

A STUDY ON EVALUATING THE ADOPTION AND CHALLENGES OF GREEN PACKAGING IN SELECT COMPANIES OF GUWAHATI CITY

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ABSTRACT

The adoption of green packaging is essential for businesses seeking to reduce their environmental impact and meet rising consumer demand for sustainability. According to a 2023 report by Smithers, the global green packaging market is projected to reach \$441.4 billion by 2027, with a compound annual growth rate (CAGR) of 6.1%. Despite this promising growth, significant barriers exist, particularly in emerging markets like Guwahati City, where high costs, limited infrastructure, and low consumer awareness hinder widespread adoption.

This study uses a mixed-methods approach, combining quantitative surveys and qualitative interviews to examine the factors influencing green packaging adoption in Guwahati. Data is gathered from local companies and consumers using structured questionnaires, with stratified random sampling ensuring a diverse representation of business sectors. The research explores the challenges companies face in adopting green packaging, as well as consumer perceptions of eco-friendly alternatives.

The findings reveal key barriers such as the high cost of sustainable materials, inadequate waste management infrastructure, and cultural factors limiting consumer demand. Additionally, the study reviews India's 2022 ban on single-use plastics and its impact on promoting sustainable practices. To overcome these challenges, the research recommends affordable material sourcing, enhanced government-business collaboration, and standardized regulations to encourage broader adoption of green packaging solutions in Guwahati.

Keywords: Green packaging, sustainability, eco-friendly, adoption challenges, cost, consumer awareness, waste reduction, green innovation, circular economy, branding, marketing.

INTRODUCTION

Green packaging also referred to as sustainable or eco-friendly packaging plays a crucial role in addressing environmental concerns by minimising the ecological impact of packaging materials. It involves the use of biodegradable, recyclable, and renewable resources to reduce waste, conserve natural resources, and lower carbon emissions. Traditional packaging methods, particularly those that rely on plastic, contribute significantly to pollution and environmental degradation. As companies and consumers become more environmentally conscious, the demand for green packaging has grown, positioning it as a vital element in sustainability efforts across industries. This research aims to explore the adoption of green packaging in select companies in Guwahati, where the integration of sustainable practices remains a developing trend.

Despite the benefits of green packaging, its widespread adoption is hindered by various challenges. High production costs, limited availability of sustainable materials, and technological barriers are key issues faced by businesses, especially in regions with less developed infrastructure. This study seeks to identify the specific obstacles that companies in Guwahati encounter in implementing green packaging solutions and to understand the driving factors behind their adoption. With increasing global awareness of environmental sustainability, understanding the local dynamics in Guwahati, a growing commercial hub in Northeast India, is crucial for creating strategies that encourage broader implementation of eco-friendly packaging.

This research adopts a multi-theoretical approach, incorporating the Diffusion of Innovation Theory, Institutional Theory, and the Resource-Based View (RBV) to analyse the adoption process and challenges of green packaging. By applying these frameworks, the study will assess how companies in Guwahati are positioned in terms of green packaging adoption, the external pressures driving this shift, and the internal

resources required to facilitate this transition. The insights gained from this study aim to provide practical recommendations for businesses and policymakers to foster the adoption of green packaging in the region, contributing to both environmental sustainability and corporate social responsibility.

REVIEW OF LITERATURE

Beitzen-Heineke, Balta-Ozkan, and Reefke (2017) explore the potential of zero-packaging grocery stores to reduce waste and improve environmental and social impacts in the food supply chain. They argue that these stores can promote sustainable consumer behaviour but face significant challenges such as scaling operations, cost barriers, and consumer resistance. The article provides valuable insights into the opportunities for zero-packaging stores, while highlighting the limitations and complexities involved in widespread adoption^[1].

Bhatia and Jain (2013) examine consumer awareness and preferences for green marketing in India, finding strong environmental values among consumers. Despite high awareness, the study highlights the need for effective marketing to bridge the gap between interest and actual purchase behaviour. The authors emphasize strategic communication to promote green products^[3].

Gupta and Agarwal (2013) analyse the challenges and opportunities for green packaging adoption in India's manufacturing sector. Their research identifies barriers such as the high cost of sustainable materials, lack of technical expertise, and insufficient recycling infrastructure. However, they also highlight opportunities for businesses, including enhanced brand reputation and long-term cost savings through sustainable practices. The authors advocate for greater government support to encourage adoption, offering a balanced perspective on the current state of green packaging in India's manufacturing industry^[6].

These studies collectively emphasize the complexities surrounding green packaging adoption, ranging from consumer perceptions to industry challenges, while underlining the need for better infrastructure, education, and policy support to drive sustainable practices forward.

OBJECTIVES OF THE STUDY

- To assess the current level of adoption of green packaging practices among select companies in Guwahati City.
- To evaluate the challenges and barriers that companies in Guwahati face in implementing green packaging solutions.
- To explore the consumer perception and demand for green packaging in the local market of Guwahati.

DATA AND METHODOLOGY

This study will adopt a quantitative research design to understand the factors influencing green packaging adoption. The target population consists of companies in Guwahati, specifically in packaging-intensive sectors like manufacturing, retail, and food processing. Snowball sampling will be used to identify and recruit 6 companies, with initial respondents referring others within the industry. Data will be collected through surveys distributed to company managers to gather quantitative data on the extent of green packaging adoption. In addition, consumer samples will be collected using a separate questionnaire aimed at understanding their perceptions, preferences, and demand for green packaging. Various statistical techniques will be applied to identify relationships between factors like cost, consumer demand, and regulatory pressure. The research site for this study is Guwahati city, where all data collection and analysis will take place. This approach aims to provide a clear picture of green packaging adoption in the region, focusing on the challenges and drivers of its implementation.

Research gap

This study has several limitations that may impact the findings. First, its focus on Guwahati City limits the ability to generalize results to other regions with different economic and cultural conditions. The small sample size, particularly among SMEs, may not capture the diverse challenges across industries, reducing the reliability of the results. The use of self-reported data introduces potential biases, as respondents may overstate their commitment to sustainability. Additionally, rapidly evolving green packaging technologies and changing consumer attitudes may make the findings less relevant over time. The lack of longitudinal data prevents an analysis of long-term trends in green packaging adoption. Moreover, the study may not fully account for fluctuating economic factors that affect consumer behaviour, such as inflation. Lastly, it may overlook the crucial role of government policies and incentives in supporting sustainable packaging adoption. These limitations highlight the need for future research to address these gaps and expand the study's scope.

DATA ANALYSIS

In today's world, where environmental consciousness is growing, understanding how much consumers actually know about green packaging is crucial. Our survey set out to explore this awareness, delving into whether people recognize the importance of sustainable packaging and how it impacts their choices. With responses from over 50 consumers across various demographics, the survey paints a vivid picture of the

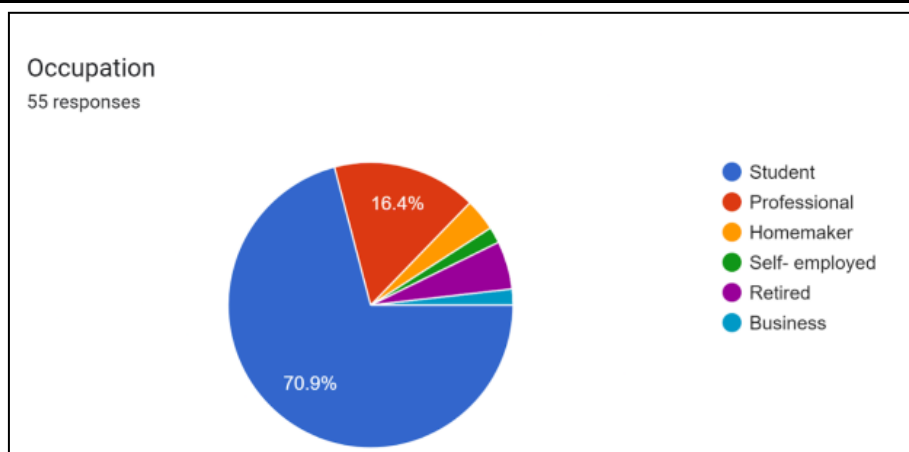
current knowledge landscape. Are consumers simply aware of the term "green packaging," or do they truly grasp its environmental significance? How does this knowledge influence their purchasing behavior, if at all? The findings presented here reveal surprising trends, highlight gaps in awareness, and uncover the real impact that green packaging knowledge has on consumer decisions. From general awareness to deeper understanding, the results offer valuable insights into how informed today's consumers are when it comes to making eco-friendly choices. Let us now look at the specific aggregates

Specifics	Number of Respondents	Percentage%
Occupation		
Student	38	69.10%
Professional	10	18.20%
Homemaker	2	3.60%
Self- Employed	1	2%
Retired	3	5.50%
Business	1	1%
Age Group		
18-25	37	67.30%
26-35	6	10.90%
56 and above	4	7.30%
Monthly Income Range		
Less Than Rs 150000/-	34	61.8%
Rs 15000/- to Rs 30000	3	5.5%
Rs 30000/- to Rs 50000/-	6	10.90%
Rs 50000/- to Rs 75000	3	5.5%
More than Rs 75000/-	9	16.4%

Table 1 : Profile of Respondents

Occupation

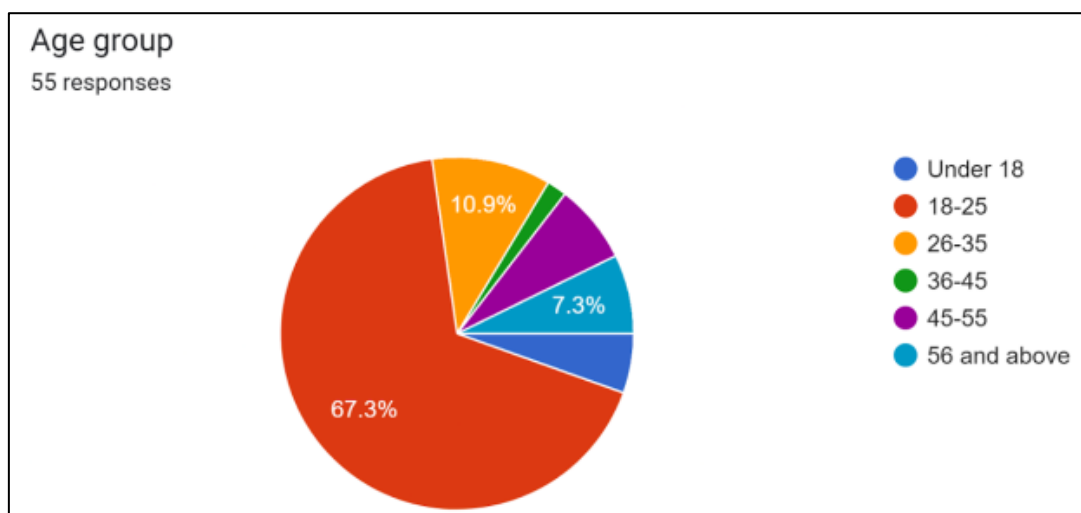
The occupation demographic in this survey is significant because it highlights the dominant role of students, who make up 69.1% of respondents. This suggests that younger individuals, likely more exposed to environmental issues through education and media, may have a higher awareness of green packaging. The 18.2% of professionals and 2% of self-employed individuals indicate engagement from working adults, whose purchasing decisions can directly influence market trends. The inclusion of homemakers (3.6%) and retirees (5.5%) adds a diverse perspective, offering insights into how different life stages and responsibilities affect awareness and attitudes toward sustainable packaging practices. Student knowledge crucial for businesses and policymakers aiming to promote green packaging initiatives effectively.



