



EXPLORING CONSUMERS' PERCEPTIONS TOWARD ECO-FRIENDLY ALTERNATIVES IN CONVENTIONAL AND PLASTIC PACKAGING. GEN-Z'S PERCEPTION ANALYSIS.

Mr. Laishram Jasubanta

Student
Amity School of Business
Amity University, Noida, Uttar Pradesh, India

Abstract: This research aims to understand and analyze the environmental and sustainable packaging perceptions of Generation Z. As consumers, Generation Z has grown up in a world where environmental concerns, climate change and sustainability are key issues. These groups are often characterized by a focus on social and environmental responsibility, and their interests and actions can impact business. They represent a group of people with unique characteristics and values, so it is important to understand their attitudes towards good environmental practices. This study aims to investigate the following factors regarding Generation Z's understanding of environmental packaging:

1. Knowledge and experience: Explore Gen Z's awareness of environmental packaging, including their understanding of the environmental impacts of traditional packaging methods.
2. Importance of Sustainability: Understanding the importance that Generation Z attaches to good practices, especially environmentally friendly packaging. This includes determining whether the environment influences purchasing decisions.
3. Impact on brand loyalty: To investigate whether environmentally friendly packaging affects the brand loyalty of Generation Z consumers. Understanding how these consumers support brands that emphasize sustainability in their packaging and whether they are loyal to these brands will impact the business.
4. Prevention Information: Identify issues Gen Z may face when using or promoting positive packaging. This may include doubts about the cost, availability or effectiveness of the procedure

INTRODUCTION

Generation Z (Generation Z) dominates consumer preferences and behavior change. Group. These people are shaping industries and paving the way for the future of business. As this generation takes on an increasingly important role in the business world, a deep understanding of their opinions and preferences is not only relevant but important. This is especially important in the context of environmental choices where the leadership of Generation Z is at the center.

Increasing pressure to protect the environment for future generations highlights the need to increase environmental awareness among young people (Parker et al., 2019). This importance has brought sustainability to the forefront in social dialogue and forced companies in different sectors to carefully examine and re-evaluate their products and systems. The environmental impact of traditional packaging, especially the widespread use of plastic, has caused the world to re-evaluate knowledge and practices, thus entering environmental time. Options are not only optional, they are important. Generation Z is characterized by being both technologically and socially savvy, making it a unique group at the intersection of technological advancement and public health awareness. Their worldview is based on competition with the environment, which causes them to want to present scientific content in an orderly narrative packaged with security. Understanding the interaction between their values and packaging preferences against this problem has become a useful and rewarding process.

As the consumer market focuses on quality and the use of sustainable practices, the preferences of Generation Z are becoming decisive. Therefore, this study aims to reveal the opinions of Generation Z consumers and understand their expectations, concerns and motivations towards the use of quality packaging. This research goes beyond the dichotomy between traditional packaging and new plastic products and delves into the complexities involved in the decision. Moreover, this study aims to go beyond the world of scientific research and delve deeper into the thoughts of Generation Z. The aim is not to just talk about volumetric behavior, but to move on to real solutions. This is an influential demographic. path. Through this comprehensive research, we aim to contribute to the ongoing debate on leadership, providing business, policy makers and business leaders with a foundation to align their thinking with the environmental concerns of Generation Z. As we embark on this intellectual journey, the overall vision is to develop a path to success and responsibility in a future where the interest of Generation Z is not a single step, only sharing the power of positive change around the world.

LITERATURE REVIEW

What is packaging?

Packaging serves as a super integral component of food and also non-food products, playing an important role in protecting consumers from moisture, light, heat and many other external factors (Kapse et al. 2023). For packaging, metal, glass, wood, paper, plastic, pulp or a combination of actually several materials are used as composites (Gaurav Kr Deshwal, Narender Raju Panjagari & Tanweer Alam, 2019). Despite varying levels of penetration in different sectors, plastics are the dominant and singular industry in terms of usage. This spectrum basically covers a variety of products, from hosepipes to dolls, from soft drinks to refrigerators and gramophone records to televisions reflecting the ubiquity and various uses of packaging materials in today's consumer environment. Briefly, packaging can specifically be defined as "the art, science and technology of protecting, preserving and, presenting products for customer satisfaction (Altekar, 2005). Also, the function of packaging is protection, storage, loading and transportation, promotion, service and guarantee (Lindh et al. 2016).

Harmful environmental impact

However, with the increase in packaging, there are also environmental consequences. The convenience and protection offered by modern packaging has certainly improved the storage, handling and storage of definitely various products. However, the use of single-use plastic bags and excessive packaging causes environmental problems such as pollution and harm to wildlife. The packaging sector is important for environmental protection and sustainable consumption (Martinho et al. 2015). Research shows that plastic pollution is a growing environmental problem affecting almost all ecosystems in the world (Beaumont et al., 2019; Borrelle et al., 2020; Demirdjian and Mokatsian, 2017). The accumulation of hundreds of millions of tons of plastic in the environment poses a major threat to the ocean, wildlife, public health, and economic activities that basically depend on healthy marine ecosystems (Beaumont et al., 2019; Jambeck et al., 2015; Guzy et al., 2018). Plastic pollution has been consistently identified by many studies and international organizations as a growing threat to the sustainability of our planet (Borrelle et al., 2020; Karlini & Kleine, 2018; Demirdjian & Mokatsian, 2017; Villarrubia-Gomez, Cornell, & Fabres, 2018). Despite increasing awareness, plastic production is increasing, and with plastic production increasing emissions are predicted to worsen the next ten to fifteen years (MacArthur, Waughray, & Stuchtey, 2017) (Borrelle et al., 2020; UNEP, 2018). This trend definitely highlights the urgent need for an integrated strategy to tackle plastic pollution and promote sustainable alternatives to protect the environment and reduce the impact on ecosystems and human activities. In India, 43% of pollution is caused by the use of non-biodegradable plastic packaging materials (Sahu CK et al. 2016).

Corporations still rely on plastic packaging due to its low production cost, durability and distinctive features (Dalberg et al., 2019; World Economic Forum, 2016). Plastic packaging is the largest sector of the plastic industry and accounts for almost half of the world's plastic waste (Defruit, 2019; MacArthur et al., 2017; Walther et al., 2020). FMCG industry plays a key role in consumers' transition to sustainable packaging solutions (Anna Pelan et al. 2021). The food and beverage (F&B) industry accounts for a significant portion of global consumer spending and is an integral part of the FMCG industry. Fast-moving consumer goods are characterized by high throughput, low prices and frequent purchases (EMF, 2012). Companies in the F&B sector kinda rely on food-grade plastic for a variety of important purposes, including ensuring food safety, extending product shelf life, reducing food waste, and especially, providing protection and durability during transportation (Patel, Dora, Hahladakis, & Iacovidou, 2020; Verghese, Lewis, Lockrey, & Williams, 2015). Food packaging materials account for one third of household packaging pollution (Koenig-Lewis et al. 2014) and are a significant contributor to solid waste (Radwan et al. 2012).

Consumers' Role in the transition towards Sustainable packaging

Growing public awareness of plastic pollution is exerting increasing pressure on companies to shift towards sustainable packaging (WWF, EMF, & BCG, 2020). 69% of people in a survey conducted agree that pollution and environmental problems caused by plastic packaging have impacted their daily lives which supports suggestions that consumers are gradually choosing products based on their effects on the environment (Erni Rusyani et al. 2021). Also according to another consumer survey, plastic is now perceived as the most negative material used for consumer goods, with 65% of global consumers associating it with ocean pollution and 57% considering it harmful (WWF, EMF, & BCG, 2020, p.6). This heightened awareness has prompted many consumers to express a desire to alter their environmental behaviour, emphasizing the need for producers to offer solutions and take greater responsibility (Barnes, 2019). The shift in consumer attitudes underscores the growing importance of sustainable practices and environmentally friendly packaging in the eyes of the public. Companies are facing increasing expectations to adopt eco-friendly alternatives and contribute to mitigating the impact of plastic pollution on the planet. At present, renewable and biodegradable biocomposites have drawn much attention as promising green materials in different domains of application such as intelligent food packaging, biomedical and drug delivery, bio-membranes, automotive, as well as in industrial composting applications (Arvind Kumar Singh, Shamna Abou, Tinku Goswami and Gouranga Kar 2023).

Intention-behaviour gap

While there is a growing concern for environmental issues and an increased awareness of adopting sustainable practices and eco-friendly behavior, the demand for such products has not seen a proportional increase (Erni Rusyani et al., 2021). This lack of increased demand can be attributed to a deficiency in providing adequate information to consumers regarding bio-friendly packaging alternatives. The global market share for green products is estimated to be less than 4% (Gleim et al., 2013).

Since the 1990s, considerable research has been conducted to analyze consumers' buying behavior of environmentally friendly products (Davis, 1992). The "attitude-behavior gap" or "intention-behavior gap" is a well-documented phenomenon in the field of sustainable consumer behavior (Ohtomo and Hirose, 2007). This phenomenon refers to the discrepancy between consumers' positive attitudes and intentions towards practicing sustainability and their actual behavior. Various barriers contribute to this gap, including lack of availability, vulnerability, and perceived lower quality of eco-friendly products (Stern, 2000; Hughner et al., 2007; De Jonge and Van Trijp, 2013; Young et al., 2010; Magnier and Crie, 2015).

Research suggests that individuals with higher levels of education and income are more likely to prioritize eco-friendly, biodegradable packaging. However, they also seek durability and affordability in these products (Laroche et al., 2001).

