

What are the Drivers of Demand for Recycled Products?

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Abstract:- This research paper investigates the drivers of demand for recycled products in India, a country with a rapidly growing economy and a large population. The paper begins by exploring the concept of the circular economy and its potential to address the pressing challenges of poverty, unemployment, and waste management in India. The paper then undertakes an extensive literature review to identify the key factors that influence consumer demand for recycled products.

The paper's main findings are based on a critical analysis of the existing literature, augmented by insights from a case study of two successful Indian companies that manufacture recycled paper products. The paper concludes with presenting the relation between the factors identified and the demand for recycled products along policy recommendations.

I. INTRODUCTION

Sustainable practices have emerged as the primary concern against the backdrop of a rapidly shifting global scenario, with recycling and the marketing of recycled products at the fore. The problems caused by poverty, unemployment, and environmental degradation have gotten worse in India, a country with exponential economic expansion and a growing population. With the objective to resolve environmental concerns and socioeconomic disparity, it is now crucial to comprehend the factors that influence the demand for recycled goods in India.

India's staggering population of 1.486 billion people, coupled with rapid urbanisation and industrialisation, has given rise to an unprecedented surge in waste generation - approximately generating 150,000 tonnes of municipal solid waste every day. 97% of this waste is collected yet more than half of it, 80,000 tonnes per day, ends up in dumpsters or remains neglected. Approximately 47% of garbage generated gets processed, while the remaining 27% is disposed of in landfills. 160 million tonnes of legacy waste would take more than 15,000 hectares of urban land which is also a concern for the country.

These statistics highlight the pressing need to tackle waste management challenges and adopt eco-friendly practices, which is where recycling would come into position.

The bridge between these seemingly disparate fields of economics and environmental conservation lies in the concept of the circular economy- A circular economy is an economic system designed to minimise waste and maximise the use of resources by promoting the continuous circulation of products, materials, and resources. In contrast to the traditional linear economy (take, make, dispose), a circular economy emphasises reducing, reusing, recycling, and refurbishing to create a closed-loop system. The goal is to reduce the consumption of finite resources and minimise the environmental impact of production and consumption. Although the circular economy has gained recognition, it remains relatively nascent in the mainstream, necessitating further growth and integration into policy frameworks.

Diving into the field of recycling goods would not only aid with the issue of waste generation in India, but also help tackle the problems related to unemployment and poverty which remains a major concern as the unemployment rate in India remains 7.95% in July 2023. Encouraging production of recycled goods would also stimulate more job opportunities for the unemployed section of India's economy.

The objective of this research paper is to provide insight into the numerous factors driving demand for recycled products in India, with a particular emphasis on the relationship between poverty and unemployment and its impact in moulding the country's disposition to sustainability and economic development. Furthermore, the research will shed light on the current state of field economics and developmental economics in India, highlighting existing initiatives and policies aimed at encouraging the use of recycled products and minimising the negative impact of waste generation.

This research study begins on a revolutionary journey to investigate how individuals, businesses, and policymakers in India may catalyse the circular economy. We aim to discover the techniques that can encourage sustainable economic growth while tackling the pressing challenges of poverty, unemployment, and waste management by undertaking an extensive literature analysis, in-depth case study, and insightful surveys.

II. LITERATURE REVIEW

Recycling is when you take an item's materials and reprocess them to be used elsewhere.

Recycled and repurposed goods exemplify sustainable practices by providing creative solutions to environmental concerns. Waste materials are recycled into useful resources, saving natural resources and lowering carbon emissions. Reused goods increase product lifespans, reducing the requirement for continuous manufacture and conserving finite resources. Accepting these eco-friendly options is critical for developing a greener and more responsible consumer culture as we strive for a more sustainable future.