Pie Chart 1 : Occupation of respondents

Age Group

The age demographic, with 67.3% of respondents aged 18-25 and 10.9% aged 26-35, highlights the importance of younger consumers in shaping attitudes toward green packaging. The 18-25 group, typically more eco-conscious and influenced by sustainability education and media, represents a generation driving demand for environmentally friendly products. The 26-35 demographic, often early in their careers, may also prioritize sustainable choices, though perhaps with different motivations like family and budget concerns. Understanding these age groups' awareness and preferences provides key insights for businesses and policymakers looking to promote green packaging among younger, socially conscious consumers.

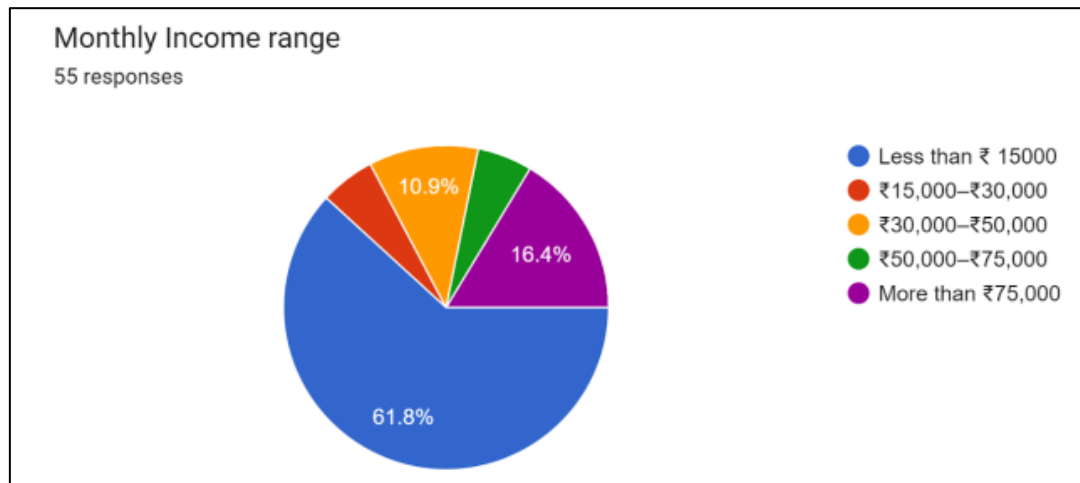


Pie Chart 2 : Age groups of respondents

Monthly income

The monthly income demographic, where 61.8% of respondents earn less than ₹15,000 and 10.9% fall within the ₹30,000-₹50,000 range, is significant for

understanding purchasing power and its influence on green packaging choices. Those in the lower income bracket may be more price-sensitive, potentially prioritizing cost over sustainability when making purchasing decisions. On the other hand, the higher income group, though smaller, may be more willing to pay a premium for eco-friendly products. These findings are essential for businesses seeking to market green packaging, as they reveal the economic factors that could impact consumer adoption across different income levels.



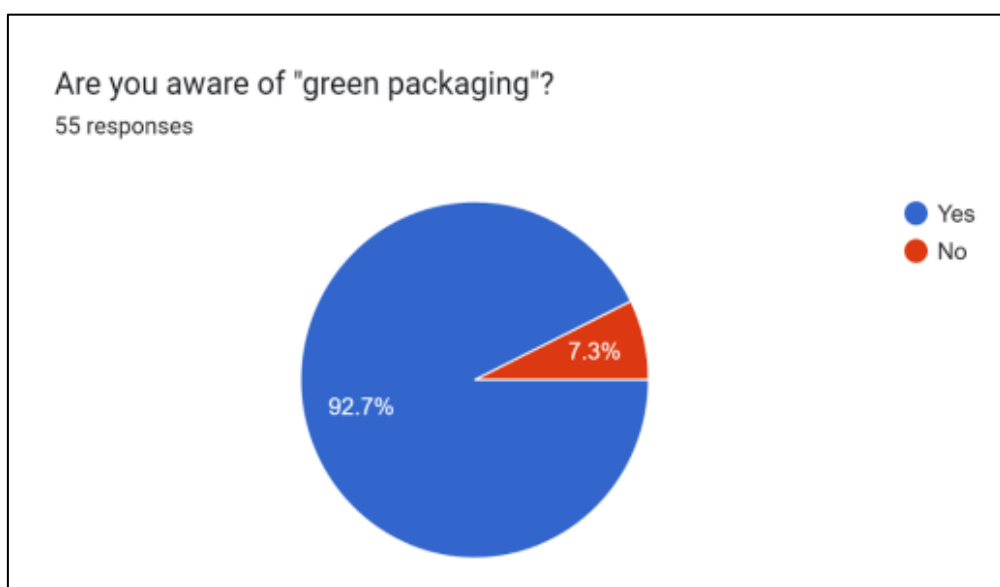
Pie Chart 3 : Monthly Income of Respondents

Specifics	No of Respondents	Percentage%
Awareness of the term 'Green Packaging'		
Yes	51	92.70%
No	4	7.30%
Channels of Awareness		
Social Media	39	70.90%
News Articles	20	36.40%
Advertisements	15	27.30%
Friends or Family	20	36.40%
Understanding of the topic		
Very good	13	21.80%
good	18	32.70%
Average	19	36.40%
poor	0	0%
I don't know much about it	5	9.10%
Buying Behaviour		
Always looking for recyclable packaging	19	34.50%
Sometimes looking for recyclable packaging	27	49.10%
Rarely looking for recyclable packaging	7	12.70%

Table 2 : Profile on Respondent Awareness

Awareness of the term “green packaging”

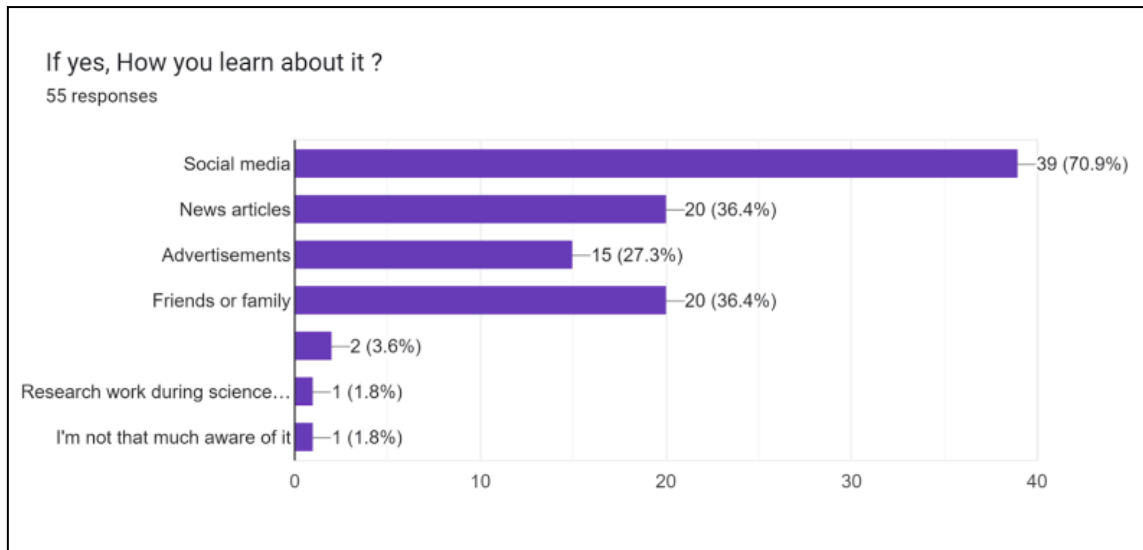
The finding that 92.7% of respondents are aware of the term "green packaging" is significant, as it indicates widespread recognition of the concept among consumers. This high level of awareness suggests that sustainability and eco-friendly practices are gaining traction in public discourse. However, the 7.3% who are not aware highlight a small but important gap that could be targeted by educational campaigns. For businesses and policymakers, this awareness level demonstrates a solid foundation to build on, enabling further efforts to promote the adoption of green packaging through informed consumer choices and marketing strategies.



Pie Chart 4 : Respondent awareness for green packaging

Channels of awareness

The fact that 70.9% of respondents learned about green packaging through social media highlights the platform's powerful role in shaping environmental awareness, especially among younger consumers. Social media's reach allows for widespread, rapid dissemination of information about sustainable practices. Meanwhile, 36.4% of respondents learned through news articles or word of mouth, reflecting traditional but trusted sources of information. Lastly, 27.3% gained awareness from advertisements, underscoring the role of marketing in driving eco-conscious consumer behaviour. These findings suggest that digital platforms, alongside more conventional media, are key channels for promoting green packaging awareness and influencing consumer behaviour.



