companies are actively promoting their products as 'green' or eco-friendly, not only to meet customer demands but also as part of their broader corporate social responsibility initiatives. This trend reflects a deeper commitment to ethical and ecological business practices, resonating with customers' increasing environmental concerns. Green labeling plays a

crucial role in shaping consumer purchasing behavior. Labels that convey information about a product's environmental impact, such as certifications or eco-friendly claims, significantly influence consumer preferences. A study conducted in the Chinese consumer market revealed that such labels are a decisive factor for consumers who prioritize products with minimal environmental impact [4].

Green product purchases frequently reflect a consumer's personal ideals and commitment to environmental care. This decision is regarded as an ethical commitment, as it aligns purchasing behavior with environmental sustainability [5].

A study found that consumers with a higher environmental consciousness tend to have a more favorable attitude towards purchasing green products. It also noted a positive correlation between environmental consciousness and Perceived Customer Effectiveness (PCE), indicating that environmentally conscious consumers believe their purchasing behavior can positively impact the environment. The study further demonstrated that environmental consciousness translates into actual green purchase behavior, as it is positively associated with attitude and PCE. Environmentally conscious consumers believe that their purchases of eco-friendly products can effectively contribute to environmental protection [6].



Contradictory findings were found by a related study conducted in Korea, which looked at how consumers' environmental interests affected their decision to buy eco-friendly products. The study, which examined data from 220 consumers, discovered that while environmental interest did not affect purchase intention, consumer effectiveness perception and environmental knowledge did. The study also found that the relationship between intention and conduct was mitigated by the convenience of purchase and the trustworthiness of green labels, providing guidance for encouraging eco-friendly consumption [7].

Furthermore, among a sample of 42 Chinese consumers, another study investigated the influence of environmental consciousness on the intention to purchase organic food. The study concentrated on how perceived food quality functions as a mediator. The results showed a favorable correlation between the intention to buy organic food and environmental consciousness. Additionally, it was found that the intention to purchase organic food and environmental consciousness is mediated by perceived food quality [8].

The perception of eco-friendly products among consumers who place a high value on environmental sustainability is very important. These customers frequently perceive these products to be fundamentally more effective, owing to a combination of personal ethics, environmental knowledge, and a sense of responsibility for natural resource preservation. Environmental values influence green product purchase intentions and consumer behavior, according to research, including studies by [4] and [5], providing critical insights into the motives and views of sustainability-focused consumers.

Despite extensive research in this area, particularly to study how environmental interest or consciousness impacts consumer purchase intention for eco-friendly goods, there still remains a gap in understanding how environmental consciousness specifically affects consumer perceptions about the effectiveness of eco-friendly products. Therefore, this study aims to address this gap.

## 2. Methodology

### 2.1. Research Aim and Hypothesis

This research aims to analyze the effect of environmental consciousness on consumer perceptions of the effectiveness of eco-friendly products. The research was designed around a quantitative approach. The hypothesis for this objective has been formulated as below:

H<sub>0</sub>: Environmental consciousness has no significant effect on consumer perception towards the effectiveness of eco-friendly products.

H<sub>a</sub>: Environmental consciousness has a significant effect on consumer perception towards the effectiveness of eco-friendly products.

### 2.2. Sample

The study makes use of the sampling technique of convenience sampling and consists of a diverse group of people. The sample size of 80 consumers varied in age, gender, and socioeconomic status to ensure a representative distribution. The survey collected data responses from respondents from all age groups, where the majority (approximately 48 percent) of these responses were collected from the age range of 36-45. Male respondents provided approximately 30 percent of all responses, whilst female respondents provided the rest. Furthermore, over 60 percent of all responses belonged to people with annual household incomes greater than INR 20,00,000 per annum.

### 2.3. Ethical Considerations

Prior to participation in the survey, all consumers were informed about the contents of the research paper such that their full consent was taken before collecting their responses, with the use of a small paragraph respondents could read before filling in the survey, which confirmed the consumer's consent. Information and data from individual participants have been kept confidential to any third party. Furthermore, no personal information such as name, email or phone number was collected in order to ensure complete privacy for the respondents. Participants were also informed of their right to withdraw at any point during the survey and refuse to participate.