A. Pros and Cons of Producing, Marketing, and Purchasing Recycled Products (Sources- smart asset.com, ecavo.com)

➤ Pros of Producing Recycled Products:

- **Environmental Benefits:** Recycled product manufacture lowers the demand for raw materials, protecting natural resources and limiting adverse environmental effects, including fewer greenhouse gas emissions and lower energy use.
- **Cost Savings:** Since recycled resources are frequently less expensive than virgin raw materials, using them allows producers to cut costs.
- **Corporate Social Responsibility (CSR):** A company's image and reputation can be improved by implementing sustainable production methods and providing recycled goods, making it more desirable to environmentally-conscious consumers and investors.
- **Regulatory Compliance:** In some regions, there are government mandates or incentives encouraging companies to incorporate recycled materials, thereby promoting a circular economy.

➤ Cons of Producing Recycled Products:

- **Quality Variability:** The quality and consistency of recycled materials may vary, which may make it challenging to maintain product standards.
- **Limited Supply:** Depending on the availability of recyclable materials, manufacturers may face supply limitations, hindering production and scalability.
- **Initial Investment:** Implementing recycling and incorporating recycled materials may require substantial initial investments in technology and machinery, impacting short-term profitability.
- **Market Perceptions:** Some consumers may perceive recycled products as inferior in quality compared to non-recycled alternatives, which could hinder market acceptance.
- **High production time:** Due to lack of reliable quality of raw material, the quality control process may increase the time of production.

➤ Pros of Marketing Recycled Products:

- **Green Marketing:** Promoting recycled products allows companies to appeal to the growing environmentally-conscious consumer base, leading to increased brand loyalty and market share.
- **Differentiation:** In a competitive market, offering recycled products can help companies stand out from competitors and gain a unique selling point.
- **Regulatory Compliance:** Marketing recycled products demonstrates a commitment to sustainability, aligning with evolving regulations and consumer preferences.
- **Niche Market Opportunities:** Targeting environmentally-conscious consumers can open up niche market segments, providing potential for growth and brand expansion.

➤ Cons of Marketing Recycled Products:

- **Perceived Quality Issues:** Consumer scepticism regarding the quality and durability of recycled products may affect marketing efforts and sales.
- **Price Perception:** Recycled products might be perceived as overpriced due to consumers' lack of awareness regarding the benefits of recycling, potentially leading to lower demand.
- **Communication Challenges:** Effectively conveying the environmental benefits of recycled products and differentiating them from non-recycled alternatives can be a marketing challenge.
- **Greenwashing Concerns:** Some companies may engage in greenwashing, misrepresenting the environmental benefits of their products, leading to consumer distrust and backlash.

➤ Pros of Purchasing Recycled Products:

- **Environmental Impact:** By purchasing recycled products, consumers actively contribute to reducing waste and conserving natural resources, fostering sustainable consumption patterns.
- **Support for Sustainable Practices:** Choosing recycled products encourages manufacturers to continue producing eco-friendly items and fosters a demand-driven shift towards sustainable practices.
- **Personal Fulfilment:** Many consumers find satisfaction in making environmentally responsible choices, aligning their purchases with their values.
- **Improved Waste Management:** Increased demand for recycled products can stimulate better waste collection and recycling infrastructure development.

➤ *Cons of Purchasing Recycled Products:*

- **Limited Availability:** The range of available recycled products may be narrower compared to non-recycled alternatives, limiting consumer choice.
- **Price Differential:** In some cases, recycled products may be slightly more expensive due to the complexities of the recycling process, discouraging price-sensitive consumers.
- **Perceived Quality:** Consumers may perceive recycled products as less durable or inferior in quality, affecting their willingness to purchase these items.
- **Awareness and Education:** Lack of awareness and education about the benefits of recycled products may hinder consumer adoption.