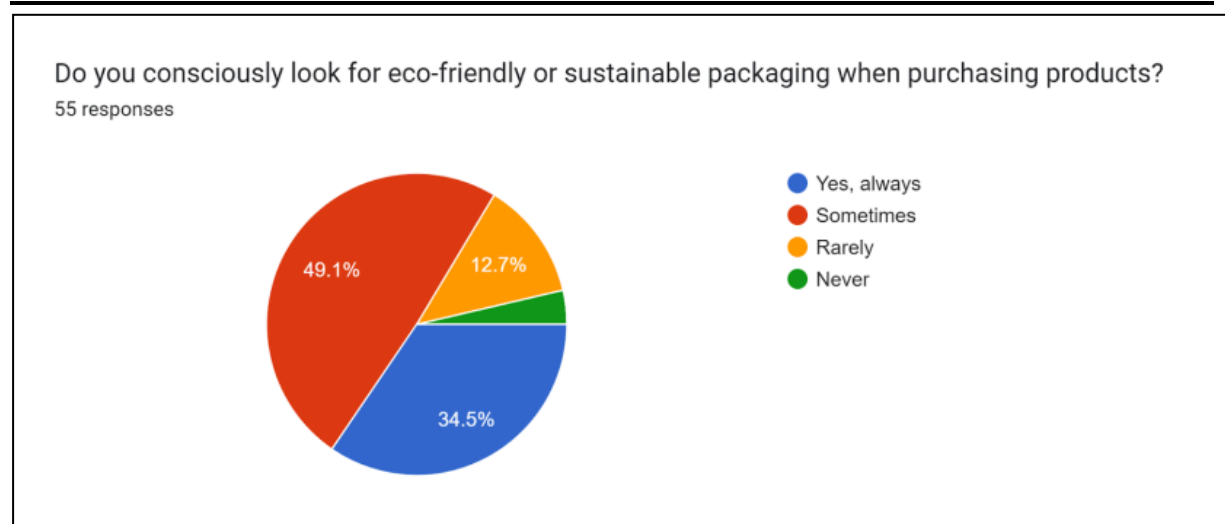
Bar Graph 1 : Modes of awareness of respondents

Understanding of Green packaging

The data reveals that 36.4% of respondents rated their awareness of green packaging as average, while 32.7% rated it as good, and 21.8% as very good, indicating that a majority have at least a moderate understanding of the concept. This suggests that consumers are becoming increasingly familiar with green packaging, though there is room for deeper knowledge. However, 9.1% of respondents admitted having no awareness, highlighting a gap that could be addressed through targeted educational efforts. These insights can help companies and policy makers tailor their strategies to further enhance consumer understanding of green packaging's benefits.

Buying habits

The findings indicate that 49.1% of respondents consciously look for sustainable packaging sometimes, while 34.5% always do, reflecting a significant inclination toward eco-friendly choices among consumers. This suggests a growing awareness and consideration of sustainability in purchasing decisions. The 12.7% who rarely seek sustainable packaging indicates that, while there is a solid base of environmentally conscious consumers, there remains a portion of the market that may not prioritize these choices. These insights are crucial for businesses aiming to enhance their sustainability practices, as they highlight the importance of reinforcing the benefits of sustainable packaging to further influence consumer behavior.



Pie Chart 5 : Buying habits of respondents

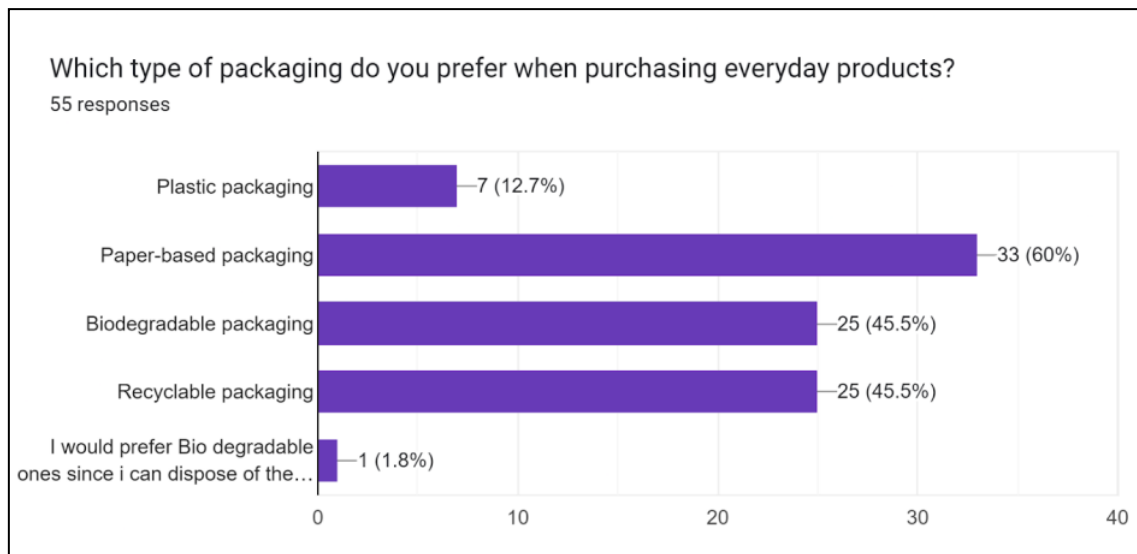
Specifics	No of Respondents	Percentage%
Preference of packaging		
Plastic Packaging	7	12.70%
Paper- Based packaging	33	60%
Biodegradable packaging	25	45.50%
Recyclable packaging	25	45.50%
Willingness to pay more for products with Green Packaging		
Yes	10	18.20%
Maybe	36	65.50%
No	7	12.70%
i am not sure	2	3.60%
Barriers to Adopting Green Packaging		
High Cost	11	19.30%
Lack of awareness	23	42.10%
Limited availability	13	24.60%
Inconvenience	8	14%

Table 3 : Profile on Consumer Preference

Packaging preference

The data reveals a strong preference for sustainable packaging options among respondents, with 60% opting for paper-based packaging. This indicates a significant shift towards environmentally friendly materials and reflects consumer support for reducing plastic waste. Additionally, 45.5% of respondents chose biodegradable and recyclable packaging, displaying a growing awareness of the importance of sustainability in product packaging. In contrast, only 12.7% opted for plastic, highlighting a clear rejection of traditional plastic packaging among a majority of

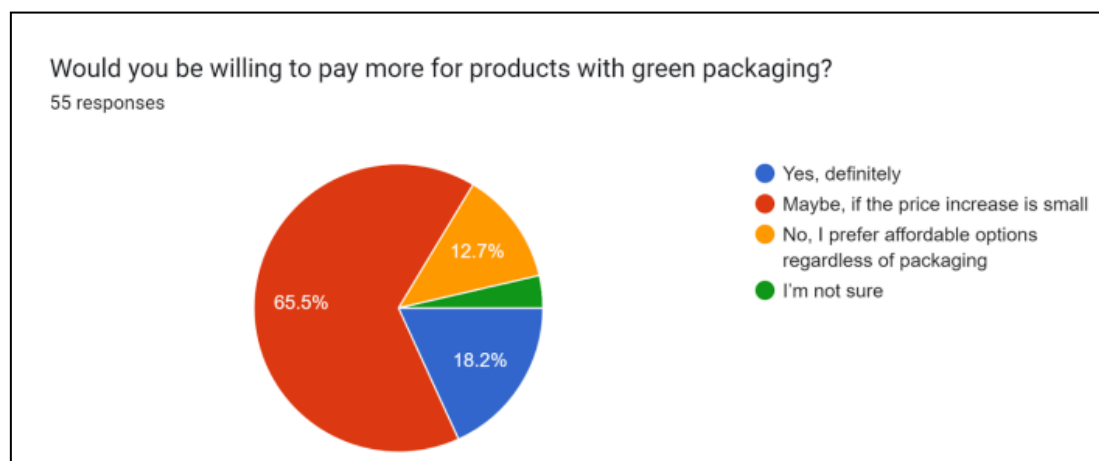
consumers. These preferences underscore the demand for sustainable packaging solutions and present an opportunity for businesses to align their practices with consumer values.



Bar Graph 2 : Packaging preference of respondents

Willingness to pay more for green packaging

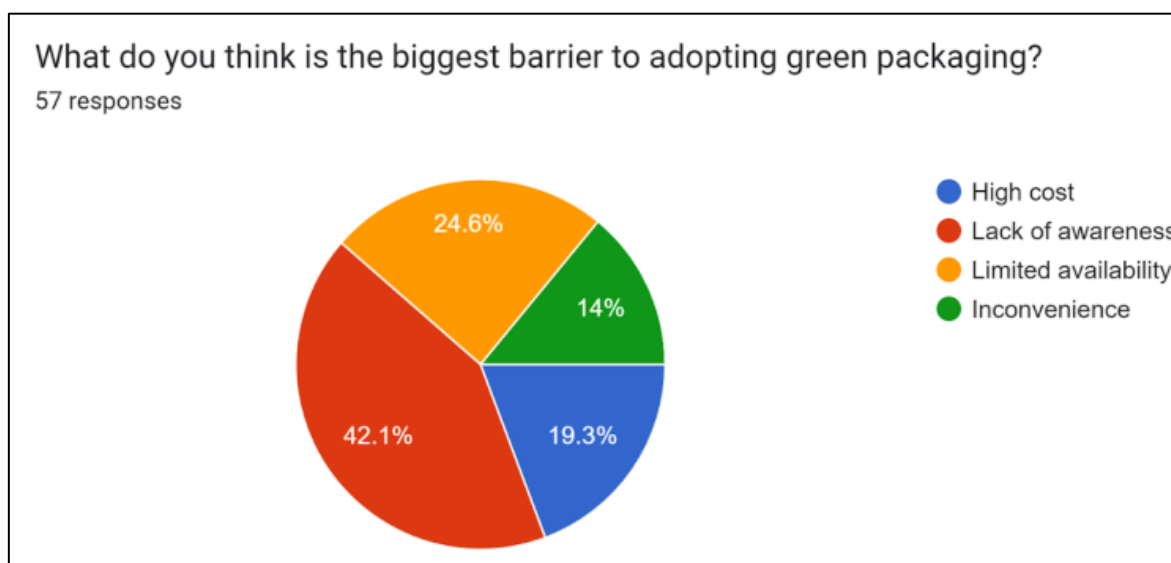
The findings show that 65.5% of respondents are willing to pay a premium for products with green packaging, provided the price increase is minimal. This demonstrates a strong inclination towards supporting sustainable practices when the cost is reasonable, indicating that consumers value eco-friendly options. Additionally, 18.2% are willing to pay more regardless of price increases, reflecting a deep commitment to sustainability and a readiness to invest in environmentally responsible products. Conversely, 12.7% are not willing to pay more, highlighting a segment of consumers who may prioritize cost over sustainability. These insights can help businesses strategize their pricing and marketing efforts to better align with consumer willingness to invest in green packaging.