Definition of Eco-friendly/sustainable packaging

Now discussing about eco-friendly alternatives and sustainable packaging, the Sustainable Packaging Coalition (2011) defines the practice as

1. A practice that ensures safety, health, and overall well-being for individuals and communities throughout its life cycle.
2. Aligns with market standards for both performance and cost-effectiveness.
3. Sourced, manufactured, transported, and recycled using renewable energy sources.
4. Maximizes the utilization of renewable energy or recycled source materials.
5. Manufactured employing clean production technologies and adheres to best practices.
6. Comprised of materials that remain environmentally healthy in potential end-of-life scenarios.
7. Physically designed to optimize both materials and energy usage.
8. Efficiently recovered and utilized in biological and/or industrial cradle-to-cradle cycles.

Scope in the Indian Market

Talking about India, The potential for eco-friendly packaging in India is significant, considering the substantial volume of packaging waste generated annually. Data from the Indian Institute of Packaging indicates that the total packaging waste in India amounts to approximately 32 million metric tonnes per year (Suyog Dharmadhikari, 2012). This substantial figure underscores both the environmental challenges posed by conventional packaging materials and the opportunity for the adoption of more sustainable alternatives. The need for reducing the environmental impact of packaging has prompted businesses and policymakers to explore and implement sustainable practices. The scope for eco-friendly packaging in India is not only environmentally beneficial but also aligns with global trends towards more responsible and sustainable consumption. It presents a promising avenue for innovation, investment, and the development of a circular economy that addresses the challenges posed by packaging waste in the country. In response to environmental degradation concerns, numerous Indian states have enforced prohibitions on the utilization of plastic bags. (Earth Policy Institute, 2013; Clapp and Swanston, 2009). Additionally, there is a noteworthy trend in shopping malls where extra charges are imposed for the provision of plastic bags (Yadav and Rao, 2014). These measures reflect a growing recognition of the adverse environmental impact of plastic usage, particularly single-use plastic bags, and a proactive effort to curb their widespread use.

Gen Z and their perceptions

Studies highlight that Gen Z holds a heightened awareness of environmental challenges, with a particular focus on issues such as climate change and plastic pollution (Crane and Matten, 2016; Ritchie and Ellis, 2010). However, Research on Generation Z remains limited due to several factors associated with this demographic. Being a relatively young generation, comprehensive studies are scarce on their behaviors and preferences. Additionally, Generation Z is closely associated with luxury shopping, technology, and the Internet, making it challenging to conduct extensive and diversified research that captures the full spectrum of their characteristics and habits (Rambabu Lahuri, 2021). The prevalence of online shopping as the preferred mode of consumption among Generation Z further complicates research efforts. Researching their perceptions of eco-friendly packaging unveils potential opportunities for businesses to capitalize on this demographic's inclination towards sustainability (Goldman Sachs, 2019; Ipsos, 2021). Saut and Saing (2021) employed the Theory of Planned Behaviour in their research, examining the interplay between environmental concern, willingness to pay, and the intention to purchase environmentally friendly products within the Gen Z demographic. Their analysis revealed notable findings: attitude, subjective norm, and perceived behavioral control exhibited significant relationships with purchase intention. Among these factors, willingness to pay emerged as the most influential on purchase intention, while subjective norm demonstrated the weakest impact. Environmental concern was found to influence both attitude and purchase intention. Importantly, attitude and willingness to pay emerged as the most influential drivers of purchase intentions within the context of environmentally friendly products among Gen Z consumers. Also in a study conducted (by Raveena Roy and Lakshmi K.S, 2023) in Bengaluru on Gen Z customers revealed that among the various analysed factors, 'purchase of products to serve the purpose' received the highest influencing factor of purchasing eco-friendly products while 'concern for the environment' was ranked the least.

OBJECTIVES OF THE STUDY

In an era marked by heightened environmental awareness and concerns about sustainability, the packaging industry faces growing pressure to adopt eco-friendly alternatives to conventional and plastic packaging materials. Among the key stakeholders in this paradigm shift are Generation Z consumers, who wield significant influence over market trends and possess distinct attitudes and preferences regarding environmental sustainability. This study endeavors to delve into the perceptions of Generation Z consumers regarding eco-friendly packaging solutions, aiming to uncover insights that can inform industry practices and policy initiatives. Through primary data collection from 150 respondents belonging to Generation Z, this research seeks to identify the factors driving their packaging choices and assess their trust in corporate sustainability efforts. Regression analysis will be employed to analyze the collected data, offering valuable insights into the attitudes, behaviors, and preferences of Generation Z consumers regarding eco-friendly packaging.

The increasing urgency to address environmental issues such as climate change, pollution, and resource depletion has prompted a global shift towards sustainability across various industries. Within the consumer goods sector, packaging plays a pivotal role, serving as both a means of product protection and a vehicle for brand messaging. However, the conventional use of plastic packaging has come under scrutiny due to its adverse environmental impacts, including pollution of oceans and landfills and contribution to greenhouse gas emissions. In response to these concerns, there has been a growing demand for eco-friendly packaging alternatives that minimize environmental harm and promote circularity and resource efficiency.

This study aims to explore Generation Z consumers' perceptions, attitudes, and behaviors regarding eco-friendly packaging alternatives, with the following objectives:

- **Assessing Awareness and Familiarity:** The first objective of this study is to gauge the level of awareness and familiarity among Generation Z consumers regarding eco-friendly packaging alternatives. This involves understanding how knowledgeable they are about different types of eco-friendly packaging materials, such as biodegradable, compostable, recycled, or reusable options. By assessing their awareness levels, the study aims to determine the extent to which Generation Z consumers are informed about sustainable packaging choices and whether they actively seek out such options when making purchasing decisions.
- **Examining Perceptions:** The second objective focuses on examining Generation Z consumers' perceptions of conventional and plastic packaging materials compared to eco-friendly alternatives. This entails exploring their beliefs, attitudes, and concerns regarding the environmental consequences of different packaging choices. By understanding how Generation Z perceives the environmental implications of packaging materials, the study seeks to uncover insights into their motivations and preferences when it comes to selecting eco-friendly packaging options.

- **Identifying Key Influencing Factors:** The third objective is to identify the key factors influencing Generation Z consumers' decisions to choose eco-friendly packaging alternatives over conventional or plastic options. This involves investigating various factors that may influence their packaging choices, including price sensitivity, convenience, brand loyalty, environmental concerns, and availability of eco-friendly products. By identifying the most significant drivers of packaging decisions among Generation Z consumers, the study aims to provide valuable insights for businesses and policymakers seeking to promote sustainable packaging solutions.

- **Evaluating Trust in Corporate Sustainability Efforts:** The fourth objective focuses on evaluating Generation Z consumers' trust in companies' sustainability efforts and eco-friendly packaging initiatives. This entails examining the extent to which Generation Z perceives corporate sustainability claims as genuine and trustworthy, particularly concerning packaging practices. By assessing their level of trust in corporate sustainability initiatives, the study aims to determine the effectiveness of companies' communication strategies and the credibility of their environmental commitments in influencing Generation Z consumers' purchasing behavior.

- **Providing Recommendations for Action:** The final objective is to provide actionable recommendations for businesses, policymakers, and environmental advocates to enhance eco-friendly packaging strategies and initiatives targeted at Generation Z consumers. Based on the findings of the study, practical recommendations will be formulated to help stakeholders better understand and respond to the preferences, values, and concerns of Generation Z regarding sustainable packaging. These recommendations may encompass strategies for product development, marketing communication, supply chain management, and policy development aimed at promoting the adoption of eco-friendly packaging alternatives and driving positive environmental impact.

The study will involve primary data collection from 150 respondents belonging to Generation Z (aged 18-24 years) using structured surveys administered online. The survey will cover various aspects, including awareness and familiarity with eco-friendly packaging, perceptions of environmental impact, factors influencing packaging choices, and trust in corporate sustainability efforts. Data analysis will involve regression analysis to identify significant predictors of packaging choices among Generation Z consumers.

The findings of the study will offer valuable insights into Generation Z consumers' perceptions, preferences, and behaviors regarding eco-friendly packaging alternatives. Regression analysis will identify the key drivers influencing their packaging choices, such as price sensitivity, convenience, brand loyalty, environmental concerns, and trust in corporate sustainability efforts. Additionally, the study will shed light on the level of awareness and familiarity among Generation Z consumers regarding eco-friendly packaging options and their attitudes towards the environmental impact of packaging materials.

By addressing the objectives outlined in this study, we aim to contribute to the growing body of knowledge on Generation Z consumers' attitudes towards eco-friendly packaging alternatives. The findings will inform industry practices, marketing strategies, and policy initiatives aimed at promoting sustainable packaging solutions and reducing environmental impact. Ultimately, by understanding and responding to the preferences and values of Generation Z consumers, businesses and policymakers can drive positive change toward a more sustainable and environmentally responsible future.

RESEARCH METHODOLOGY

In conducting our study on "Exploring Gen Z consumer perceptions on eco-friendly alternatives to conventional and plastic packaging," a robust methodology is essential to ensure the reliability and validity of the findings. This section outlines the key components of the methodology employed in this research endeavor.

1. **Type of Research:** This study adopts a quantitative research approach, emphasizing the systematic collection and analysis of numerical data. By employing quantitative methods, the research aims to quantify relationships between variables and derive statistical insights.

2. **Purpose:** The primary objective of this research is to investigate the perceptions of Generation Z consumers regarding eco-friendly packaging alternatives. Through regression analysis, the study seeks to elucidate the factors influencing consumer preferences and decision-making processes related to packaging choices.

3. **Data Collection Methods:** The primary method of data collection involves the administration of structured surveys to participants. These surveys are designed to gather quantitative data on various aspects of consumer behavior and attitudes toward packaging materials. A sample size of 150 respondents has been targeted to ensure sufficient statistical power and representativeness of the population under study.