### 2.4. Tools and Scales Used

The study has utilized a survey that comprises a standardized scale to measure environmental consciousness. The survey includes questions related to environmental values and the perceived effectiveness of green-labeled products.

In order to measure environmental consciousness, the scale developed by Thormann et al. (2022) [9] has been used. It is a 9-item scale which has three components to measure the construct. These are affective, conative and cognitive, wherein there exist three statements for each. The term "affective dimension" relates to the pleasure experienced, which is usually evaluated by contentment with one's own life [10]. It was measured through statements like "when watching TV or reading newspaper articles about environmental problems, I am often embarrassed and angry".

An individual's willingness to act is referred to as the conative component. This was measured through statements like "In favor of the environment, we all should be willing to reduce our current standard of living". Individuals' positive life experiences and their level of self-satisfaction with their lives are typically associated with the cognitive dimension [11]. This was measured through statements such as "In my opinion, environmental problems are greatly exaggerated by proponents of the environmental movement". Respondents rate their agreement on a Likert scale of 1 to 5 (wherein 1 = Strongly disagree; 5 = Strongly agree) to statements such as

“when watching TV or reading newspaper articles about environmental problems, I am often embarrassed and angry”. Higher scores on the scale show higher environmental consciousness of the respondent. However, 2 questions in the scale were reverse-coded. The score of each respondent is then compared to their perception of the effectiveness of a product, such as an eco-friendly detergent, to see what effect the environmental consciousness of a consumer has on their perception of the effectiveness of a product.

The second part of the survey tested the respondent’s perception of effectiveness towards eco-friendly products using the example of two detergents (one which was eco-friendly and another similarly priced detergent which was not) as anchors. Respondents were asked which of the two they believed to be more effective. Following this, they were inquired about the issues they may face by using the detergent they believed to be less effective, like “insufficient soil/stain removal”, “stiffness in garments”, “color fading of bright garments/graying of white garments”, and so on.

### 2.5. Data Collection Procedure

The data was collected with the use of a survey on Google forms. This survey was shared using social media and apps such as Instagram, WhatsApp and Snapchat. The data was then collected in the English language.

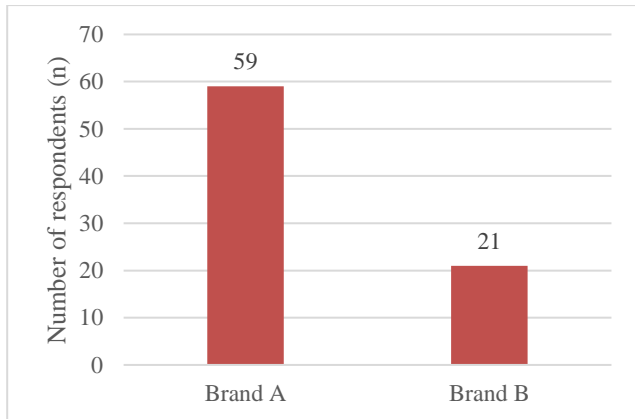
## 3. Results

The current section of the paper focuses on the analysis and the interpretation of the responses received.

**Table 1. Mean and Standard Deviation of environmental consciousness score (N=80)**

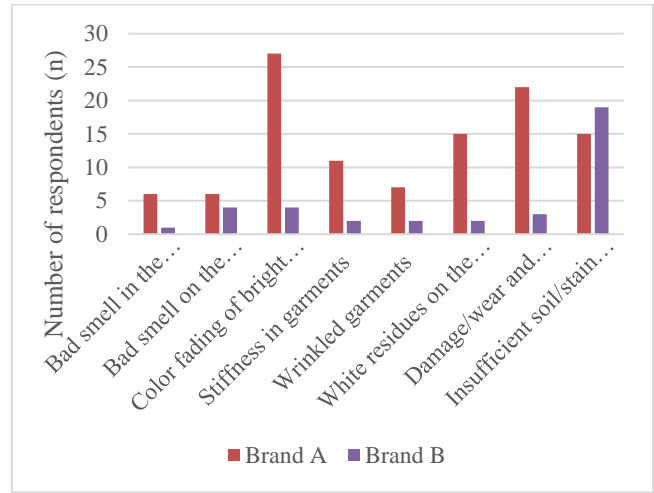
Mean	Standard Deviation
35.09	5.16

The sample of respondents were relatively environmentally conscious, with a mean score of 35.09 (SD=5.16) on the environmental consciousness index developed by Thorman et al. (2022) [9].