Pie Chart 6 : Willingness to pay more for green packaging

Barriers in adoption of green packaging

The survey reveals that 42.1% of respondents identify a lack of awareness as the biggest barrier to adopting green packaging, emphasising the need for increased educational efforts to inform consumers about its benefits. Limited availability is seen as a barrier by 24.6% of respondents, indicating that access to sustainable packaging options remains a concern. Additionally, 19.3% cite high costs as a significant issue, suggesting that pricing strategies could impact consumer adoption. Lastly, 14% perceive inconvenience as a barrier, highlighting the importance of making sustainable choices more accessible and user-friendly. Addressing these barriers can help foster greater acceptance and usage of green packaging among consumers.



Pie Chart 7 : Barriers in adoption of green packaging

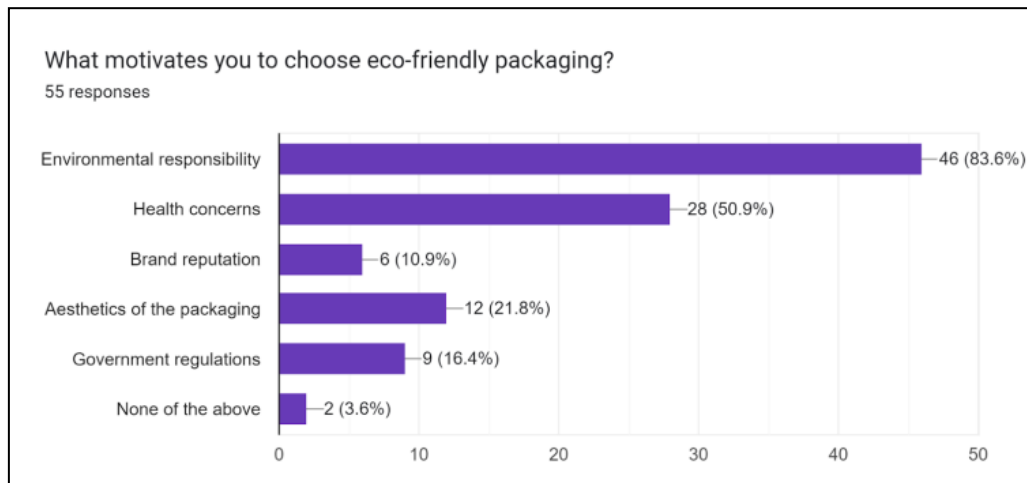
Specifics	No of Respondents	Percentage
Motivation to choose eco-friendly packaging		
Environmental responsibility	46	83.60%
Health Concerns	28	50.90%
Brand reputation	6	10.90%
Aesthetics of the packaging	12	21.80%
Government regulations	9	16.40%
None of the above	2	3.60%

Table 4: Profile on the Concerns of Consumers

Motivation to choose eco friendly packaging

The survey shows that 83.6% of respondents are motivated by environmental responsibility when choosing eco-friendly packaging, underscoring the strong influence of sustainability on consumer behaviour. Health concerns are the second

most significant motivator for 50.9%, suggesting that many view green packaging as a safer option. Interestingly, 21.8% of respondents choose eco-friendly packaging for its aesthetics, highlighting the appeal of visually appealing designs. Government regulations influence 16.4%, while 10.9% are driven by a brand's reputation for sustainability. These insights show that environmental consciousness is the primary motivator, but other factors like health, design, and brand image also play important roles.



Bar Graph 3 : Motivation towards green packaging

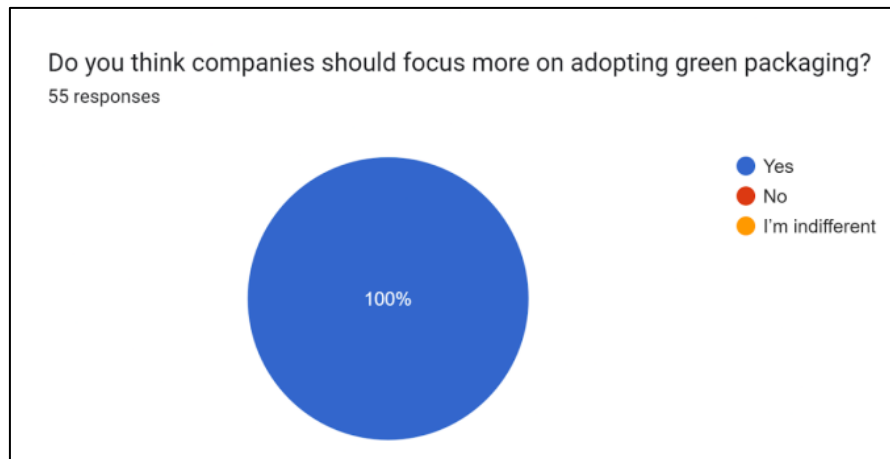
Specifics	No of respondents	Percentage%
Opinion on companies focusing on Green Packaging		
Yes	55	100%
No	0	0%
I am indifferent	0	0%
Increase in the Availability of Green Packaging in Guwahati City		
Yes	24	43.60%
No	14	25.50%
Not Sure	17	30.90%
Influence on Buying Behaviour		
Influenced by green packaging	26	47.30%
Depends on product type	22	40%
Packaging doesn't influence decision	7	12.70%

Table 4 : Profile on the Market Perception of Consumers

Focus on green packaging

An overwhelming 100% of respondents believe that companies should prioritize green packaging, reflecting a strong consumer demand for environmentally responsible practices. This near-unanimous sentiment highlights the increasing expectation for

businesses to adopt sustainable packaging solutions as part of their corporate responsibility. For companies, this presents both a challenge and an opportunity to align their packaging strategies with consumer values, potentially gaining customer loyalty and enhancing their brand image. The clear preference for green packaging suggests that sustainability is no longer just a trend but a key factor in consumer decision-making.



Pie Chart 8 : Focus towards green packaging

Influence on purchasing decision

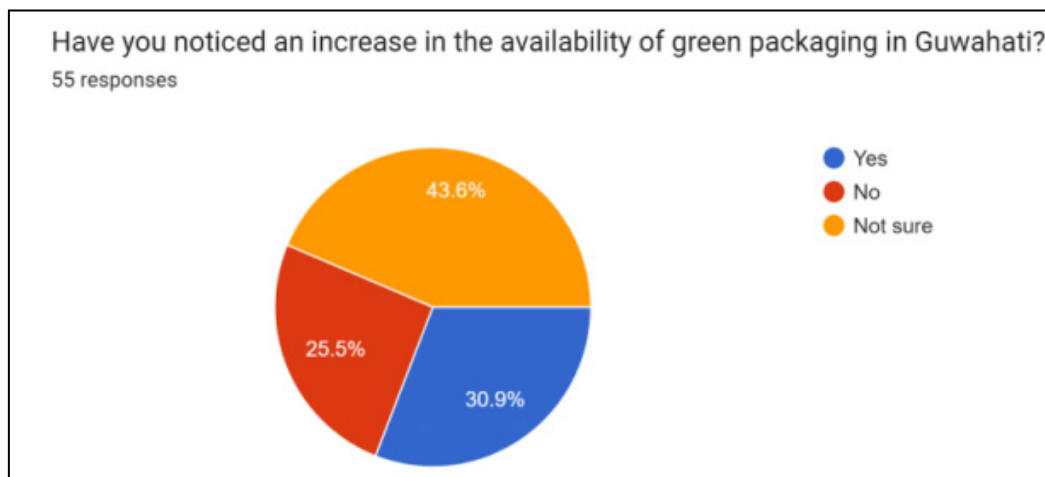
The findings indicate that 47.3% of respondents believe that placing a product with green packaging next to a regular package will influence their purchasing decision in favour of the eco-friendly option. This suggests that visual comparison can play a strong role in guiding consumer choices towards sustainable alternatives. Meanwhile, 40% feel that the impact depends on the product type, implying that certain products may lend themselves more to green packaging appeal. However, 12.7% believe that packaging won't influence their decision, highlighting a segment of consumers for whom other factors, such as price or product quality, may hold more weight.



Pie Chart 9 : Influence towards green packaging

Availability of sustainable packaged products in Guwahati

The survey reveals that 43.6% of respondents are unsure whether there has been an increase in the availability of green packaging in Guwahati, indicating a potential gap in awareness or visibility of sustainable options. Meanwhile, 30.9% believe there has been an increase, reflecting some progress in accessibility, though it may not be widespread. However, 25.5% say they have not noticed any increase, suggesting that green packaging options may still be limited or inadequately promoted in the region. These findings highlight the need for greater efforts in making green packaging more visible and accessible to consumers in Guwahati.



Pie Chart 10 : Availability of green packaging in Guwahati

Analysis Based on Company Responses

This analysis explores company responses regarding green packaging adoption, focusing on the challenges and motivations of small businesses. All respondents represent small companies with fewer than 50 employees. While 66.7% of businesses

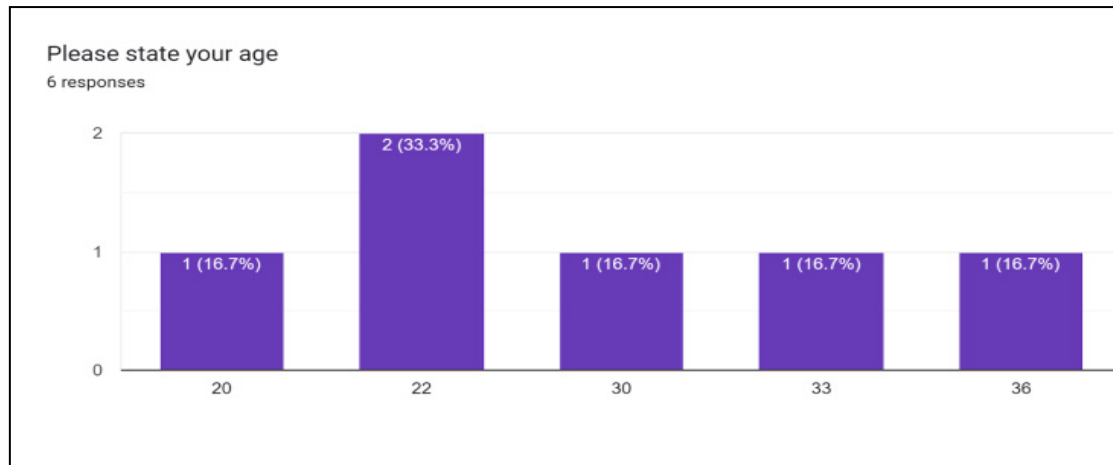
have considered implementing green packaging, the primary barrier is cost, with 100% identifying it as a challenge, followed by limited availability of materials (66.7%) and concerns about product durability (50%). Motivations for adopting eco-friendly packaging are evenly split, with 50% driven by the desire to improve their brand image and 50% responding to consumer demand. However, only half of the companies have long-term plans to increase their use of green packaging, while the others remain undecided or lack plans. Additionally, 50% of respondents have observed a moderate increase in consumer demand for eco-friendly packaging. These insights highlight the growing interest in sustainability and the need for more affordable solutions to support small businesses in adopting green packaging practices.