4. **Sampling Design:** The sampling design encompasses careful consideration of sample characteristics and criteria for participant selection. A purposive sampling approach is employed to ensure that the selected participants accurately reflect the demographics and preferences of Generation Z consumers.

5. **Data Analysis Plan:** The heart of the research lies in the regression analysis, which allows for the exploration of relationships between dependent and independent variables. By analyzing the collected data using regression models, the study aims to identify significant predictors of consumer behavior and preferences regarding packaging materials.

6. **Time Frame:** The research process is structured within a defined time frame, which includes the duration of data collection, analysis, and reporting phases. Adhering to a predefined timeline ensures the timely completion of the study and facilitates efficient project management.

7. **Resource Requirements:** Adequate resources are allocated to support various aspects of the research, including survey administration tools, statistical software for data analysis, and personnel to oversee data collection and analysis tasks. Ensuring access to necessary resources is crucial for the successful execution of the research project.

8. **Validity and Reliability:** To uphold the validity of the study, survey instruments are carefully designed to measure the intended variables accurately. Additionally, measures are implemented to ensure the reliability of the findings by maintaining consistency in data collection and analysis procedures.

9. **Ethical Considerations:** Ethical considerations are paramount throughout the research process, with a commitment to upholding the rights and well-being of participants. This includes obtaining informed consent, ensuring participant confidentiality, and conducting the research in compliance with ethical guidelines and regulations.

DATA FINDINGS

Demographics

Gender

150 responses

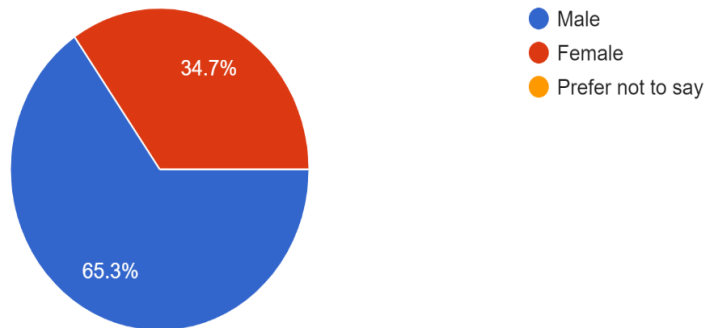


Fig. 2.1.1

Age

150 responses

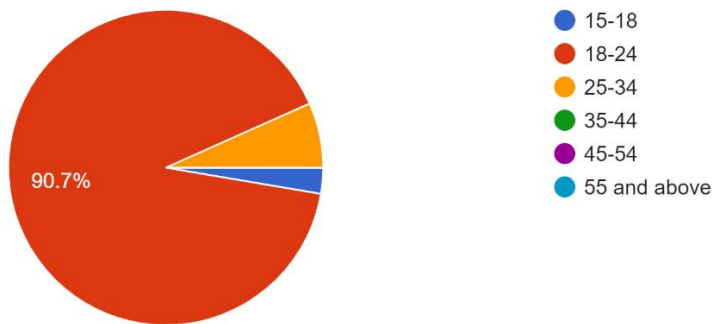


Fig. 2.1.2

Educational Level:

150 responses

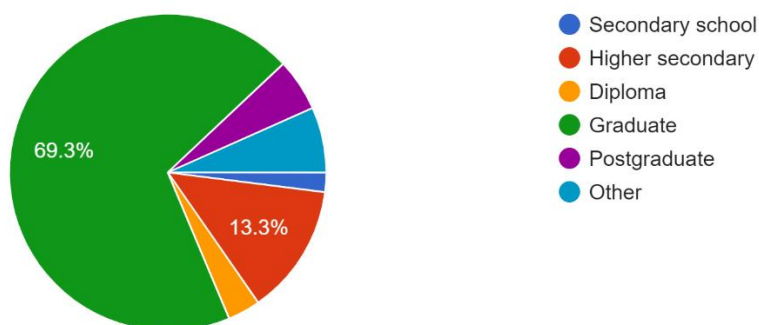
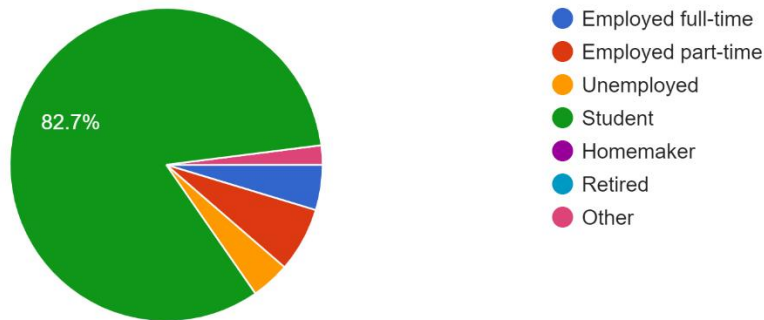


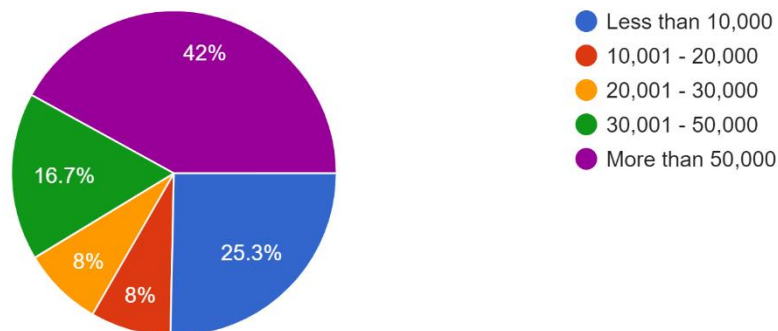
Fig. 2.1.3

Occupation:

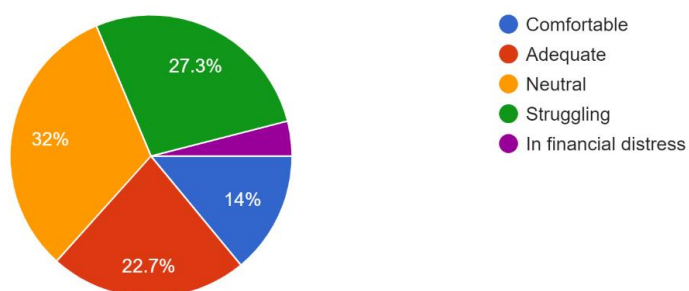
150 responses

Fig. 2.1.4**Monthly Household Income (in INR):**

150 responses

Fig. 2.1.5**Socio-Economic Conditions****How would you describe your current financial situation?**

150 responses

Fig. 2.1.6

To what extent does your income influence your purchasing decisions, including the choice of packaging materials?

150 responses

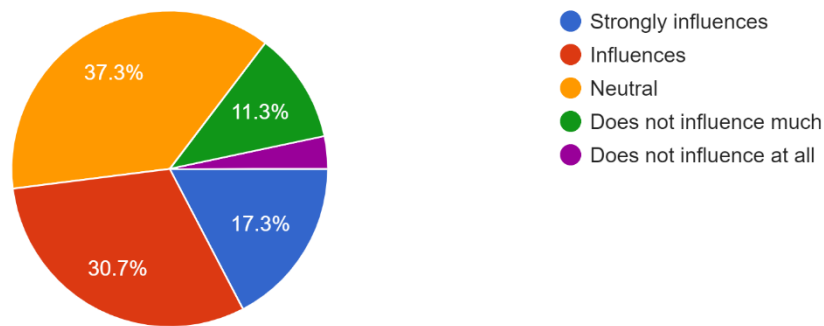


Fig. 2.1.7

Eco-Friendly Packaging Perceptions

How would you rate your level of education regarding environmental issues and eco-friendly practices?

150 responses

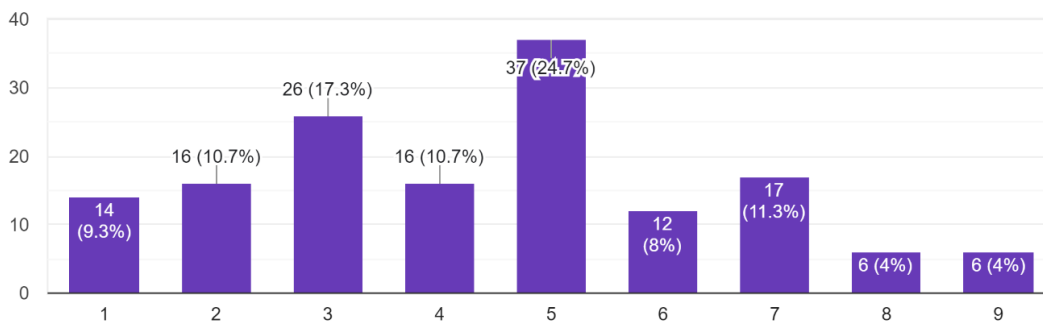


Fig. 2.1.8

Have you participated in any programs or initiatives promoting environmental awareness and sustainable practices?

150 responses

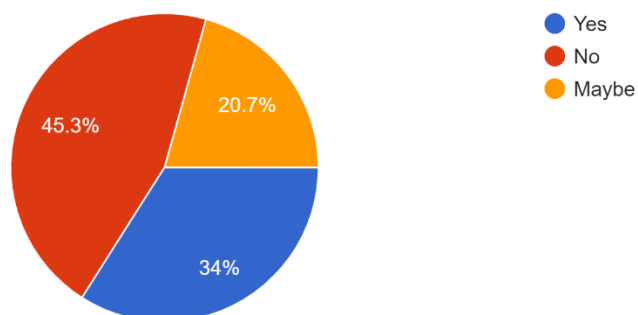


Fig. 2.1.9

How important do you consider the environmental impact of packaging materials when making a purchase?