B. Elements Related to Recycled Products that Make them Attractive and Successful in the Market

- **Sustainability Credentials:** Consumers increasingly value products that contribute positively to environmental sustainability. Recycled products, with their reduced environmental footprint, align well with these values, making them attractive to eco-conscious buyers.
- **Innovative Design and Quality Assurance:** Successful recycled products often boast innovative design elements that appeal to modern aesthetics, dispelling the myth that recycled products are inferior in quality. Implementing stringent quality assurance measures can also build consumer trust.
- **Transparent Supply Chain:** Brands that maintain transparency in their supply chain, providing information about the sourcing and recycling process, can foster trust and confidence among consumers, encouraging them to make informed purchasing decisions.
- **Brand Reputation and CSR:** Companies with strong sustainability and Corporate Social Responsibility (CSR) initiatives gain a positive reputation, which, in turn, can enhance the desirability of their recycled products.
- **Collaborations and Partnerships:** Collaborations between brands and recycling facilities, as well as partnerships with environmental organisations, can increase the reach and appeal of recycled products through joint marketing efforts and awareness campaigns.
- **Government Incentives and Policies:** Supportive government policies, such as tax incentives or green procurement programs, can create a conducive environment for the growth of recycled product markets, encouraging both producers and consumers to participate.
- **Consumer Education:** Raising awareness about the benefits of recycled products, dispelling misconceptions, and highlighting their environmental impact can lead to increased consumer acceptance and demand.

Identifying the pros and cons of producing, marketing, and purchasing recycled goods can be invaluable for new and upcoming recycling businesses to take a definitive decision when going into the field of recycling, with proper marketing strategies and an understanding of the consumer's perspective on recycled goods to implement the positive points and to avoid or overcome the cons present. Analysing the market's response to recycled goods, both from consumers and other businesses, aids in identifying growth opportunities and areas for improvement. By carefully considering the pros and cons, new recycling businesses can develop well-rounded and adaptable plans that capitalise on the advantages while addressing potential challenges, fostering long-term success and positive environmental impact.

III. CASE STUDY

- **Ecokaari** - <https://www.ecokaari.org> - is an Indian social enterprise that upcycles waste plastic into beautiful handcrafted fabrics using Charkha (spindle) and Handloom. These fabrics are handwoven by women and youth who belong to humble backgrounds. They aim to innovate and present sustainable alternatives by pairing traditional Indian crafts with their upcycled-hand woven fabrics with contemporary designs.

As noted from their website, [ecokaari.com](https://www.ecokaari.com), Ecokaari has made a significant impact in multiple dimensions.

In the environmental aspect, Ecokaari Aims products from wrappers and cassettes that usually go into landfills. Along with this, Ecokaari also provides women from underprivileged areas with job opportunities, empowering them to be self-reliant, which targets a staggering social problem in India.

Ecokaari majorly does its sales through their online website along with directly selling through exhibitions in India and export partners for international sales.

Ecokaari also sells their products in the form of corporate gifting.

The prices, even due to the problem of needing to increase prices as a cause of long production time, are not premium priced and mediate around the average prices of the non recycled products in the market.

It is done to be affordable for a large market and to encourage Customers of all sectors of the economy to take part in this cause.

For marketing, Ecokaari conducts Awareness sessions in schools, colleges, companies, and neighbourhood societies along with multiple collaborations with well known food companies with plastic packaging with a possibility of being upcycled as well as Influencers and designers to make the products more appealing to consumers.

Ecokaari has also mentioned some of the major problems faced by them in this industry. They state that the process of manufacturing upcycled goods is highly manual labour oriented which involves a degree of craftsmanship. Along with this, the ruling out of manufacturing flaws also increases production time which leads to a further increase in the price of their products.

➤ *Glass Up* - <https://glassup.in> - Glass Up is a unique company that makes all-natural wax candles, drinking glasses, self-watering planters, Carafe sets and vases out of recycled glass bottles. They take any discarded beer/wine/liquor bottles to reuse that glass in a more beneficial and creative way. They create various products by cutting off the tops of bottles and smoothing out the edges. Glass Up has made many thousands of trashed bottles into something more significant. Handcrafted in India, and majorly sells its products through its website and directly through exhibitions while conducting multiple awareness sessions.

Glass Up has also made a significant environmental impact by stopping over 1,000 bottles from being dumped into landfills. Along with this, Glass Up also provides employment on multiple levels of manufacturing. Tying up with an organisation, Cheshire homes, that works towards changing the mindset of society and providing a sense of equality to people with disabilities by promoting mainstream and inclusion. Glass Up provides employment opportunities to the people with disabilities there to become self-reliable.