Specifics	Number of Respondents	Percentage%
Age		
20	1	16.70%
22	2	33.30%
30	1	33.30%
33	1	33.30%
36	1	33.30%
Company Size		
Small (1-50 employees)	6	100%
Medium (51-250 employees)	0	0%
Large (over 250 employees)	0	0%
Industry Type		
Food and Beverage	3	60%
Tea	2	40%
Bakery	1	20%

Table 5 : Company Profile

Age Group

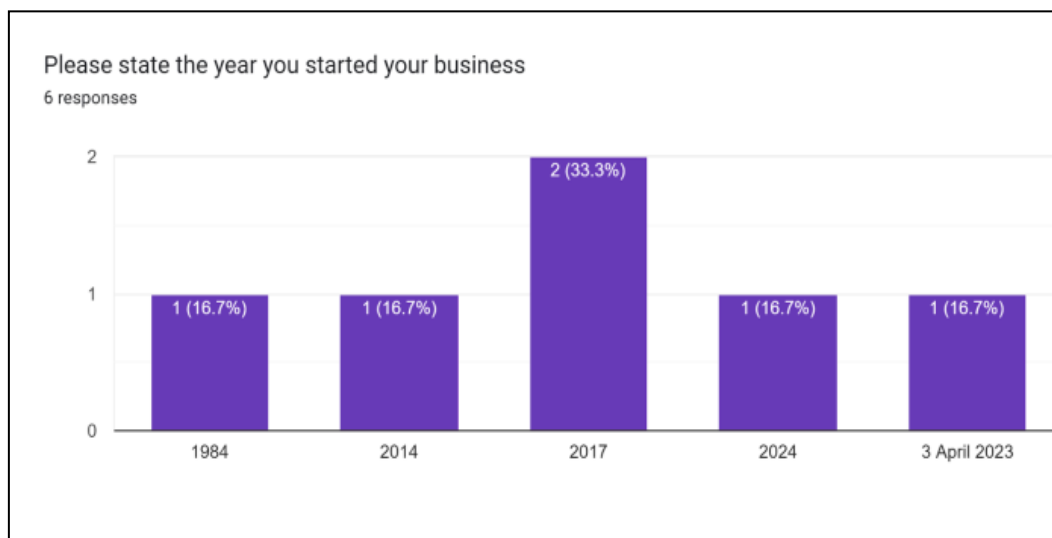
The age demographic of the survey provides valuable insight into the range of perspectives on green packaging. The largest age groups, 22-year-olds (33.3%) and 20-year-olds (16.7%), suggest that younger adults, often more environmentally conscious due to recent exposure to sustainability issues, form a significant portion of the respondents. Interestingly, an equal 16.7% share of respondents are in the 30, 33, and 36-year-old age range, representing a more mature demographic. This diverse age representation allows the study to explore whether attitudes toward green packaging shift as consumers age, providing a broader understanding of awareness across life stages.



Bar Graph 4 : Age demographic of company owners

Establishment year of the company

The business start year demographic offers key insights into the varying levels of experience among respondents. A significant 33.3% of participants started their business in 2017, indicating a relatively recent engagement with the market, potentially reflecting modern entrepreneurial trends and heightened awareness of sustainability practices like green packaging. Meanwhile, 16.7% of businesses were established in 1984, 2014, 2023, and even in 2024 (projected), showcasing a mix of both seasoned and emerging entrepreneurs. This spread of experience allows the study to analyze whether long-established businesses differ in their knowledge and adoption of green packaging compared to newer ventures.

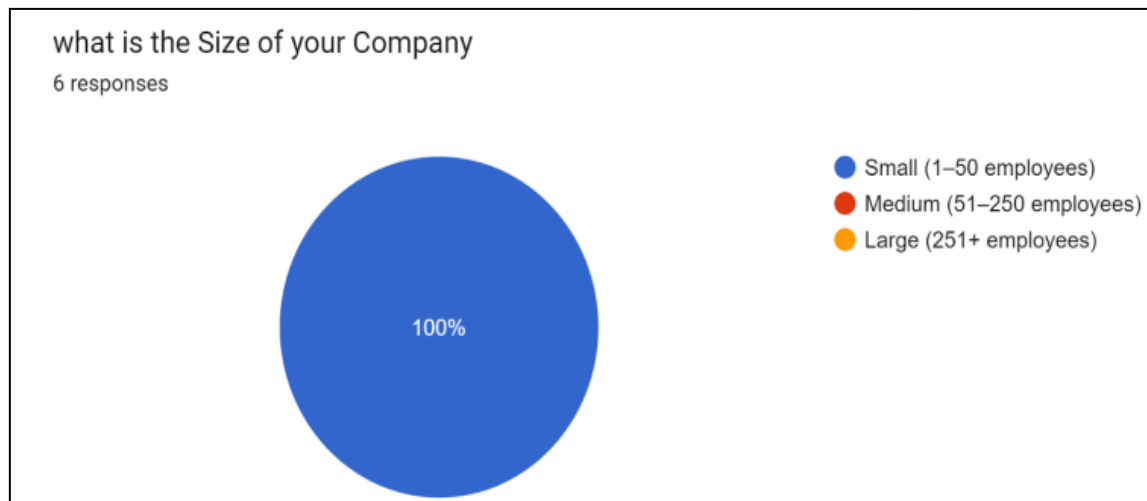


Bar Graph 5 : Establishment Year of the Company

Size of the Company

The fact that 100% of respondents are from small companies with fewer than 50 employees plays a crucial role in understanding the study's findings. Small businesses often face unique challenges, such as limited resources and budgets, which can

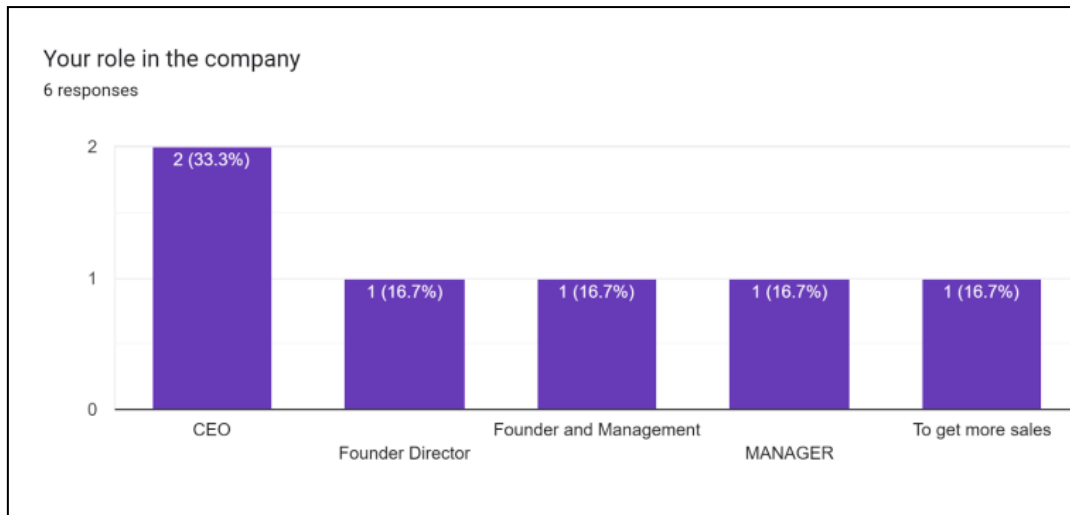
influence their ability to adopt green packaging solutions. However, their size also allows them to be more agile and adaptable to sustainability trends. The uniformity in company size helps the study focus on how small enterprises perceive and implement green packaging, shedding light on whether the scale of operations affects their knowledge, priorities, and willingness to invest in sustainable practices.



Pie Chart 11 : Company size

Role in the company

The occupational roles of respondents provide important context for interpreting the findings on green packaging awareness. With 33.3% of participants holding the position of CEO, and an additional 16.7% being founders, directors, or involved in management and sales, the study taps into the perspectives of decision-makers and leaders within their organisations. These individuals have significant influence over company policies and purchasing decisions, making their awareness of green packaging especially impactful. Their strategic roles suggest that their knowledge (or lack thereof) could directly shape whether their businesses adopt sustainable packaging practices, offering insights into leadership-driven sustainability efforts in small companies.



Bar Graph 6 : Role of the responder in the Company

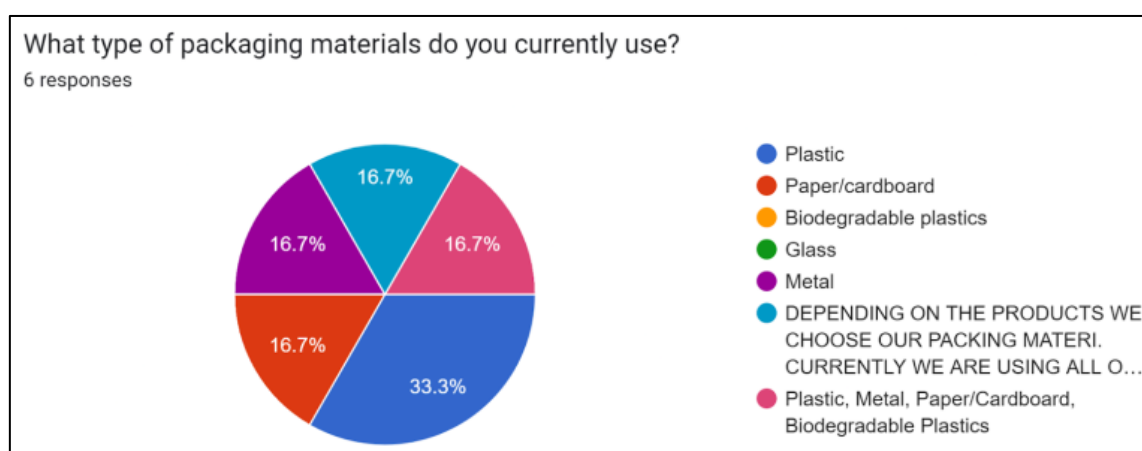
Specifics	No of Respondents	Percentage
Packaging Materials Used		
Plastic	2	33%
Paper/Cardboard	1	17%
Metal	1	17%
Depending upon the product	1	17%
Biodegradable Plastics	1	16.70%
Reasons for Using Plastic		
Cost- Effectiveness	1	17%
Durability	2	33%
Availability	1	17%
Ease of Manufacturing	1	17%
Availability, Longer lasting, food grade	1	17%
Adoption of Green Packaging		
Yes	4	67%
No	2	33%
Motivations for Green Packaging		
Eco-friendly Brand Image	1	25%
Brand Image/Reputation	3	50%
Consumer Demand	1	25%
Percentage of Products Packaged in Green		
0-20%	3	50%
21-50%	1	25%
51-75%	1	25%

Specifics	No of Respondents	Percentage
Sourcing of Green Packaging Materials		
National Suppliers	2	25%
Local Suppliers	4	75%
Availability of Green Materials		
Sufficient	3	50%
Insufficient	3	50%

Table 6 : Profile on Current Packaging Practices

Choice of Packaging

The packaging choices of the respondents reveal important trends in sustainability practices. While 33.3% of businesses still rely on plastic packaging, the majority have shifted to using recyclable materials, driven by the nature of the products they sell. This indicates a growing awareness of environmental concerns, as companies tailor their packaging decisions based on product needs while trying to balance sustainability. The continued use of plastic by a third of the respondents suggests that certain industries or products may face challenges in transitioning to greener alternatives, highlighting the need for more accessible, cost-effective sustainable packaging solutions.