**Fig. 1 Graphical representation of the frequency distribution of the effectiveness perception of the respondents (N=80)**

In Figure 1, it can be observed that the majority (approximately 74%) of the sample perceived Brand A (an eco-friendly detergent) to be more effective in comparison to Brand B (a traditional detergent).



**Fig. 2 Graphical representation of frequencies and types of issues respondents believed would exist in both brands (N=80)**

In Figure 2, it can be observed that the majority of respondents who chose Brand A believed that they would face issues of ‘color fading of bright garments/graying of white garments’ (27 respondents out of 59), ‘damage/wear and tear of clothes’ (22 respondents out of 59), and ‘white residues on the garment’ (15 respondents out of 59) when using Brand B, which was the traditional detergent. Another major problem people perceived in Brand B was ‘insufficient soil/stain removal’, wherein 15 respondents out of 59 expected to face this issue. However, this was a larger issue for people who chose Brand A to be less effective, as 19 of these 21 respondents felt the eco-friendly detergent would cause the aforementioned issue.

**Table 2. Regression results for the impact of environmental consciousness on product effectiveness perception (N=80)**

	B	SE B	z	p
Constant	2.1	1.81	1.16	0.245
Environmental Consciousness Score	-0.03	0.05	0.6	0.548

Table 2 depicts that the environmental consciousness of a consumer does not significantly affect their effectiveness perception towards eco-friendly detergents,  $B = -0.03$ ,  $z = 0.6$ ,  $p > 0.05$ .

**Table 3. Chi-square test to analyze significant differences regarding product effectiveness perception dependent on age group, gender and income**

	X <sup>2</sup>	df	p
Between age	0.3	1	.59
Between gender	1.13	1	.29
Between income	1.25	1	.26

Through Table 3, it can be observed that respondents belonging to different income groups ( $X^2(1, N = 31) = 1.25, p > .05$ ), genders ( $X^2(1, N = 20) = 1.13, p > .05$ ), and age groups ( $X^2(1, N = 34) = 0.3, p > .05$ ) are not significantly different in regard to their effectiveness perception about eco-friendly products. The respondents were split into two groups: annual household income above and below INR 20,00,000 (containing 31 respondents each), gender male or female (containing 20 respondents each), and age of the respondents below or above 45 years old (containing 34 respondents each).

The results indicated no significant impact of a consumer's environmental consciousness on his/her effectiveness perception of eco-friendly products. This finding is in contradiction to [8] but similar to the finding by [7], only in regard to product effectiveness perception instead of purchase intention. Furthermore, the data suggested no significant difference between different age, gender and income groups with regard to their effectiveness perception of eco-friendly products.

Regardless of whether people show high environmental values or not or belong to different age, gender and income groups, the study has found that all consumers perceive eco-friendly goods to perform effectively. This suggests that the appeal of environmentally and socially responsible products affects both the niche and common consumers, possibly due to the increasing usage of eco-friendly products in day-to-day life. This inference is supported by Am et al. (2023), which found a positive growth differential in products with and without ESG claims, specifically in the case of laundry care products. Furthermore, the study shows that ESG-related laundry products have an 80% retail share in the market [12].

Moreover, in recent times there has been a shift in the marketing of eco-friendly goods, wherein the strategy focuses more on the quality than on the green credentials, leading to consumers having a newfound subconscious link between green goods and high performance.

This can be seen in the case of 'Phool', an Indian biomaterial startup which focuses on its high-quality products rather than emphasizing sustainability. Hence, it can be concluded that this fresh approach to marketing green products has resulted in a more favorable perception among individuals of all ages, genders, and income brackets.

