

# A Study on Consumer Perception Towards Eco-Friendly Packaging Among Household

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*Abstract- The increasing environmental concerns have led to a shift in consumer preferences towards sustainable and eco-friendly packaging. This study examines consumer perception, awareness, and attitude towards eco-friendly packaging among households in Chennai. Data was collected through a structured questionnaire and analyzed using percentage analysis, Chi-square test, and ANOVA. The findings reveal that while consumers show positive attitudes towards eco-friendly packaging, factors such as awareness, affordability, and availability significantly influence their purchasing behavior. The study concludes that businesses must enhance consumer education and adopt cost-effective green packaging strategies to encourage sustainable consumption.*

## I. INTRODUCTION

Environmental sustainability has emerged as a major global concern as the world faces increasing pollution, climate change, and waste management challenges. One of the primary contributors to environmental degradation is packaging waste, especially from single-use plastics and non-recyclable materials. This has led both consumers and producers to explore sustainable alternatives that minimize ecological damage. Eco-friendly packaging, which emphasizes the use of biodegradable, recyclable, or reusable materials, has gained attention as an effective way to reduce waste and promote green consumption. It not only protects the environment but also enhances a company's reputation by aligning its practices with sustainable values.

In recent years, consumers have become more aware of the environmental consequences of their purchasing behavior. Many people now prefer products that are responsibly packaged and produced, though the degree of awareness and willingness to pay for such products varies across

demographic groups. Factors such as education, income, and lifestyle strongly influence consumer attitudes towards eco-friendly packaging. While young and educated consumers tend to be more environmentally conscious, others may still prioritize affordability and convenience. Therefore, understanding consumer perception and attitude towards eco-friendly packaging is crucial for both marketers and policymakers who aim to promote sustainable practices and design strategies that match consumer expectations.

The study aims to evaluate consumer perception and attitude towards eco-friendly packaging, assess their level of awareness, and identify the key factors influencing their purchase decisions and adoption of sustainable packaging solutions.

Objectives:

1. To assess the level of awareness among consumers about eco-friendly packaging.
2. To identify the challenges faced by consumers in adopting eco-friendly packaged products.
3. To examine the impact of eco-friendly packaging on consumer purchase decisions.

## II. RESEARCH METHODOLOGY

Descriptive research design involves collecting data to describe the current status of a phenomenon or population without manipulating variables. Its main aim is to provide a detailed, factual, and accurate picture of a situation, behavior, or group. Common methods include surveys, questionnaires, observations, and case studies.

The study titled "The Study on Consumer Perception Towards Eco-friendly Packaging Among Households" is descriptive in nature and focuses on understanding the awareness, perception, and

attitude of consumers towards eco-friendly packaging.

#### Data Collection:

The research is based on both primary and secondary data.

Primary Data was collected through a structured questionnaire distributed among selected household consumers in Chennai.

Secondary Data was gathered from journals, research papers, online articles, and reports related to eco-friendly and sustainable packaging practices.

#### Tools for Analysis:

To analyze the collected data, various statistical tools such as Percentage Analysis, Chi-square Test, and ANOVA were used. These tools help in identifying the relationship between demographic factors and consumer attitudes, measuring the association between awareness and purchase behavior, and comparing variations among different consumer groups.

### III. REVIEW OF LITERATURE

Dr. N. Lalitha & Sudha N (2023) The study highlights that consumer awareness significantly influences their willingness to adopt eco-friendly packaging. It emphasizes that knowledge about environment issues increases the demand for sustainable packaging options among household.

Dr. Ganesh K.R (2024) A study on consumer behavior reveals the role of education and marketing in shaping positive consumer attitudes toward green packaging materials. The findings suggest that consumers with higher environmental concern are more likely to prefer eco-friendly packaging.

Lestari, D.D & Rosintha, R (2023) Their research found that eco-friendly packaging enhances brand reputation and encourages repeat purchases. The study concludes that sustainable packaging creates a positive perception that directly affects consumer buying intentions.

Kumar, S. & Sharma, V. (2022) This study shows that urban consumers are more conscious about eco-friendly packaging compared to rural consumers. It suggests that environmental education and social

influence play a vital role in shaping these perceptions.