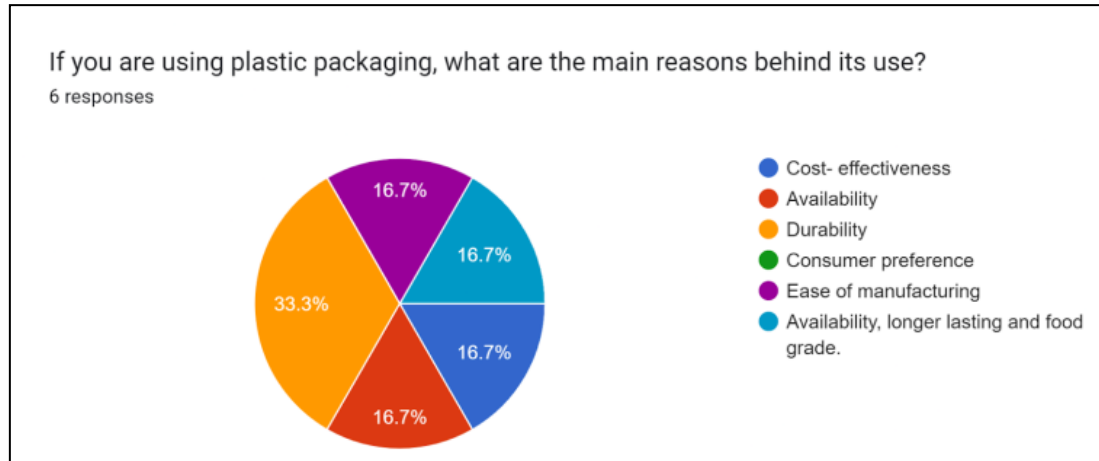


Pie Chart 12 : Choice of packaging

Practical Considerations in Packaging

The reasons behind the continued use of plastic packaging shed light on the practical considerations businesses face. While 33.3% of respondents use plastic packaging primarily for its durability, the rest cite factors such as cost, availability, consumer preference, long-lasting properties, and food-grade quality as driving their choices. These findings suggest that, despite growing awareness of sustainable alternatives, businesses still face constraints when opting for greener packaging. Plastic's

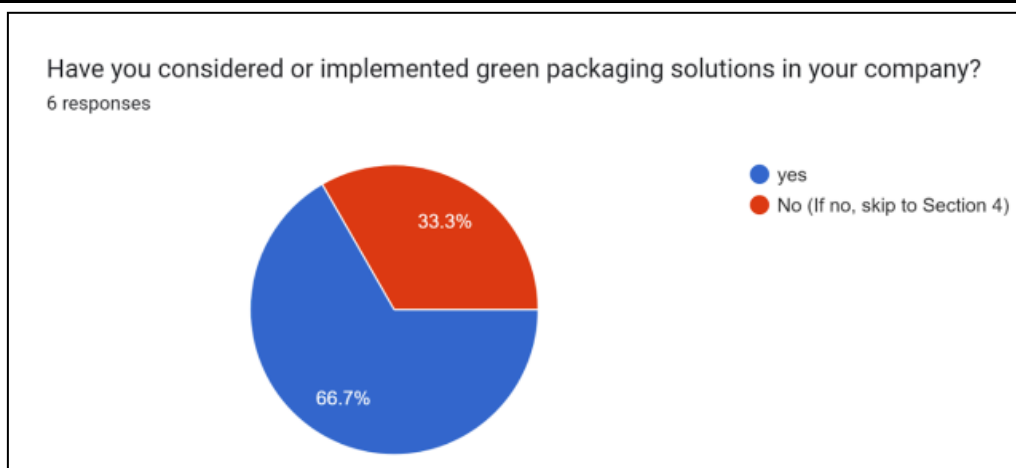
affordability and functionality make it a preferred choice for many, especially in industries where product preservation, safety, and consumer demand take precedence over sustainability concerns. This highlights the need for better, more accessible eco-friendly alternatives.



Pie Chart 13 : Practical Considerations in Packaging

Future Considerations

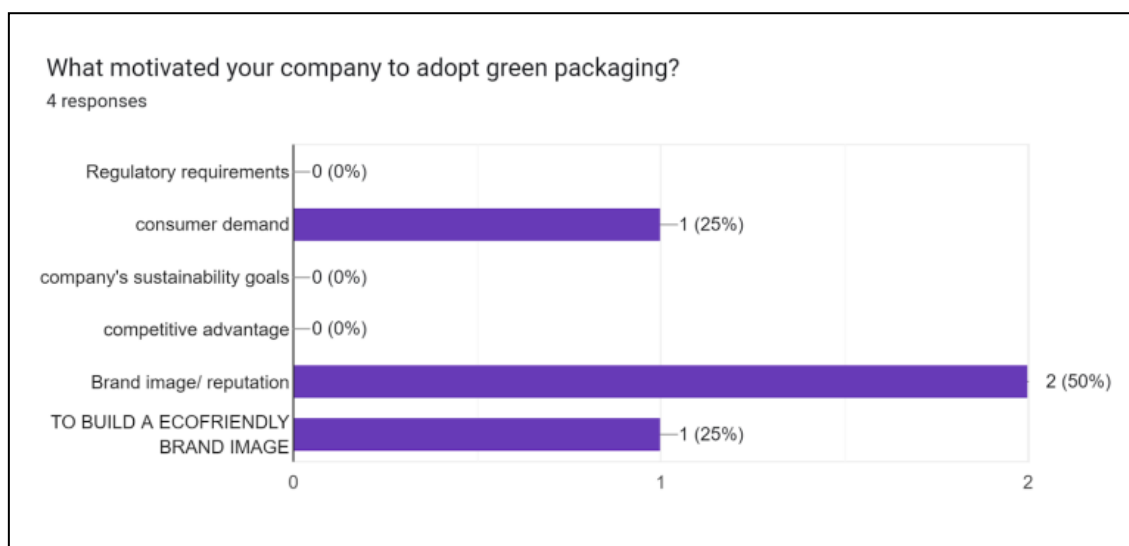
66.7% have considered implementing green packaging solutions to the company, rest have not considered. The data shows that 66.7% of respondents have considered implementing green packaging solutions in their businesses, reflecting a strong awareness of sustainability and a willingness to explore eco-friendly alternatives. This indicates a growing recognition of environmental responsibility among small companies. However, the remaining respondents who have not yet considered green packaging (33.3%) suggest that barriers such as cost, availability, or perceived irrelevance to their industry may be limiting factors. This division underscores the varying levels of commitment to sustainability within the small business sector and highlights potential opportunities to promote the adoption of green packaging through education and incentives.



Pie Chart 14 : Future Considerations in implementing green packaging

Motivation

The motivations behind adopting green packaging reveal the key drivers of sustainability decisions among respondents. Half of the businesses (50%) were motivated by the desire to enhance their brand image and reputation, suggesting that companies see eco-friendly packaging as a way to differentiate themselves and appeal to environmentally conscious consumers. The remaining 50% implemented green packaging in response to direct consumer demand, reflecting the growing influence of customer preferences on business practices. These findings highlight that both external market pressures and internal branding goals are significant factors pushing small businesses toward more sustainable packaging solutions.



Bar Graph 7 : Motivation behind adopting green packaging

Adoption of eco friendly packaging

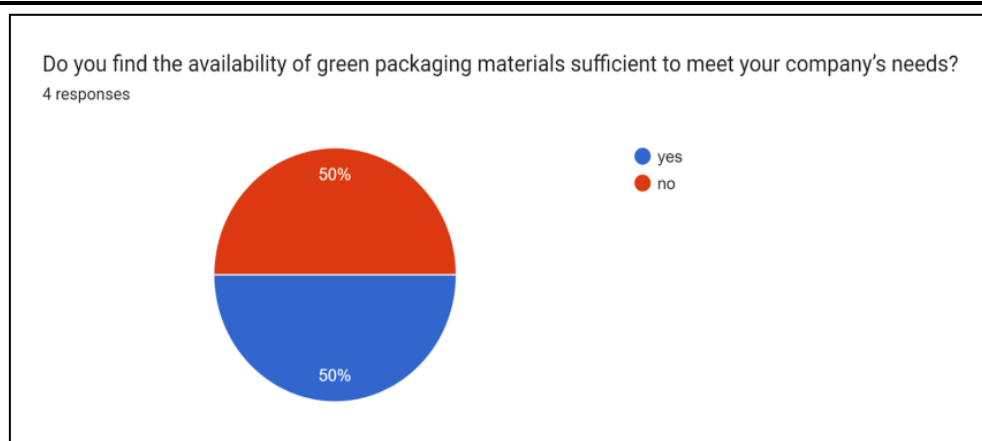
The extent to which businesses have adopted eco-friendly packaging varies significantly. Half of the respondents (50%) use sustainable packaging for only 20% of their products, indicating that while they have begun the shift, the majority of their products still rely on conventional packaging. Meanwhile, 25% of the businesses package 50% of their products with eco-friendly materials, and another 25% have implemented sustainable packaging for 75% of their products. This shows a gradual but steady move toward sustainability, with some companies making more significant strides than others. The varying levels of adoption reflect differing capabilities, product requirements, and possibly challenges in fully transitioning to green packaging across their entire product range.