## 4. Conclusion

The current study explores the influence of environmental consciousness on consumer's perception of the effectiveness of eco-friendly products. It was found that a consumer's environmental consciousness significantly does not impact the perception of the effectiveness of eco-friendly products. However, the study has a few limitations, including a small sample size, socially desirable responses, geographically limited respondent pool belonging to Delhi NCR and the use of one product to measure the respondents' perceptions.

The findings of the study can provide valuable insights for businesses and marketers creating marketing strategies tailored for a diverse consumer base. Furthermore, marketing strategies can be formulated emphasizing the performance and quality of eco-friendly products. Future studies could explore consumer perception of different products to have a comprehensive understanding of consumer perception and attitude.

## References

- [1] Brooke Hirsheimer, "Search for Sustainable Goods Grows by 71% As 'Eco-Wakening' Grips the Globe," *World Wildlife Fund*, 2021. [Google Scholar] [Publisher Link]
- [2] Arabella Ruiz, 52 Huge Environmentally Conscious Consumer Statistics, TheRoundup, 2024. [Online]. Available: <https://theroundup.org/environmentally-conscious-consumer-statistics/>
- [3] What Consumers are doing to adopt a More Sustainable Lifestyle, Sustainable Consumer 2023, Deloitte, 2024. [Online]. Available: <https://www2.deloitte.com/uk/en/pages/consumer-business/articles/sustainable-consumer-what-consumers-do.html>
- [4] Guangxia Li et al., "How Do Environmental Values Impact Green Product Purchase Intention? The Moderating Role of Green Trust," *Environmental Science and Pollution Research*, vol. 28, pp. 46020-46034, 2021. [CrossRef] [Google Scholar] [Publisher Link]
- [5] Ying-Ching Lin, and Chiu-Chi Angela Chang, "Double Standard: The Role of Environmental Consciousness in Green Product Usage," *Journal of Marketing*, vol. 76, no. 5, pp. 125-134, 2012. [CrossRef] [Google Scholar] [Publisher Link]
- [6] Aditi Mishal et al., "Dynamics of Environmental Consciousness and Green Purchase Behaviour: An Empirical Study," *International Journal of Climate Change Strategies and Management*, vol. 9, no. 5, pp. 682-706, 2017. [CrossRef] [Google Scholar] [Publisher Link]
- [7] Nayeon Kim, and Kyungtag Lee, "Environmental Consciousness, Purchase Intention, and Actual Purchase Behavior of Eco-Friendly Products: the Moderating Impact of Situational Context," *International Journal of Environmental Research and Public Health*, vol. 20, no. 7, pp. 1-17, 2023. [CrossRef] [Google Scholar] [Publisher Link]
- [8] Jianming Wang, Thuy Linh Pham, and Van Thac Dang, "Environmental Consciousness and Organic Food Purchase Intention: a Moderated Mediation Model of Perceived Food Quality and Price Sensitivity," *International Journal of Environmental Research and Public Health*, vol. 17, no. 3, pp. 1-18, 2020. [CrossRef] [Google Scholar] [Publisher Link]

- [9] Tim F. Thormann, Pamela Wicker, and Michael Braksiek, "Stadium Travel and Subjective Well-Being of Football Spectators," *Sustainability*, vol. 14, no. 12, pp. 1-18, 2022. [[CrossRef](#)] [[Google Scholar](#)] [[Publisher Link](#)]
- [10] Richard M. Ryan, and Edward L. Deci, "On Happiness and Human Potentials: A Review of Research on Hedonic and Eudaimonic Well-Being," *Annual Review of Psychology*, vol. 52, no. 1, pp. 141-166, 2001. [[CrossRef](#)] [[Google Scholar](#)] [[Publisher Link](#)]
- [11] E. Diener et al., "Subjective Well-Being: Three Decades of Progress," *Psychological Bulletin*, vol. 125, no. 2, pp. 276-302, 1999. [[CrossRef](#)] [[Google Scholar](#)] [[Publisher Link](#)]
- [12] Jordan Bar Am et al., "Consumers Care about Sustainability and Back it up with their Wallets," *McKinsey & Company*, 2024. [[Google Scholar](#)] [[Publisher Link](#)]