The prices of the upcycled Products of Glass Up are above the average prices of non recycled or repurposed goods of similar use in the market. The products are aesthetic in nature and target a market of people looking to get unique decor for their home while being part of a cause.

After an in depth look at their website, Glass Up seems to lay strong emphasis on the image of the quality of products towards the customer along with expanding their product lines from candles to platters to even magical hydro herb bottles.

IV. SURVEY

In addition to the case studies I have conducted a survey and gathered some consumer insights on recycled goods. I have attached the survey questions as an appendix at the end of this report. From the survey I conducted I got 184 unique responses from a diverse range of people. I have tallied these responses into a set of concise insights which I share in this section.

- Firstly I explore how frequently people purchase recycled goods. This is presented in Figure 1. As demonstrated by the figure, almost 50% of the sample purchase recycled goods sometimes, with equal amounts of people purchasing less regularly or more regularly.

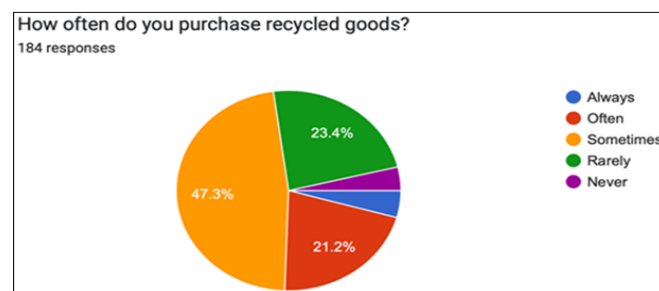


Fig 1 Frequency of Purchasing Recycled Goods

- For those people who do purchase recycled goods, typically come across them rather than seeking them out. Only 20% of the people seem to actively seek out recycled products.

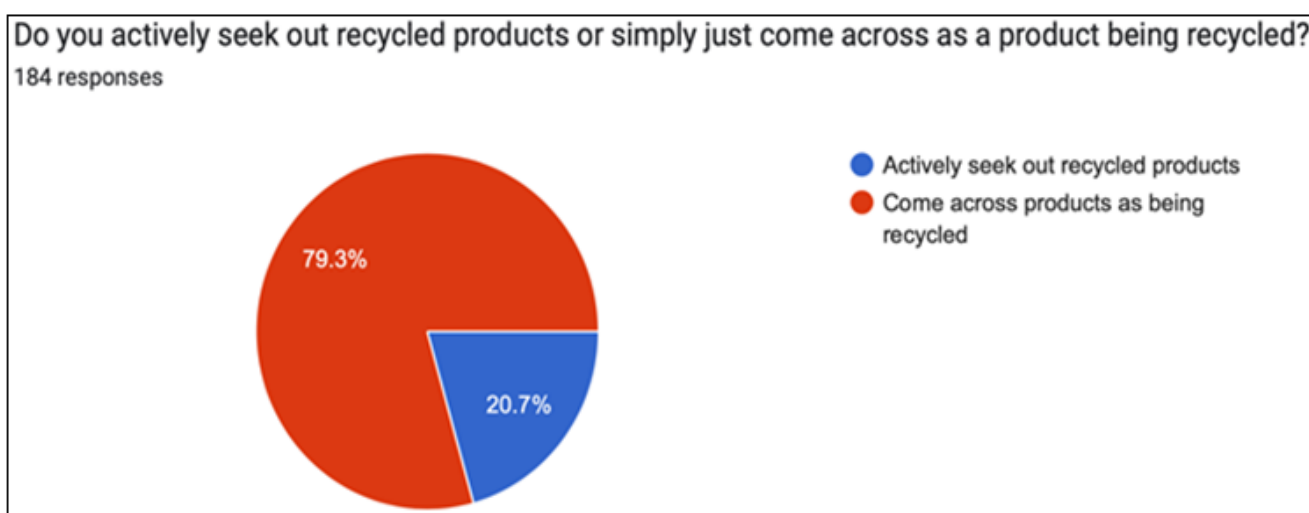


Fig 2 How People Typically Find Recycled Goods that They Purchase

- As demonstrated by Figure 3, Environmental Impact stands to be the major factor influencing their decision to purchase a recycled product for more than two-third of the sample. Along with this, it can also be inferred that least people give importance to price as a factor influencing their purchase of recycled goods.