Patil, A. & Joshi, R. (2021) The research investigates how packaging color, labeling, and design influence consumer choices. Results indicate that consumers associate green-colored packaging and recyclable symbols with trust and environmental responsibility

Mehta, P. & Verma, S. (2020) Their findings reveal that younger consumers are more willing to pay extra for eco-friendly packaging. The study stresses the importance of sustainability branding in motivating environmentally responsible purchasing.

Nair, R. & Menon, J. (2020) Their research emphasizes that perceived quality and functionality are crucial in adopting eco-friendly packaging. Consumers expect eco-packaging to maintain product durability while being environmentally safe.

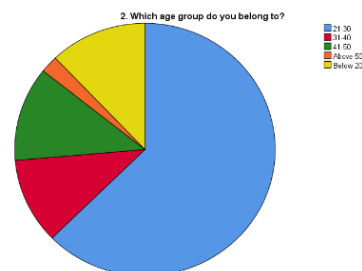
Reddy, P. & Banu, S. (2021) The study explores the impact of government policies and corporate responsibility on eco-friendly packaging adoption. It concludes that consumers trust brands that follow environmental regulations and display eco-labels.

### IV. DATA ANALYSIS

#### Percentage Analysis:

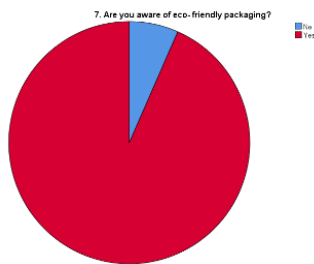
Percentage analysis was used to interpret the collected data and understand consumer awareness and attitudes towards eco-friendly packaging. The results showed that most respondents are aware of eco-friendly packaging and have a positive attitude toward using such products. However, a few respondents expressed concerns about higher prices and limited availability, which affect their purchase decision.

#### Percentage Analysis for Age of the Respondents



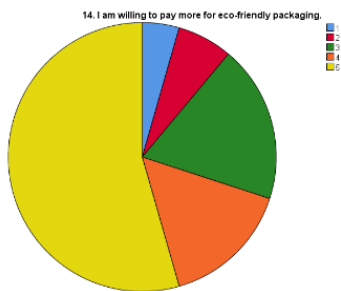
INFERENCE: The analysis shows that the majority of respondents (62.6%) belong to the 21–30 age group, indicating that young adults are more aware and responsive towards eco-friendly packaging. A smaller portion of respondents fall under the 31–40 (11%), 41–50 (12.1%), and below 20 (12.1%) age groups, while only 2.2% are above 50 years. This suggests that awareness and interest in eco-friendly packaging are largely concentrated among younger consumers, whereas older age groups show comparatively lower participation and concern towards sustainable packaging practices

Percentage Analysis For Aware Of Eco-friendly Packaging



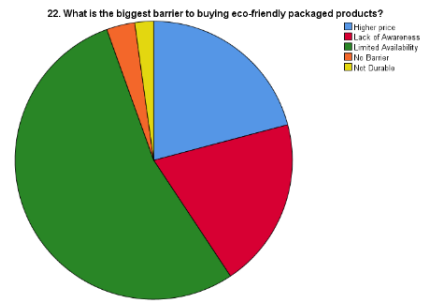
INFERENCE : Most respondents (93.4%) are aware of eco-friendly packaging. This shows that awareness about sustainable materials has spread widely among households.

Percentage Analysis for Monthly income of the Respondents



INFERENCE: Over half of the respondents (53.8%) strongly agree that they are willing to pay more for eco-friendly packaging. This indicates strong support for sustainable products even at a slightly higher cost.

Percentage Analysis for Barrier to Buy



INFERENCE: More than half (53.8%) of the respondents face limited availability as the major barrier. This indicates that companies need to increase the supply and reach of eco-friendly packaged products.

V. ANOVA ANALYSIS

ANOVA (Analysis of Variance) is a statistical tool used to determine whether there are any significant differences between the means of three or more groups. In this study, ANOVA was used to compare consumer perceptions and attitudes towards eco-friendly packaging across different demographic groups such as age, income, and education.

(Ho): There is no significant differences in responses based on different age groups.