150 responses

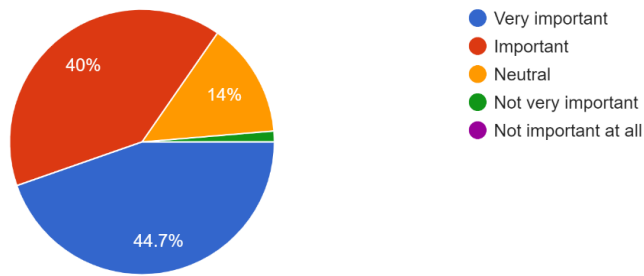


Fig. 2.1.10

How familiar are you with the concept of eco-friendly packaging?

150 responses

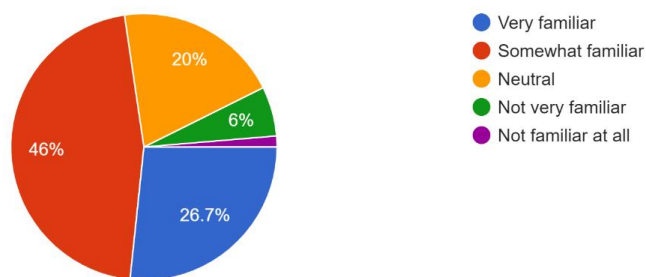


Fig. 2.1.11

Have you actively chosen products with eco-friendly packaging in the past?

150 responses

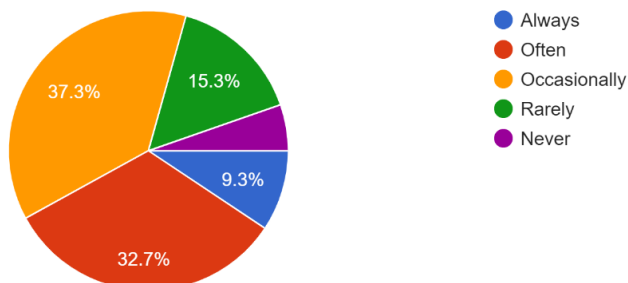


Fig. 2.1.12

What factors influence your decision to choose products with eco-friendly packaging? (Select multiple choices if you have.)

150 responses

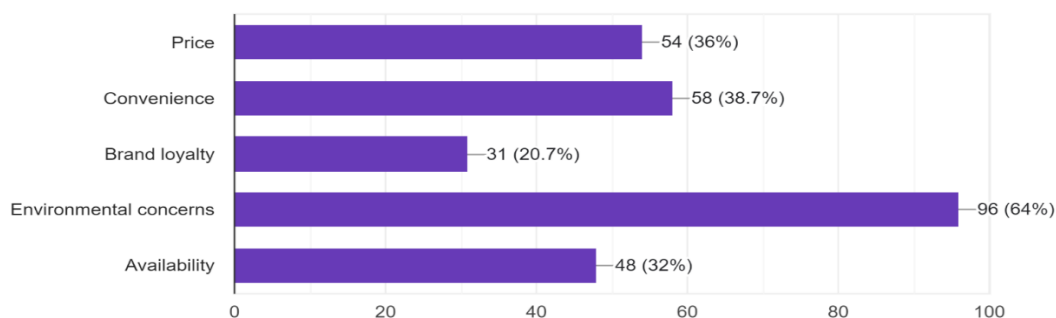


Fig. 2.1.13

How do you usually obtain information about eco-friendly packaging options? (Select multiple choices if you have.)

150 responses

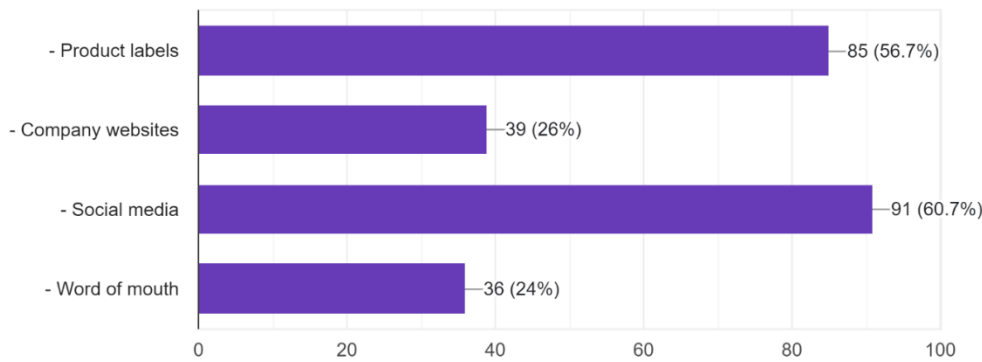


Fig. 2.1.14

To what extent do you trust the information provided by companies about their eco-friendly packaging efforts?

150 responses

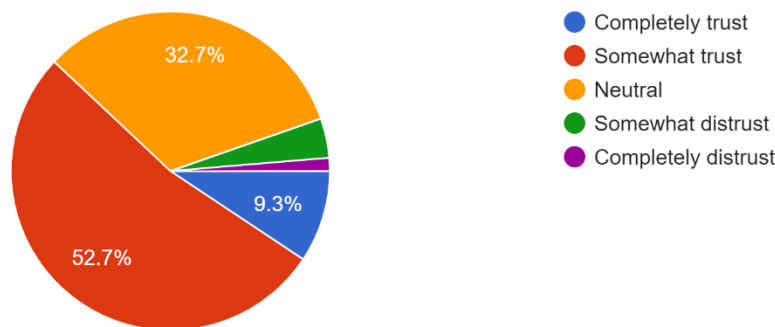


Fig. 2.1.15

Open-ended questions

1. If yes, please share any observations or experiences related to regional differences in packaging preferences.
2. Are there specific cultural practices or beliefs in your region that impact your decisions about packaging?
3. Are there specific cultural practices or beliefs in your region that impact your decisions about packaging?
4. What challenges, if any, do you face in adopting or consistently choosing products with eco-friendly packaging?
5. In your opinion, how should the government be involved in promoting the use of eco-friendly packaging?
6. Is there anything else you would like to share about how socio-economic factors affect your perceptions and choices regarding eco-friendly packaging?

RESULTS

1. Demographics:
 - The dataset predominantly comprises individuals aged 18-24, reflecting a younger demographic as the research primarily focuses on Gen Z. This age group is often characterized by being more receptive to new trends and influences in the market.
 - There appears to be a slight skew towards male participants, which indicates a higher level of engagement among males in providing feedback on consumer behavior.
2. Income:
 - The income distribution of participants ranges from less than 10,000 to more than 50,000. This wide range suggests a diverse socioeconomic background among the respondents.
 - The varying income levels could influence purchasing behavior, with those earning more potentially having greater disposable income and different spending priorities compared to those with lower incomes.
3. Financial Situation:
 - The dataset reveals a spectrum of financial situations among participants, ranging from struggling to financially comfortable.
 - Economic factors likely play a significant role in shaping consumer behavior, with individuals facing financial constraints potentially prioritizing certain factors (e.g., price) over others.

4. **Familiarity with Environmental Concerns:**
 - Environmental concerns emerge as a significant factor influencing purchase decisions for a notable portion of the participants. This indicates a growing awareness and importance placed on sustainability and eco-friendliness among younger consumers.
 - Despite the diversity in income levels, the shared concern for environmental issues suggests a common value system or awareness transcending economic boundaries.
5. **Factors Influencing Purchase Decisions:**
 - Participants cite a range of factors influencing their purchasing decisions, with price, convenience, brand loyalty, and environmental concerns being the most prominent.
 - The emphasis on these factors suggests a multifaceted approach to decision-making, where individuals weigh various considerations before making a purchase.
6. **Sources of Information:**
 - Product labels, company websites, social media, and word of mouth are highlighted as the primary sources of information influencing purchase decisions.
 - The reliance on multiple sources indicates the importance of accessing diverse information channels to gather insights and make informed choices.
7. **Trust Level:**
 - Trust levels vary among participants, with some expressing complete trust in the information they receive, while others are more sceptical.
 - This variation in trust may be influenced by factors such as past experiences, credibility of sources, and personal biases.
8. **Influence of Factors:**
 - Environmental concerns, price, convenience, brand loyalty, and availability emerge as key influencers in purchase decisions.
 - The prevalence of these factors suggests that consumers consider a combination of practical, emotional, and ethical considerations when making purchases.
9. **Purchase Decision Outcome:**
 - While some participants appear decisive in their purchase behavior, others seem to be influenced by external factors or remain undecided.
 - This variability underscores the dynamic nature of consumer decision-making, which can be influenced by a multitude of factors, both internal and external.
10. **Awareness and Education:**
 - Many respondents emphasized the critical role of awareness and education in driving the adoption of eco-friendly packaging practices. They highlighted a lack of awareness, particularly in rural areas, as a significant barrier to the widespread use of sustainable packaging options. This suggests that initiatives aimed at educating consumers about the environmental benefits of eco-friendly packaging could be instrumental in fostering greater adoption.
11. **Availability and Accessibility:**
 - Availability and accessibility emerged as key factors influencing consumer choices regarding packaging materials. Several respondents noted that eco-friendly packaging options are not readily available or are limited in certain areas, which discourages consumers from opting for sustainable alternatives. This indicates a need for increased availability and accessibility of eco-friendly packaging products to facilitate their adoption on a larger scale.
12. **Price Sensitivity:**
 - Price sensitivity was a recurring theme among respondents, with many acknowledging that eco-friendly packaging can be more expensive than conventional options. The higher cost of sustainable packaging materials was cited as a significant barrier to widespread adoption, particularly among lower-income individuals. Addressing price disparities and making eco-friendly options more affordable could help incentivize consumers to choose sustainable packaging alternatives.
13. **Government Intervention:**
 - Several respondents suggested that government intervention is essential to promote eco-friendly packaging practices. Ideas included implementing regulations to mandate the use of sustainable materials, providing incentives for businesses to adopt eco-friendly practices, and raising awareness through public campaigns. This highlights the potential impact of policy measures in driving positive changes in packaging practices at both the consumer and industry levels.
14. **Cultural Factors:**
 - Cultural factors also played a role in shaping attitudes towards packaging materials. While some respondents mentioned traditional practices, such as using banana leaves for packaging, as inherently eco-friendly, there was recognition that modern alternatives need to be promoted and made accessible. This suggests that cultural norms and traditions can influence consumer preferences but also underscore the importance of adapting to modern sustainable practices.
15. **Challenges and Solutions:**
 - Respondents highlighted various challenges associated with eco-friendly packaging, including the fragility of recyclable materials, inconvenience in obtaining them, and the perception that plastic is more convenient and cheaper. Proposed solutions included reducing the price of eco-friendly packaging materials, implementing strict policies to regulate plastic use, and promoting awareness through media and educational programs. Addressing these challenges will require a multifaceted approach that involves collaboration between government, industry, and civil society stakeholders.
16. **Variation Across Regions:**
 - There was acknowledgment of regional differences in environmental concerns and preferences for eco-friendly packaging. Factors such as cultural attitudes, awareness levels, and economic conditions were cited as influencing these variations. Understanding and addressing these regional differences are crucial for developing targeted strategies to promote sustainable packaging practices across diverse regions in India.