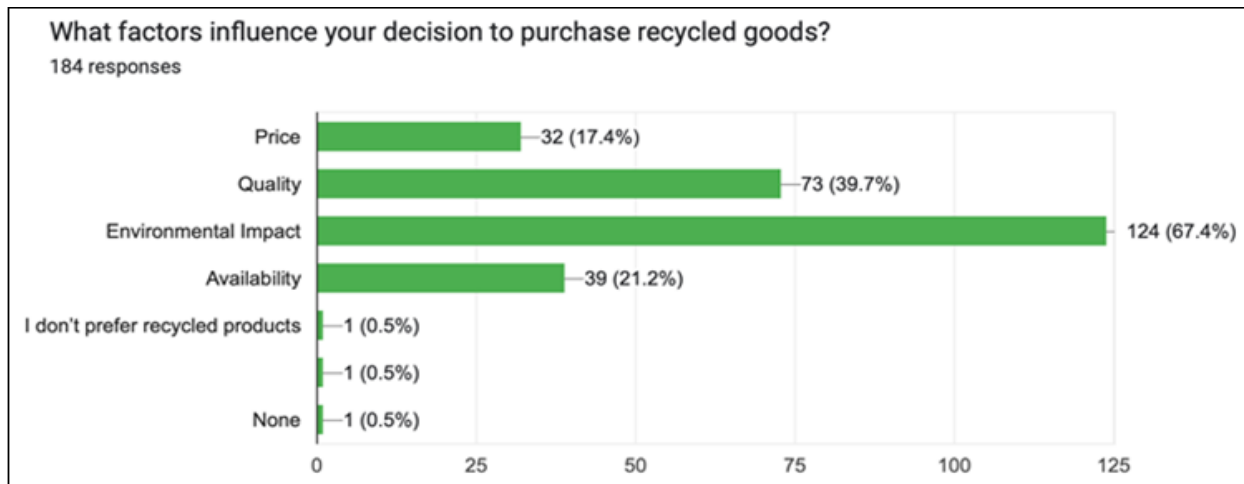


Fig 3 Factors Influencing Purchase of Recycled Goods

- Almost two-third of the sample seem to be willing to pay a higher price for recycled products. This aligns with the findings in the previous question.

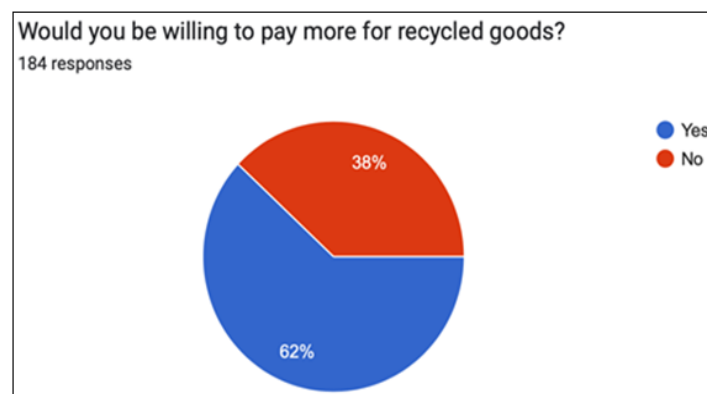


Fig 4 Willingness to Pay More for Recycled Products

The previous questions have explored how people currently engage with recycled goods. However, it is also important to capture their perceptions about how this could change.

- More than two-third of the people believe making recycled goods more widely available is the optimum way for recycling projects to improve their marketing strategies.