(H<sub>1</sub>): There is a significant difference in responses based on different age groups.

|   |                |         | Sum of Squares | df     | Mean Square | F    | Sig. |
|---|----------------|---------|----------------|--------|-------------|------|------|
| 12. Eco-friendly packaging is of good quality and safe to use.      | Between Groups | 43.580  | 4              | 10.895 | 14.849      | .000 |      |
|   | Within Groups  | 63.102  | 86             | .734   |             |      |      |
|   | Total          | 106.681 | 90             |        |             |      |      |
| 11. Eco-friendly packaging is necessary to protect the environment. | Between Groups | 10.140  | 4              | 2.535  | 2.153       | .081 |      |
|   | Within Groups  | 101.244 | 86             | 1.177  |             |      |      |
|   | Total          | 111.385 | 90             |        |             |      |      |

INTERPRETATION:

(i)The ANOVA results show that quality and safety of eco-friendly packaging has a significant difference ( $p = 0.000 < 0.05$ ). Hence, we reject H<sub>0</sub> for age influences opinion on quality.

(ii) Respondents' perception towards environment protection through eco-friendly packaging has no significant difference with age as  $p > 0.05$

Chi-Square Analysis:

Chi-square analysis is a statistical tool used to examine the relationship between two categorical variables. In this study, it was applied to assess the association between consumer awareness of eco-friendly packaging and their purchase behavior. The results showed a significant relationship, indicating that consumers who are more aware of eco-friendly packaging are more likely to purchase such products.

Null Hypothesis ( $H_0$ ): There is no significant association between customers' willingness to switch brands and the barriers to buying eco-friendly packaged products.

Alternative Hypothesis ( $H_1$ ): There is a significant association between customers' willingness to switch brands and the barriers to buying eco-friendly packaged products.

| Test Statistics   |   |
|---|---|
| 17. I would switch brands if a2ther buying eco-offers better eco-friendly packaged friendly packaging products? | 22. What is the biggest barrier to buying eco-friendly packaged products? |
| 139.582 <sup>a</sup>  | 79.275 <sup>b</sup>   |
| 2   | 4   |
| .000  | .000  |
| a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 30.3.           |   |
| b. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 18.2.           |   |

INTERPRETATION:

Since the  $p$ -value = 0.000 ( $< 0.05$ ), we reject the null hypothesis. This means there is a significant relationship between customers' willingness to switch brands and the barriers influencing eco-friendly purchase decisions. In simple terms — consumers' switching behavior depends on the barriers they perceive (like cost, availability, or awareness).

## VI. FINDING

1. High Awareness and Positive Attitude: Most households are aware of eco-friendly packaging and have a positive perception of its benefits for environmental protection and sustainability.
2. Willingness to Support Eco-Friendly Products: Many consumers prefer and are willing to purchase products with eco-friendly packaging, even at a slightly higher price, as they associate it with responsible consumption.
3. Barriers to Adoption : Despite positive attitudes, higher costs, limited availability, and lack of awareness about genuine eco-friendly options remain major challenges affecting consumer adoption.
4. Influence of Environmental Awareness: Consumers with greater knowledge of environmental issues show stronger preference for eco-friendly packaging and actively seek brands that promote sustainability.
5. Role of Branding and Labeling: Clear labeling and brand communication about eco-friendly materials increase consumer trust and help in distinguishing genuine sustainable products from regular ones.
6. Impact of Demographic Factors: Age, education level, and income significantly influence consumer perception young and educated consumers tend to be more conscious and supportive of eco-friendly packaging.

## VII. SUGGESTION

1. Enhance Consumer Awareness: Companies should conduct awareness programs, campaigns, and eco-label promotions to educate consumers about the environmental benefits of eco-friendly packaging.
2. Affordable Pricing Strategies: To attract more consumers, firms should focus on reducing the cost of eco-friendly packaging through sustainable production methods and bulk sourcing.
3. Improve Availability: Eco-friendly packaged products should be made widely available in both urban and rural markets to encourage easy access and frequent purchase.
4. Innovative and attractive design: Companies should focus on developing eco-friendly packaging that is not only sustainable but also visually appealing and convenient to

use, motivating consumers to choose green alternatives.

5. Government Support and Regulations: The government should introduce incentives, subsidies, and stricter regulations to promote the use of biodegradable and recyclable packaging materials across industries

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