REGRESSION ANALYSIS

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.54088							
R Square	0.29256							
Adjusted R Square	0.23059							
Standard Error	0.88119							
Observations	150							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	12	43.993	3.6661	4.7213	2.02E-			
Residual	137	106.38	0.7764					
Total	149	150.37						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept								
How would you rate your level of education regarding environmental issues and eco-friendly practices?	0.06022	0.53727	0.1120	0.9109	1.0022	1.1226	1.0022	1.1226
How familiar are you with the concept of eco-friendly packaging?	-0.05055	0.03680	1.37348	0.1718	-0.123	0.02222	-0.1233	0.02222
How important do you consider the environmental impact of packaging materials when making a purchase?	0.221789	0.0860	2.5768	0.0110	0.0515	0.3919	0.0515	0.3919
What factors influence your decision to choose products with eco-friendly packaging? (Price)	0.221202	0.1022	2.1629	0.0322	0.0189	0.4234	0.0189	0.4234
What factors influence your decision to choose products with eco-friendly packaging? (Brand Loyalty)	0.242367	0.1562	1.5507	0.1232	-0.066	0.5514	-0.066	0.5514
What factors influence your decision to choose products with eco-friendly packaging? (Convenience)	-0.13299	0.1846	-0.720	0.4727	-0.498	0.2322	-0.498	0.2322
What factors influence your decision to choose products with eco-friendly packaging? (Environmental Concerns)	0.267603	0.1545	1.7314	0.0856	-0.038	0.5732	-0.038	0.5732
What factors influence your decision to choose products with eco-friendly packaging? (Availability)	0.178531	0.1615	1.1051	0.2710	-0.140	0.4979	-0.140	0.4979
	-0.0969	0.1629	-0.594	0.5529	-0.419	0.2252	-0.419	0.2252

To what extent do you trust the information provided by companies about their eco-friendly packaging efforts?	0.263588	0.1027	2.5641	0.0114	0.0603	0.4668	0.0603	0.4668
To what extent does your income influence your purchasing decisions, including the choice of packaging materials?	0.077038	0.0783	0.9826	0.3275	-	0.07799	0.2320	-
Have you participated in any programs or initiatives promoting environmental awareness and sustainable practices?	0.19074	0.17248	1.1058	0.2707	0.15033	0.5318	0.15033	0.5318
How much do cultural values or traditions influence your choices regarding packaging materials?	0.143179	0.07282	1.9661	0.0512	0.00082	0.2871	0.00082	0.2871
..								

Fig.3.1.1

INTERPRETATIONS

This table presents the coefficients, standard errors, t-statistics, p-values, and 95% confidence intervals for each predictor variable in a regression model predicting the likelihood of choosing products with eco-friendly packaging.

1. Intercept:

- The intercept represents the expected value of the dependent variable when all independent variables are zero. In this case, it is 0.0602, but it is not statistically significant ($p = 0.911$), indicating that when all predictors are zero, the likelihood of choosing eco-friendly packaging is not significantly different from zero.

2. Level of Education Regarding Environmental Issues:

- The coefficient of -0.0506 suggests that for every unit increase in the respondent's level of education regarding environmental issues and eco-friendly practices, there is a decrease of approximately 0.0506 units in the likelihood of choosing products with eco-friendly packaging. However, this effect is not statistically significant ($p = 0.172$). While intuitively, one might expect higher education levels to correlate with more environmentally conscious behavior, this finding indicates that education alone may not significantly influence eco-friendly packaging choices in this context.

3. Familiarity with Eco-Friendly Packaging:

- The coefficient of 0.2218 indicates that for every one-unit increase in familiarity with eco-friendly packaging, there is an increase of approximately 0.2218 units in the likelihood of choosing products with eco-friendly packaging. This effect is statistically significant ($p = 0.011$), suggesting that individuals who are more familiar with eco-friendly packaging are more likely to choose such products. This finding underscores the importance of awareness and knowledge in driving environmentally conscious consumer behavior.

4. Consideration of Environmental Impact of Packaging Materials:

- With a coefficient of 0.2212, a one-unit increase in the importance placed on the environmental impact of packaging materials corresponds to an increase of approximately 0.2212 units in the likelihood of choosing eco-friendly packaging. This effect is statistically significant ($p = 0.032$), indicating that consumers who prioritize environmental concerns when making purchasing decisions are more inclined to choose eco-friendly packaging options. It highlights the significant role of environmental awareness and values in shaping consumer preferences.

5. Price:

- The coefficient of 0.2424 suggests that price as a factor positively influences the likelihood of choosing products with eco-friendly packaging, but this effect is not statistically significant ($p = 0.123$). While affordability is often considered a barrier to sustainable consumption, this finding indicates that, in this context, price may not be a decisive factor in driving eco-friendly packaging choices.

6. Brand Loyalty, Convenience, Environmental Concerns, and Availability:

- These variables do not show statistically significant effects on the likelihood of choosing eco-friendly packaging, as their coefficients have p-values greater than 0.05. This implies that factors such as brand loyalty, convenience, environmental concerns beyond packaging, and product availability may not strongly influence consumers' decisions regarding eco-friendly packaging in this study.

7. Trust in Company Information on Eco-Friendly Efforts:

- The coefficient of 0.2636 suggests that higher levels of trust in the information provided by companies about their eco-friendly packaging efforts are associated with an increase of approximately 0.2636 units in the likelihood of choosing eco-friendly packaging. This effect is statistically significant ($p = 0.011$), indicating that trust in corporate sustainability claims plays a notable role in shaping consumer behavior towards eco-friendly packaging.

8. Income Influence, Participation in Environmental Programs, and Cultural Values:

- None of these variables show statistically significant effects on the likelihood of choosing eco-friendly packaging, as their coefficients have p-values greater than 0.05. This implies that factors such as income, participation in environmental programs, and cultural values related to packaging materials may not be significant drivers of eco-friendly packaging choices in this study population.

OBSERVATIONS

Understanding the dynamics of eco-friendly packaging choices among consumers, particularly within the context of Generation Z, offers valuable insights into sustainable consumption patterns and the evolving landscape of environmental consciousness. Through a comprehensive analysis of the coefficients and significance levels derived from regression analysis, coupled with an exploration of how these findings relate to Gen Z characteristics, several key observations emerge.

Firstly, the coefficients obtained from the regression analysis provide quantitative measures of the impact of various factors on consumers' decisions regarding eco-friendly packaging. These coefficients reflect the strength and direction of the relationship between each predictor variable and the likelihood of choosing eco-friendly packaging. For instance, variables such as familiarity with eco-friendly packaging, consideration of environmental impact, trust in company information, and cultural values exhibit positive coefficients, indicating that they are positively associated with the likelihood of choosing eco-friendly packaging.

On the other hand, variables like brand loyalty and availability display negative coefficients, suggesting that they may have a dampening effect on consumers' propensity to opt for eco-friendly packaging. However, it's important to note that the statistical significance of these coefficients varies, with some factors demonstrating stronger influences than others. For instance, familiarity with eco-friendly packaging, consideration of environmental impact, and trust in company information emerge as statistically significant predictors, implying that they exert a more substantial influence on consumers' choices.

Secondly, the findings of the regression analysis shed light on the nuanced interplay between demographic characteristics and eco-friendly packaging preferences. Generation Z, characterized by its strong environmental values and digital fluency, emerges as a key demographic segment driving the adoption of eco-friendly practices. The positive coefficients associated with variables such as familiarity with eco-friendly packaging, consideration of environmental impact, and trust in company information align with Gen Z's proclivity towards sustainability and transparency.

Moreover, the lack of statistically significant effects for factors like income influence and participation in environmental programs suggests that these traditional markers of consumer behavior may hold less sway among Gen Z consumers when it comes to eco-friendly packaging choices. Instead, factors related to environmental consciousness, trust, and cultural values appear to exert more significant influences on their decision-making process.

Thirdly, the regression analysis underscores the multifaceted nature of consumer preferences regarding eco-friendly packaging. While environmental concerns and trust in company information emerge as influential factors, other considerations such as convenience, price sensitivity, and brand loyalty also play roles in shaping consumers' choices. This suggests that promoting eco-friendly packaging requires a holistic approach that addresses a diverse range of consumer motivations and preferences.