Pie Chart 15 : Adoption of eco-friendly packaging

Availability of resources

The perceptions of availability regarding green packaging materials highlight a crucial factor influencing businesses' sustainability efforts. Half of the respondents (50%) believe that the availability of eco-friendly packaging materials is sufficient to meet their company's needs, suggesting that they can easily access the resources necessary to implement sustainable practices. Conversely, the other 50% indicate that they do not find the availability satisfactory, which may hinder their ability to transition fully to green packaging. This division underscores the importance of addressing supply chain issues and enhancing access to sustainable materials, as the lack of availability could be a significant barrier for companies eager to adopt environmentally friendly packaging solutions.



Pie Chart 16 : Motivation Availability of resources

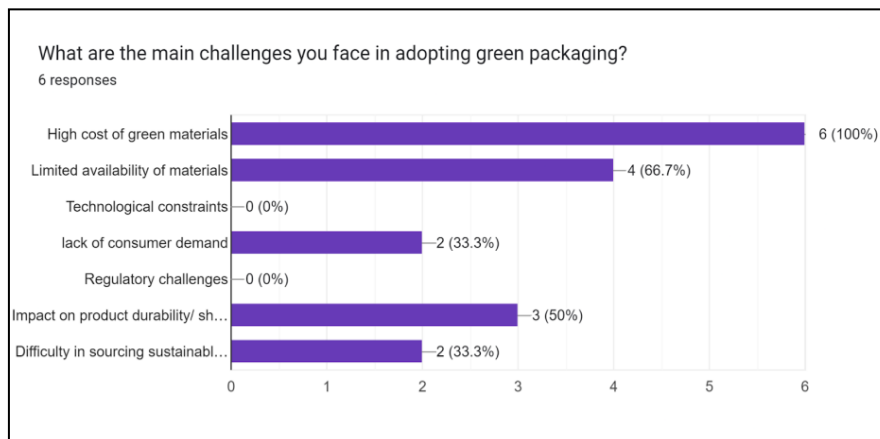
<i>Specifics</i>	<i>No of Respondents</i>	<i>Percentage%</i>
Challenges in Adopting Green Packaging		
High Cost of Green Materials	6	100%
Limited Availability of Materials	4	67%
Impact on Product Durability/Shelf Life	3	50%
Lack of Consumer Demand	2	33%
Difficulty in Sourcing Sustainable Packaging	2	33%
Costs of Green Packaging		
Significantly Higher	3	33%
Slightly Higher	4	66%
Regulatory Pressure/ Incentives		
Yes	1	17%
No	5	83%
Change in Consumer Demand for Eco-Friendly Packaging		
Moderate Increase	3	50%
No Change	3	50%
Support Needed for More Green Packaging		
Lower Costs of Sustainable Packaging	3	50%
Government incentives or subsidies	1	16.7
Better Availability of Materials	2	17%
Better availability and equivalent cost.	1	16.7
Long-term Goals for Green Packaging		

<i>Specifics</i>	<i>No of Respondents</i>	<i>Percentage%</i>
yes, for select portions of their product	3	50
No	2	33%
Undecided	1	16.70%

Table 7 : Profile on Challenges and Barriers Faced by Companies in Adopting Green Packaging

Challenges faced in Adoption of eco friendly packaging

The challenges associated with adopting green packaging are prominently highlighted in the responses of the survey participants. A unanimous 100% of respondents identified high costs as the primary barrier to implementing eco-friendly packaging solutions, indicating that financial considerations are a significant concern for small businesses. Additionally, 66.7% noted limited availability of materials as a crucial challenge, reflecting a struggle to source sustainable options. Product durability is seen as an issue by 50% of respondents, suggesting concerns about the effectiveness of green packaging in protecting products. Lastly, 33.3% cited difficulties in sourcing sustainable products, which may further complicate the transition to environmentally friendly packaging. Together, these challenges underscore the need for more accessible and affordable sustainable packaging options to facilitate broader adoption.

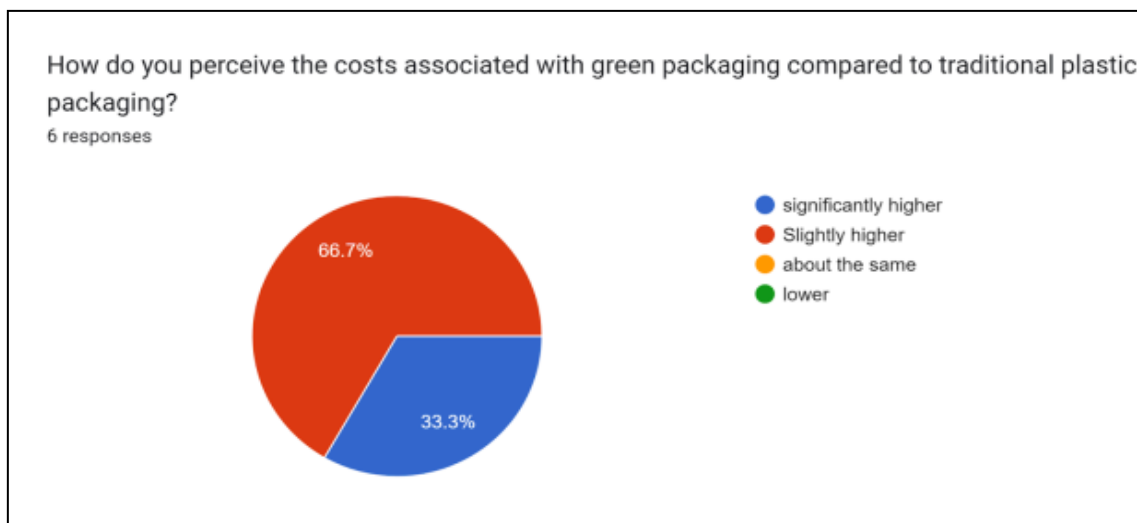


Bar Graph 8 : Challenges in Adopting Green Packaging

Cost patterns

The perceptions of cost associated with green packaging versus traditional plastic packaging reveal important insights into the financial considerations that influence adoption. A notable 66.7% of respondents believe that the costs for eco-friendly packaging are only slightly higher than those of conventional plastic options, suggesting that they see potential for manageable adjustments in their budgets. However, the remaining respondents view the cost difference as significantly higher,

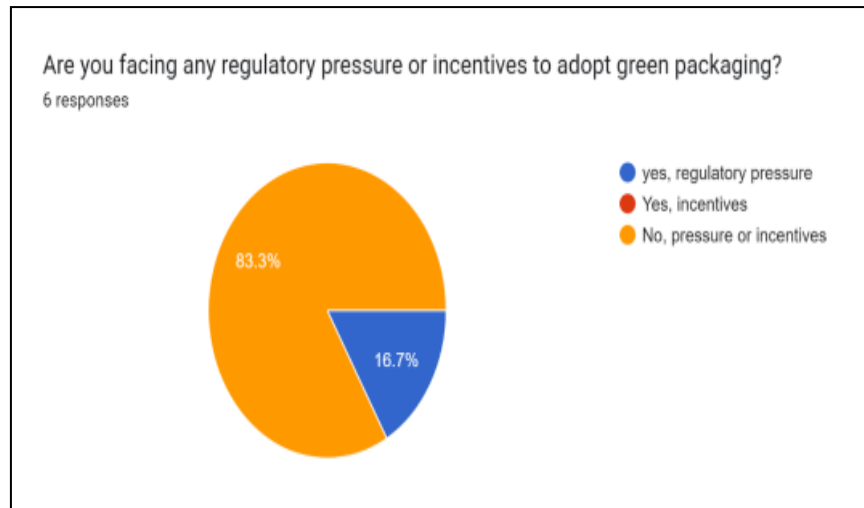
indicating that for some businesses, the price premium poses a substantial barrier to adopting sustainable packaging solutions. This disparity highlights the need for further exploration into cost-effective green packaging alternatives, as well as potential strategies to reduce the financial burden on companies eager to make environmentally responsible choices.



Pie Chart 17 : Cost Pattern of resources

Regulations regarding green packaging

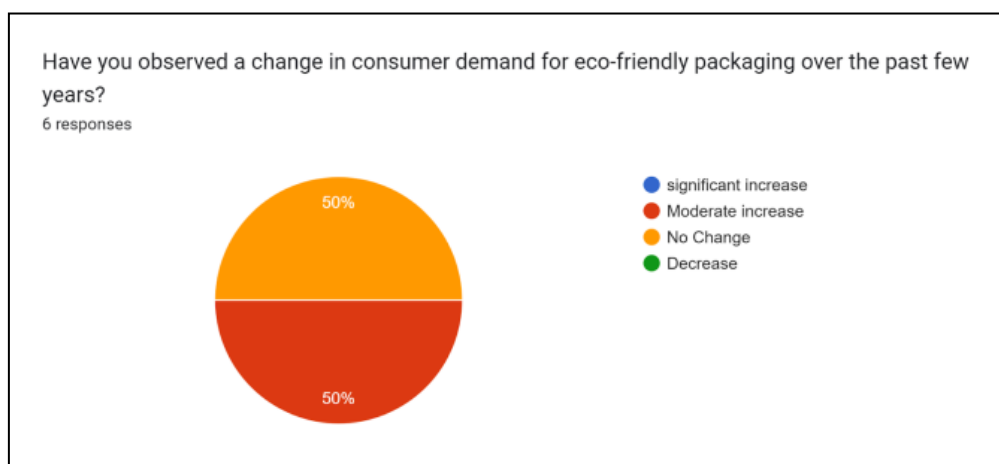
The survey results indicate that a significant majority, 83.3%, of respondents are not experiencing any regulatory pressure to adopt green packaging, suggesting that their sustainability efforts are primarily driven by market demand and brand image rather than legal requirements. This lack of regulatory impetus may limit the urgency for some businesses to transition to eco-friendly packaging. Conversely, the remaining 16.7% who do face regulatory pressure highlight a growing trend where legislation may play a role in promoting sustainability practices. This disparity underscores the varying influences on businesses regarding the adoption of green packaging and suggests that increased regulatory measures could encourage more widespread implementation across the sector.