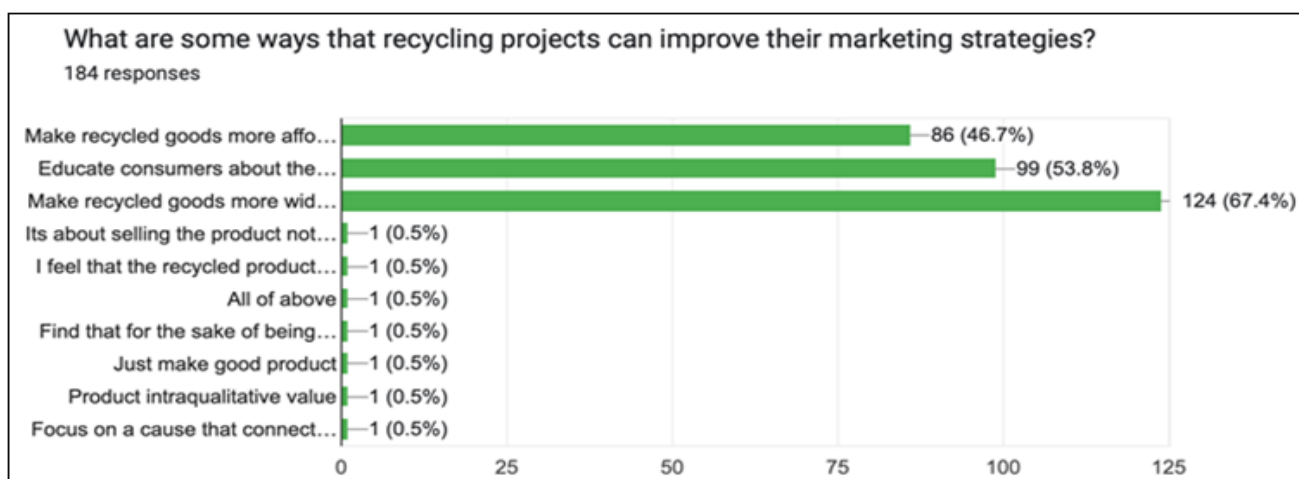


Fig 5 Ways that Recycling Projects can Improve their Marketing Strategies

One of the most important for a recycling business would be to rule or minimise the concerns that are usually faced by potential customers. This would ensure a non-hesitant approach for their products in the market.

- As clearly demonstrated in the figure, more than half the people are sceptical about purchasing recycled goods due to the perceived quality, along with the same percentage of people finding price, aesthetics, and lack of availability as a concern.