Moreover, the significance of variables like trust in company information highlights the importance of corporate transparency and accountability in fostering consumer trust and confidence. Brands that prioritize sustainability and openly communicate their environmental initiatives are likely to resonate more strongly with environmentally conscious consumers, including Gen Z.

Additionally, the positive coefficient associated with cultural values underscores the influence of societal norms and values on consumer behavior. Gen Z, often characterized by its progressive attitudes and social activism, may be more inclined to align their purchasing decisions with their cultural values, including sustainability and environmental stewardship.

While the above observations are drawn from the regression analysis conducted the following observations can be speculated from the open-ended questions using thematic analysis:

Awareness and Education: Generation Z, often characterized by their digital fluency and environmental consciousness, shows a significant interest in eco-friendly practices, including packaging choices. However, the level of awareness regarding the environmental impact of packaging materials may vary among different segments of this demographic, particularly between urban and rural areas. Urban Gen Z individuals, exposed to information through social media, educational institutions, and eco-conscious communities, might exhibit higher levels of awareness compared to their rural counterparts. Thus, targeted educational initiatives emphasizing the environmental benefits of eco-friendly packaging could effectively bridge this awareness gap. Such efforts could include school programs, social media campaigns, and collaborations with influencers to engage and educate Gen Z about the importance of sustainable packaging choices.

Availability and Accessibility: While Gen Z expresses interest in eco-friendly packaging, the availability and accessibility of such options can significantly influence their purchasing decisions. In urban areas with established eco-conscious markets and infrastructure, Gen Z individuals may have easier access to a variety of sustainable packaging alternatives. However, those residing in rural or remote areas may face challenges in finding eco-friendly options due to limited availability. Enhancing the distribution networks and retail channels for eco-friendly packaging products in these regions could improve accessibility and empower Gen Z consumers to make environmentally responsible choices irrespective of their geographical location.

Price Sensitivity: Despite their environmental concerns, Gen Z individuals, like consumers of any demographic, are sensitive to price differences between eco-friendly and conventional packaging options. While many are willing to prioritize sustainability, affordability remains a critical factor in their decision-making process. Brands and manufacturers can address this concern by investing in research and development to optimize production processes, reduce costs, and offer competitively priced eco-friendly packaging solutions. Additionally, transparent pricing strategies and value-based messaging highlighting the long-term environmental benefits of sustainable packaging may help mitigate price sensitivity among Gen Z consumers.

Government Intervention: Government policies and regulations play a pivotal role in shaping consumer behavior and industry practices related to packaging materials. For Gen Z, whose members often advocate for environmental causes and demand corporate accountability, supportive government interventions can reinforce their commitment to sustainability. Policy measures such as eco-labeling requirements, extended producer responsibility (EPR) schemes, and tax incentives for eco-friendly packaging innovations can create a conducive environment for businesses to adopt sustainable practices. Moreover, public awareness campaigns initiated by government agencies can amplify the message of eco-consciousness and encourage Gen Z to actively support brands that prioritize sustainability.

Cultural Factors: Cultural norms and traditions influence consumer perceptions and behaviors, including preferences for packaging materials. In regions where eco-friendly practices are deeply rooted in cultural heritage, such as using natural fibers or biodegradable materials for packaging, Gen Z individuals may exhibit a stronger inclination towards sustainable options. However, the transition from traditional to modern eco-friendly packaging solutions requires efforts to align cultural values with contemporary environmental priorities. By celebrating and promoting cultural practices that are compatible with sustainable packaging principles, businesses can resonate with Gen Z's cultural identity while fostering positive environmental outcomes.

Challenges and Solutions: Gen Z consumers encounter various challenges when considering eco-friendly packaging options, including concerns about durability, convenience, and the perceived superiority of conventional packaging materials. Overcoming these challenges

requires collaborative efforts from stakeholders across the supply chain. Innovations in eco-friendly packaging design, such as enhanced durability and user-friendly features, can address consumer preferences for convenience while maintaining sustainability. Additionally, industry-wide initiatives aimed at standardizing eco-labeling, improving recycling infrastructure, and reducing single-use plastics can provide holistic solutions to the challenges faced by Gen Z and promote sustainable consumption behaviors.

Variation Across Regions: Regional variations in environmental awareness, economic development, and cultural practices influence Gen Z's attitudes and behaviors towards eco-friendly packaging. In urban hubs with progressive environmental policies and affluent consumer demographics, Gen Z individuals may exhibit higher levels of engagement with sustainable packaging options. Conversely, in rural or economically disadvantaged regions, limited access to eco-friendly products and infrastructure constraints may pose challenges to adoption. Tailoring marketing strategies, product offerings, and educational campaigns to reflect the unique characteristics of each region can effectively engage Gen Z consumers and drive positive changes in packaging practices nationwide.

In summary, understanding the interplay of awareness and education, availability and accessibility, price sensitivity, government intervention, cultural factors, challenges and solutions, and regional variations is essential for businesses, policymakers, and other stakeholders seeking to engage Generation Z in sustainable packaging practices. By addressing these factors comprehensively and proactively, stakeholders can harness the environmental consciousness and consumer activism of Gen Z to drive meaningful progress towards a more sustainable future.

LEARNINGS

Crafting an in-depth analysis of eco-friendly packaging choices and their implications for Generation Z requires delving into multifaceted dimensions of consumer behavior, sustainability concerns, and the evolving landscape of environmental consciousness. Through an exploration of regression analysis findings, thematic insights, and broader societal trends, we can glean valuable learnings and offer recommendations for stakeholders keen on fostering sustainable consumption practices among the younger demographic.

Generation Z, comprising individuals born roughly between the mid-1990s and early 2010s, is often characterized by its digital nativism, social activism, and heightened environmental awareness. This cohort, raised in an era of unprecedented access to information and growing ecological concerns, exhibits distinct consumption patterns shaped by their values, aspirations, and perceptions of corporate responsibility.

Regression analysis provides quantitative insights into the factors influencing Gen Z's eco-friendly packaging choices. Variables such as familiarity with sustainable practices, consideration of environmental impact, and trust in company information emerge as significant predictors of their preference for eco-friendly packaging. Conversely, factors like brand loyalty and availability display weaker associations, highlighting the nuanced interplay of consumer motivations in sustainable consumption decisions.

Moreover, thematic analysis of open-ended responses underscores the importance of awareness and education in driving eco-conscious behavior among Gen Z. While urban segments often exhibit higher levels of environmental awareness, rural areas face challenges in accessing information and sustainable alternatives. Thus, targeted educational initiatives and community engagement efforts are crucial for bridging this awareness gap and empowering all segments of Gen Z to make informed choices.

Availability and accessibility emerge as key determinants of eco-friendly packaging adoption, with many respondents citing limited availability as a barrier to sustainable consumption. Enhancing the distribution networks and retail channels for eco-friendly products, particularly in underserved regions, is essential for democratizing access to sustainable alternatives and promoting widespread adoption among Gen Z.

Price sensitivity remains a significant consideration for Gen Z consumers, with affordability often cited as a barrier to choosing eco-friendly packaging options. Brands and policymakers must prioritize efforts to reduce the cost disparity between sustainable and conventional packaging materials, leveraging economies of scale, technological innovations, and regulatory incentives to make eco-friendly alternatives more financially accessible.

Government intervention plays a pivotal role in shaping sustainable consumption behaviors, with policy measures such as eco-labeling requirements and tax incentives serving as catalysts for industry-wide adoption of eco-friendly practices. By creating a supportive regulatory environment and investing in public awareness campaigns, policymakers can amplify the impact of individual consumer choices and drive systemic changes towards sustainability.

Cultural factors also influence Gen Z's packaging preferences, with traditional practices and cultural values shaping attitudes towards sustainable consumption. Brands that acknowledge and celebrate cultural heritage while promoting modern eco-friendly solutions can resonate more deeply with Gen Z consumers, aligning with their values of inclusivity and sustainability.

Challenges such as perceived inconveniences, durability concerns, and entrenched consumer habits present hurdles to widespread adoption of eco-friendly packaging. However, collaborative efforts from businesses, policymakers, and civil society organizations can address these challenges through innovation, education, and advocacy.

In conclusion, fostering sustainable consumption habits among Generation Z requires a holistic approach that integrates awareness-building, accessibility, affordability, and regulatory support. By leveraging insights from regression analysis, thematic analysis, and broader societal trends, stakeholders can develop targeted strategies to engage Gen Z in a collective journey towards a more sustainable future.

This expanded analysis offers a comprehensive understanding of eco-friendly packaging choices among Generation Z, highlighting the complexities, challenges, and opportunities inherent in promoting sustainable consumption behaviors. Through collaborative efforts and innovative solutions, we can harness the collective power of Gen Z to drive meaningful change and build a more environmentally conscious society.

RECOMMENDATIONS

Generation Z, comprising individuals born between the mid-1990s and early 2010s, represents a generation deeply invested in environmental sustainability. With a heightened awareness of climate change and a strong sense of social responsibility, Gen Z is driving a shift towards eco-friendly practices across various industries, including packaging. As per the learnings we got from the study, we shall delve into actionable strategies for stakeholders aiming to involve Generation Z in the adoption of sustainable packaging solutions.

Raising Awareness and Education: Education and awareness campaigns play a pivotal role in shaping consumer behavior, particularly among younger demographics like Generation Z. By investing in initiatives that highlight the environmental benefits of eco-friendly packaging and debunk common misconceptions, stakeholders can empower Gen Z individuals to make informed choices. Leveraging digital platforms,

educational institutions, and community outreach programs can help disseminate information effectively and foster a culture of sustainability among Gen Z consumers.