Pie Chart 18 : Regulations regarding green packaging

Change in Consumer Behaviour

The findings reveal that half of the respondents (50%) have observed a moderate change in consumer demand for eco-friendly packaging over the past few years, indicating a notable shift in consumer preferences toward sustainability. This suggests that as environmental awareness grows, consumers are increasingly seeking out products with eco-friendly packaging, which may influence purchasing decisions. Conversely, the remaining 50% have not observed any significant change in demand, suggesting that some businesses may operate in markets where eco-consciousness has yet to significantly impact consumer behavior. This division highlights the varying degrees of market responsiveness to sustainability trends, underscoring the potential for growth in eco-friendly packaging adoption as consumer demand evolves.

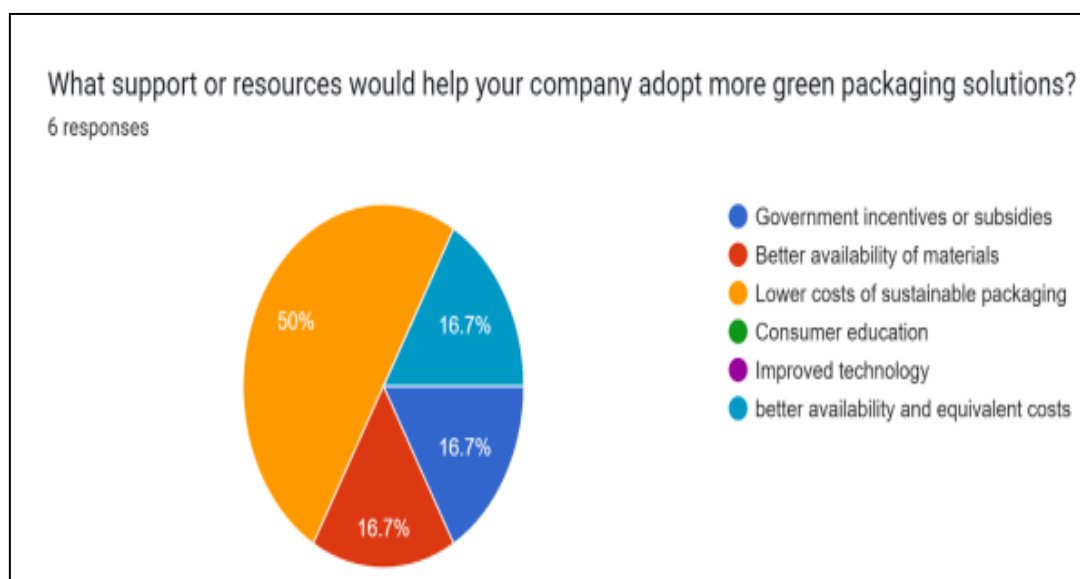


Pie Chart 19 Change in Consumer Behaviour

Factors aiding in adoption of green packaging

The factors influencing the adoption of green packaging solutions vary among respondents, with 50% believing that reducing the costs associated with sustainable

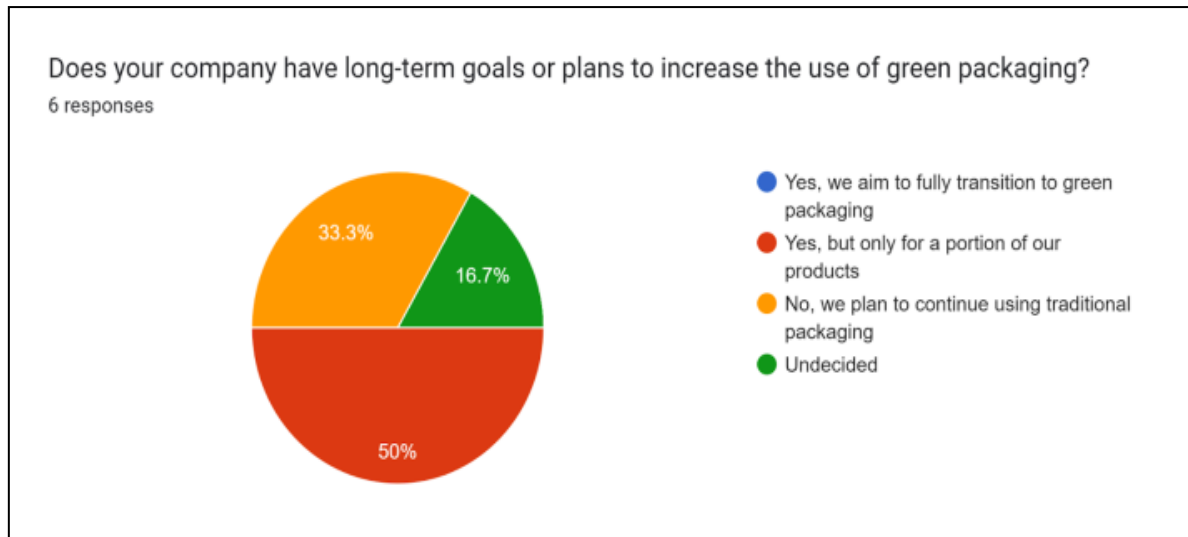
packaging would significantly encourage their transition to more eco-friendly options. This perspective highlights the critical role of affordability in decision-making for small businesses. However, the remaining respondents point to alternative motivators, such as government subsidies, which could provide financial support for adopting sustainable practices; improved availability of materials, which would make it easier to source eco-friendly packaging; and advancements in technology, which may enhance the effectiveness and efficiency of green solutions. This diversity in perspectives underscores the need for a multifaceted approach to encourage the widespread adoption of sustainable packaging in the business sector.



Pie Chart 20 : Factors influencing the adoption of green packaging

Long term goals

The survey results indicate that 50% of the companies have developed long-term plans to increase the use of green packaging for a portion of their products, reflecting a commitment to sustainability and an understanding of the importance of eco-friendly practices in today's market. However, 33.3% of respondents do not have any plans to adopt green packaging, which may reflect a lack of urgency, resources, or awareness of its benefits. Meanwhile, 16.7% remain undecided, suggesting uncertainty regarding the feasibility or effectiveness of transitioning to sustainable options. This distribution highlights the varying levels of commitment to green packaging among businesses, emphasising the need for strategies to support those unsure or resistant to change.



Pie Chart 21 : Long-term goals regarding the use of green packaging

CONCLUSION

This study sheds light on the journey of small businesses as they consider adopting green packaging, revealing both their enthusiasm and the hurdles they face. All of the respondents come from small companies with fewer than 50 employees, which brings its own set of challenges when it comes to making the shift to sustainability.

While 66.7% of businesses have thought about implementing green packaging, cost remains the biggest roadblock—something 100% of participants pointed out. On top of that, limited access to sustainable materials (66.7%), concerns over product durability (50%), and difficulty in sourcing green alternatives (33.3%) also make it harder for businesses to fully commit. These barriers highlight the need for affordable, durable, and easily available green packaging solutions.

Despite these challenges, half of the businesses are motivated to adopt green packaging because it improves their brand image, while the other half are responding to growing consumer demand for sustainability. About 50% of companies even have long-term plans to increase the use of green packaging, although some remain undecided or lack a clear strategy. This indicates a rising awareness of sustainability, but not all businesses are ready to fully embrace it yet.

Consumer preferences are becoming an important factor in this shift. Half of the businesses have noticed a moderate rise in demand for eco-friendly packaging, showing that customers are starting to prioritize sustainability. Interestingly, regulatory pressure isn't a major factor, as 83.3% of respondents aren't facing external rules forcing them to adopt green packaging.

In conclusion, while small businesses are increasingly aware of the importance of green packaging, they still face significant hurdles. To facilitate broader adoption in

the future, several strategies can be implemented. First, suppliers and manufacturers should work towards reducing the costs of sustainable materials, making them more accessible to small businesses. Additionally, government incentives, such as subsidies or tax breaks, could encourage companies to transition to eco-friendly packaging. Educational programs highlighting the benefits of sustainable practices can also help companies understand the long-term advantages, including potential cost savings and increased customer loyalty. Finally, fostering collaborations among businesses to share resources and best practices could streamline the transition to green packaging. By addressing these areas, the path toward sustainable packaging can become smoother for small businesses, ultimately benefiting the environment and enhancing their market presence.

REFERENCES

- [1] Advancing Sustainable Materials Management: Facts and Figures Report <https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/advancing-sustainable-materials-management>
- [2] Beitzel-Heineke, E. F., Balta-Ozkan, N., & Reefke, H. (2017). The prospects of zero-packaging grocery stores to improve the social and environmental impacts of the food supply chain. *Journal of Cleaner Production*, 140, 1528-1541.
- [3] Bhatia, M., & Jain, A. (2013). Green marketing: A study of consumer perception and preferences in India. *Electronic Green Journal*, 1(36). <https://escholarship.org/uc/item/5mc39217>
- [4] Carroll, A. B. (1991). The pyramid of corporate social responsibility: Toward the moral management of organizational stakeholders. *Business Horizons*, 34(4), 39-48. [https://doi.org/10.1016/0007-6813\(91\)90005-G](https://doi.org/10.1016/0007-6813(91)90005-G)
- [5] DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2), 147-160. <https://doi.org/10.2307/2095101>
- [6] Gupta, S., & Agarwal, A. (2013). Green packaging and its adoption in Indian manufacturing industries: Challenges and opportunities. *International Journal of Business Research*, 17(4), 45-57.
- [7] Linton, J. D., Klassen, R., & Jayaraman, V. (2007). Sustainable supply chains: An introduction. *Journal of Operations Management*, 25(6), 1075-1082. <https://doi.org/10.1016/j.jom.2007.01.012>
- [8] Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, 83(2), 340-363. <https://doi.org/10.1086/226550>
- [9] Nair, A., & Rao, S. (2021). Adoption of sustainable packaging practices in Indian industry: An empirical study. *Asia Pacific Journal of Management*, 38(2), 437-456. <https://doi.org/10.1007/s10490-020-09754-4>
- [10] OECD. (2020). Recycling in the Circular Economy: Impacts of Policy Measures on Recycling Rates in the European Union. Organisation for Economic Co-operation and Development. <https://www.oecd.org/environment/waste/recycling-circular-economy-policy.pdf>
- [11] Ottman, J. A. (2011). *The New Rules of Green Marketing: Strategies, Tools, and Inspiration for Sustainable Branding*. Berrett-Koehler Publishers.

- [12] Rogers, E. M. (2003). Diffusion of Innovations (5th ed.). Free Press.
- [13] U.S. Environmental Protection Agency (EPA). (2018). Assessed September 13, 2024.

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