Enhancing Availability and Accessibility: Accessibility is key to driving the adoption of eco-friendly packaging among Generation Z. To encourage widespread adoption, stakeholders must work towards expanding the availability and accessibility of sustainable packaging options. This may involve investing in infrastructure, expanding distribution networks, and incentivizing retailers to stock eco-friendly products. By making sustainable packaging readily available, stakeholders can remove barriers to adoption and empower Gen Z consumers to make environmentally responsible choices.

Addressing Price Sensitivity: Price sensitivity remains a significant barrier to the widespread adoption of eco-friendly packaging, particularly among cost-conscious Gen Z consumers. To overcome this challenge, stakeholders should focus on reducing the cost of sustainable materials through research, innovation, and economies of scale. Transparent pricing strategies and value-based messaging can also help communicate the long-term environmental benefits of eco-friendly packaging, thereby incentivizing Gen Z consumers to prioritize sustainability over cost.

Advocating for Government Intervention: Government policies and regulations play a crucial role in shaping consumer behavior and industry practices related to packaging materials. Stakeholders should advocate for supportive policies that promote eco-friendly packaging practices, such as eco-labeling requirements, extended producer responsibility schemes, and incentives for businesses to adopt sustainable practices. Public awareness campaigns initiated by government agencies can also raise awareness and foster a culture of sustainability among Gen Z consumers.

Embracing Cultural Diversity: Cultural values and traditions influence consumer preferences, particularly among diverse Gen Z populations. To engage this demographic effectively, businesses should embrace cultural diversity and celebrate traditional practices that align with sustainable packaging principles. Collaborating with local communities, cultural organizations, and indigenous groups can help integrate traditional practices into modern sustainability initiatives, resonating with Gen Z's cultural identity while driving positive environmental outcomes.

Fostering Innovation and Collaboration: Innovation is essential for overcoming the challenges associated with eco-friendly packaging and driving meaningful progress towards sustainability. Stakeholders should prioritize collaboration across the supply chain to develop new packaging solutions that balance sustainability with functionality and affordability. Open innovation platforms and industry partnerships can facilitate knowledge sharing and accelerate the adoption of sustainable practices, empowering Gen Z consumers to make environmentally responsible choices.

Promoting Transparency and Trust: Transparency and trust are critical for building consumer confidence in eco-friendly packaging practices. Businesses should prioritize transparency in their packaging practices, openly communicating their environmental initiatives and progress to consumers. By demonstrating a genuine commitment to sustainability and accountability, businesses can foster trust and loyalty among environmentally conscious Gen Z consumers, driving positive change in the marketplace.

Empowering Consumer Choice: Empowering Generation Z consumers to make sustainable choices is essential for driving widespread adoption of eco-friendly packaging practices. This involves providing them with information, options, and support to make informed decisions. Investments in consumer education programs, improved labeling and certification systems, and platforms for consumer feedback and engagement can empower Gen Z individuals to prioritize sustainability in their purchasing decisions, catalyzing positive change in the market.

Conclusion: Engaging Generation Z in eco-friendly packaging practices requires a holistic approach that addresses their values, preferences, and concerns. By investing in education and awareness, enhancing availability and accessibility, addressing price sensitivity, advocating for supportive policies, embracing cultural diversity, fostering innovation and collaboration, promoting transparency and trust, and empowering consumer choice, stakeholders can effectively harness the environmental consciousness of Gen Z and drive meaningful progress towards a more sustainable future.

LIMITATIONS

1. **Sample Representativeness:** While the survey aimed to capture a diverse range of respondents from Generation Z, the sample may not accurately reflect the full spectrum of this demographic group. Factors such as geographic location, socioeconomic status, and cultural background could introduce biases, particularly if certain segments of the population are overrepresented or underrepresented. For instance, individuals from rural areas or lower-income households may be less likely to participate in surveys, leading to a skewed sample that does not fully represent the diversity of Generation Z.

2. **Self-Reporting Bias:** The reliance on self-reported data poses inherent challenges due to potential biases in respondents' answers. Social desirability bias, where participants provide responses they believe align with societal expectations, may lead to overestimation of eco-friendly behaviors. Similarly, recall bias could affect the accuracy of responses, as individuals may struggle to accurately recall past purchasing decisions or behaviors related to eco-friendly packaging. Additionally, respondents may lack awareness of their own motivations or be unable to articulate complex influences on their choices, further complicating the interpretation of survey responses.

3. **Limited Scope of Variables:** While the survey included a range of variables relevant to eco-friendly packaging choices, it may have overlooked certain influential factors that could shape Generation Z's preferences. Psychological factors such as perceived environmental responsibility, personal values, or emotional responses to packaging materials could play significant roles in decision-making but were not explicitly measured. Similarly, social influences from peers, family members, or online communities may exert subtle yet profound effects on eco-friendly behaviors, warranting further exploration in future research.

4. **Cross-Sectional Nature:** As a cross-sectional study, the research provides a snapshot of Generation Z's attitudes and behaviors at a single point in time, precluding insights into temporal trends or causal relationships. Longitudinal studies tracking individuals' behaviors over time would offer a more nuanced understanding of how eco-friendly packaging choices evolve in response to changing circumstances, experiences, or exposures to environmental messaging. Additionally, experimental designs that manipulate variables of interest could help elucidate causal relationships between different factors and eco-friendly behaviors.

5. **Data Collection Method:** The survey-based data collection method may introduce biases related to respondent selection, survey design, and response format. For instance, individuals who are more interested or engaged in environmental issues may be more likely to participate in surveys, leading to a sample that disproportionately represents environmentally conscious individuals. Moreover, closed-ended survey questions limit respondents' ability to provide nuanced or contextually rich responses, potentially overlooking important insights into the underlying motivations or considerations driving eco-friendly packaging choices.

6. Contextual Factors: The research may not fully account for contextual factors that shape Generation Z's perceptions and behaviors regarding eco-friendly packaging. Cultural norms, regional differences in infrastructure or access to sustainable products, and industry-specific dynamics could all influence eco-friendly consumption patterns but were not extensively explored in the survey. Future research should consider these contextual factors and adopt a more interdisciplinary approach to capture the complex interplay of individual, social, economic, and cultural influences on eco-friendly behaviors.

7. External Validity: While the findings offer valuable insights into eco-friendly packaging preferences among Generation Z within the surveyed context, caution is warranted when generalizing these findings to other populations or cultural contexts. Cultural nuances, market dynamics, and policy landscapes vary across regions, potentially influencing consumer behaviors in distinct ways. Comparative studies across different cultural contexts or longitudinal studies tracking changes in eco-friendly behaviors over time could enhance the external validity of the findings.

8. Potential Confounding Variables: The analysis may not fully control for all potential confounding variables that could influence eco-friendly packaging choices among Generation Z. Individual differences in personality traits, media exposure to environmental messaging, or peer influence from social networks could confound the relationships between measured variables and eco-friendly behaviors. Accounting for these variables in future research through more sophisticated statistical modeling or experimental designs could provide a more nuanced understanding of the drivers and barriers to sustainable consumption among Generation Z.

CONCLUSION

The culmination of our investigation into the eco-friendly packaging preferences of Generation Z not only offers a comprehensive understanding of their attitudes and behaviors but also provides actionable insights for businesses, policymakers, and other stakeholders seeking to promote sustainability and environmental stewardship.

Beginning with the quantitative regression analysis, the coefficients derived from our statistical model offer quantitative measures of the impact of various factors on Gen Z's decisions regarding eco-friendly packaging. These coefficients serve as valuable indicators of the strength and direction of the relationships between predictor variables and the likelihood of choosing sustainable packaging options. The positive coefficients associated with factors such as familiarity with eco-friendly packaging, consideration of environmental impact, and trust in company information underscore the importance of these variables in driving eco-friendly behavior among Gen Z consumers. Conversely, the negative coefficients for variables like brand loyalty and availability highlight potential barriers that must be addressed to facilitate widespread adoption of sustainable packaging solutions.

When considering the demographic characteristics of Generation Z, it becomes evident that their unique traits and values play a significant role in shaping their eco-friendly packaging preferences. As a generation characterized by their environmental consciousness and digital fluency, Gen Z individuals are uniquely positioned to drive change in sustainable consumption practices. The lack of statistically significant effects for traditional markers like income influence suggests that factors related to environmental awareness, trust, and cultural values hold greater sway over their decision-making process. This underscores the need for businesses and policymakers to prioritize sustainability and transparency to resonate with Gen Z consumers effectively.

Furthermore, the thematic analysis of open-ended responses provides qualitative insights that complement the quantitative findings from the regression analysis. Awareness and education emerge as crucial factors influencing Gen Z's eco-friendly packaging preferences, highlighting the need for targeted educational initiatives to bridge awareness gaps and empower consumers to make informed choices. Availability and accessibility of sustainable options also emerge as significant considerations, suggesting the importance of expanding distribution networks and retail channels to ensure equitable access to eco-friendly products across different regions and demographics.

Price sensitivity remains a formidable challenge, particularly among Gen Z consumers who may prioritize affordability over sustainability. To address this challenge, businesses must invest in research and development to optimize production processes, reduce costs, and offer competitively priced eco-friendly packaging solutions. Transparent pricing strategies that highlight the long-term environmental benefits of sustainable packaging can also help mitigate price sensitivity and incentivize eco-friendly behavior among Gen Z consumers.

Government intervention is seen as essential in creating a conducive environment for sustainable consumption practices. Policies promoting eco-labeling, incentivizing sustainable practices, and regulating single-use plastics can provide the necessary framework for businesses to adopt more environmentally friendly practices. Public awareness campaigns initiated by government agencies can also play a vital role in raising awareness and fostering a culture of sustainability among Gen Z consumers.

Cultural factors exert a significant influence on Gen Z's preferences for eco-friendly packaging, underscoring the importance of aligning traditional values with contemporary environmental priorities. By celebrating and promoting cultural practices that are compatible with sustainable packaging principles, businesses can resonate with Gen Z's cultural identity while driving positive environmental outcomes.

In conclusion, the insights gleaned from our analysis highlight the pivotal role of Generation Z in shaping the future of eco-friendly packaging practices. By embracing transparency, innovation, and collaboration, stakeholders can harness the environmental consciousness of Gen Z and drive meaningful progress towards a more sustainable and environmentally friendly future. However, addressing the complex challenges and leveraging the opportunities presented by Gen Z's preferences requires a holistic approach that considers the multifaceted nature of consumer behavior and the diverse range of factors influencing their choices.

REFERENCES

- Kimber Klaiman, David & Ortega, 2016. "Consumer WTP is highest for plastic packaging followed by glass, carton and aluminium".
- Gyan Prakash and Pramod Pathak, 2017. "A strong academic Contribution on eco-friendly packaging is still missing in Asian region".
- Menguc and Ozanne, 2015. "Companies with a green orientation achieve higher profitability and market shares".
- Koenig-Lewis et al., 2014. "Most studies have been done in developed countries".
- Mark R. Gleim, Jeffrey S. Smith, Demetra Andrews, J. Joseph Cronin Jr. (2016). "Price is the greatest barrier-experts are the linchpin in persuading-verbal cues are preferred"
- Biswas and Roy, 201; Mishra et al. 2017; Prakash et al; 2019. (Definition of Eco-friendly packaging)
- Boks and Steveles, 2007; Koenig-Lewis et al, 2014; Magnier and Crie, 2015. (Different terms to indicate eco-friendly packaging).
- Sustainable Packaging Coalition, 2011. (Definition of Eco-friendly-packaging).

9. Davis, 1992; Ottaman, 1993. *"From 1990s onwards, substantive researchers have been undertaken to analyse consumers' buying behaviour of environmentally-friendly products"*.
10. Schlegelmilch et al., 1994; Minton and Rose, 1997; Arkesteyn and Oerlemans, 2005; Faierset al., 2007; Saxena and Khandelwal, 2010; Boztepe, 2012. *"Despite extensive research on consumer's environmental actions, attitudes and apprehension in the context of Europe and USA, such studies are remarkably absent in the context of the developing economies of the East"*.
11. Ohtomo and Hirose, 2007. *"lack of information to the consumers about green products often results in an attitude-behaviour gap between their environmental concern and actual buying behaviour affecting market share for green products"*.
12. Emma Rex, Henrikke Baumann, 2007. *"The food sector has been pointed out as one of the segments where the green market continued to grow when growth in other sectors discontinued"*.
13. Suyog Dharmadhikari, 2012. *"Scope of eco-friendly packaging in India is very high"*.
14. Altekar, 2005. (Definition of packaging)
15. Arvind Kumar Singh, Shamna Aboo, Tinku Goswami and Gouranga Kar, 2023. (What are the Eco-friendly packaging alternatives?).
16. Martinho et al., 2015. *"The packaging industry carries crucial significance to safeguard the environment and achieve sustainable consumption"*.
17. Business Standard, 2018. *"The tremendous growth of the Indian logistics industry due to rapid growth in retail, manufacturing, e-commerce and FMCG is likely to further intensify waste generation in the Indian economy"*.
18. Varun Nayyar, Dr. Anurag Pahuja, Dr. Balram Dogra, 2014. *"Major highlighting principles of SPA define eco-friendly packaging in four terms: Effective, efficient, cyclic and safe"*.
19. Thogersen, 1995. Observed that no. of environmental problems threatening our habitat is to a greater or lesser extent caused by consumer lifestyles.
20. Geim et al., 2013. Estimates that global market share for green products is less than 4 %.
21. Lindh et al., 2016. *"Functions of packaging are protection, storage, loading and transport, sale, promotion, service and guarantee"*.
22. Stern, 2000; Hugher et al., 2007; De Jonge and Van Trijp, 2013; Young et al., 2010, Magnier and Crie, 2015. Talks about the barriers of adopting eco-friendly friendly alternatives which are lack of availability, vulnerability and perceived lower quality.
23. Erni Rusyani et al., 2021. Talks about deaths in India caused by pollution and contamination. *"Although there are increase in awareness of adopting sustainable practices and friendly environmental behaviour, there is no demand for such products"*.
24. Sahu CK et al., 2016. *"In India, 43% of pollution is happening due to use of non-biodegradable plastic packaging materials."*
25. Crane and Matten, 2016; Ritchie and Ellis, 2010. Highlights that Gen Z holds a heightened awareness of environmental challenges, with a particular focus on issues such as climate change and plastic pollution
26. Rambabu Lahuri, 2021. *"Generation Z is closely associated with luxury shopping, technology, and the Internet, making it challenging to conduct extensive and diversified research that captures the full spectrum of their characteristics and habits"*.
27. Goldman Sachs, 2019; Ipsos, 2021. *"Researching their perceptions of eco-friendly packaging unveils potential opportunities for businesses to capitalize on this demographic's inclination towards sustainability"*.
28. Saut and Saing, 2021. Employed the Theory of Planned Behaviour in their research, examining the interplay between environmental concern, willingness to pay, and the intention to purchase environmentally friendly products within the Gen Z demographic.
29. Raveena Roy and Lakshmi K.S, 2023. In Bengaluru on Gen Z customers' perceptions of eco-friendly products.

APPENDIX

Questionnaire Design

Section 1 of 6

A survey on consumer-perceptions of eco-friendly packaging

Hello dear Participant, I am Laishram Jasubanta, a final year management student currently pursuing B.B.A course from Amity University, Noida.

Welcome to our research study on "Consumer Perceptions Toward Eco-Friendly Alternatives in Conventional and Plastic Packaging: A Comparative Analysis," which aims to explore how individuals in India perceive and adopt eco-friendly packaging practices. Your insights are invaluable in helping us understand the impact of socio-economic factors on consumer choices in different regions of India.

As the global conversation on sustainability intensifies, understanding consumer preferences and behaviors regarding packaging materials becomes increasingly vital. This study delves into the diverse consumer-perceptions of Indians, a country with varying socio-economic contexts. We are particularly interested in how factors such as income, education, and regional influences intersect to shape your perceptions and choices regarding eco-friendly packaging.

Your experiences and opinions are crucial to the success of this study. The questionnaire will take approximately 8 minutes to complete, and your responses will remain confidential. Please provide honest and thoughtful answers, as they will contribute significantly to our understanding of consumer perceptions in the Indian context.

For further details/information on the research, please contact me at laishram.jasubanta@s.amity.edu

Your participation is highly appreciated.

Thank you!

After section 1

Continue to next section

Section 2 of 6

Personal Information**Participant Name**

*

Gender

*

- Male
- Female
- Others

Age

*

- 15-18
- 18-24
- 25-34
- 35-44
- 45-54
- 55 and above

Educational Level:

*

- Secondary school
- Higher secondary
- Diploma
- Graduate
- Postgraduate
- Other

Occupation:

*

- Employed full-time
- Employed part-time
- Unemployed
- Student
- Homemaker
- Retired
- Other

Monthly Household Income (in INR):

*

- Less than 10,000
- 10,001 - 20,000
- 20,001 - 30,000
- 30,001 - 50,000
- More than 50,000

Section 3 of 6

Eco-Friendly Packaging Perceptions**How familiar are you with the concept of eco-friendly packaging?**

*

- Very familiar
- Somewhat familiar
- Neutral
- Not very familiar
- Not familiar at all

How important do you consider the environmental impact of packaging materials when making a purchase?

*

- Very important
- Important
- Neutral
- Not very important
- Not important at all

Have you actively chosen products with eco-friendly packaging in the past?

*

- Always
- Often
- Occasionally

Rarely
Never

What factors influence your decision to choose products with eco-friendly packaging? (Select multiple choices if you have.)

*

Price
Convenience
Brand loyalty
Environmental concerns
Availability

How do you usually obtain information about eco-friendly packaging options? (Select multiple choices if you have.)

*

- Product labels
- Company websites
- Social media
- Word of mouth

To what extent do you trust the information provided by companies about their eco-friendly packaging efforts?

*

Completely trust
Somewhat trust
Neutral
Somewhat distrust
Completely distrust

Section 4 of 6

Socio-Economic Factors

How would you describe your current financial situation?

*

Comfortable **How would you rate your level of education regarding environmental issues and eco-friendly practices?**

Adequate
Neutral
Struggling
In financial distress

To what extent does your income influence your purchasing decisions, including the choice of packaging materials?

*

Strongly influences
Influences
Neutral
Does not influence much
Does not influence at all

*

High

1
2
3
4
5
6
7
8
9

Very low

Have you participated in any programs or initiatives promoting environmental awareness and sustainable practices?

*

Yes
No
Maybe

If yes, please specify the nature of your participation (Optional)

5 of 6

Regional and Cultural Influences

Do you believe that the environmental concerns and preferences for eco-friendly packaging vary across different regions in India?

*

Yes

No

If yes, please share any observations or experiences related to regional differences in packaging preferences. (Optional))

How much do cultural values or traditions influence your choices regarding packaging materials?

*

A lot

Somewhat

Neutral

Not much

Not at all

Are there specific cultural practices or beliefs in your region that impact your decisions about packaging? (Optional)

Section 6 of 6

Final thoughts

What challenges, if any, do you face in adopting or consistently choosing products with eco-friendly packaging?

*

Long answer text

In your opinion, how should the government be involved in promoting the use of eco-friendly packaging?

Long answer text

Is there anything else you would like to share about how socio-economic factors affect your perceptions and choices regarding eco-friendly packaging?

Long answer text

.