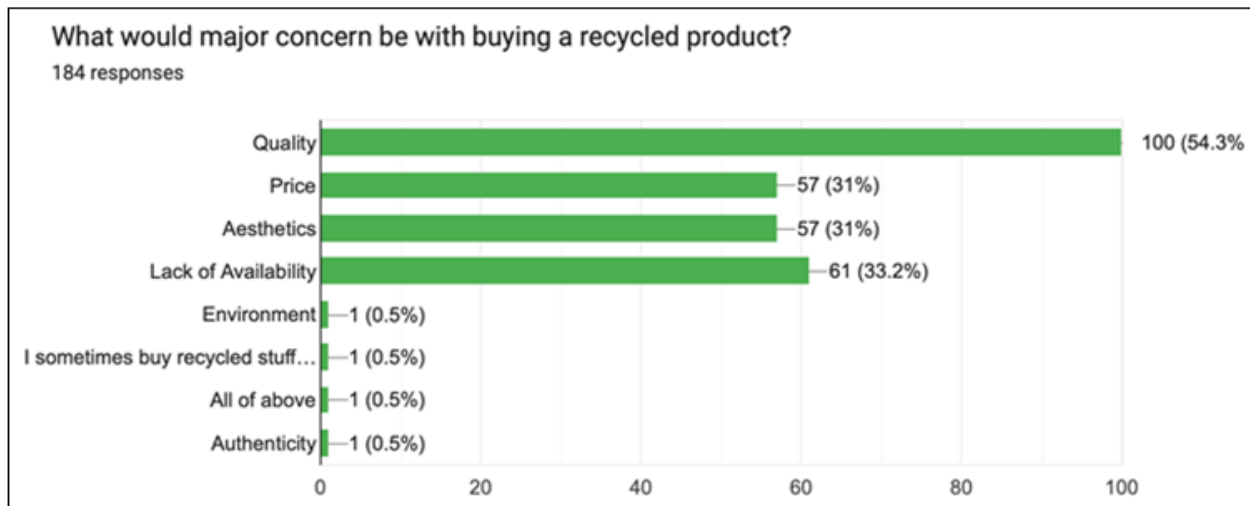


Fig 6 Concerns with Purchasing Recycled Products

- 3/4th of the people would be more likely to purchase a product if it were made from recycled materials while only 5% of the people would be less likely.

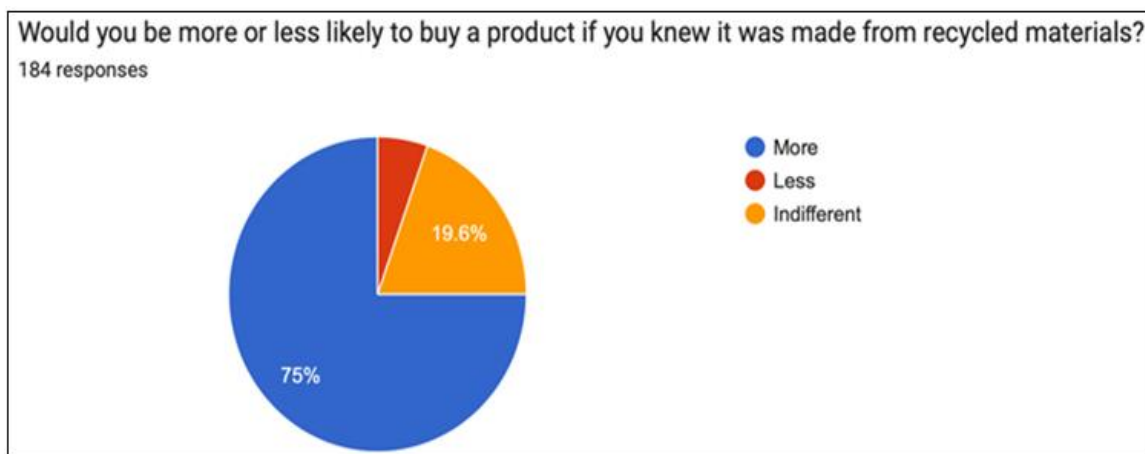


Fig 7 Likeliness to Purchase a Product with the Knowledge of it being Recycled

In the survey, I had also questioned the sample on the products they would and would not purchase if they were recycled in nature.

The following table showcases the results gathered from it.

As seen in the table below, it can be inferred that people are more likely to recycle items that are made of non-toxic materials and that can be easily reused or repurposed. They are less likely to recycle items that are made of toxic materials or that are difficult to recycle. There is also some variation in preferences for recycling different types of clothing, rugs, and hygiene products.

This table provides a useful overview of the public's attitudes towards recycling. It can be used to inform decisions about recycling programs and policies.

Here are some additional thoughts on the table:

- It is interesting to note that some items, such as clothes and rugs, are listed in both the "preferred" and "not preferred" categories. This suggests that there is some uncertainty about whether or not these items can be recycled safely and effectively.
- The table also shows that there is a lot of variation in preferences for recycling different types of electronic appliances. This is likely due to the fact that there are many different types of electronic appliances, and the recycling process for each type can be different.

Overall, the table provides a valuable snapshot of the public's attitudes towards recycling. It can be used to inform decisions about recycling programs and policies, and to help raise awareness about the importance of recycling.

Table 1 Preferred Recycled Products

Preferred	Not Preferred	Mixed Responses
Bags	Medical Products	Clothes
Furniture	Toiletries	Rugs
Footwear	Edibles	Soap
Books	Close to skin garments	Utensils
Decor	Organic products	Cosmetics
Stationary	Body Implants	Electronic Appliances
Glassware	Cookware	Hygiene products
Planters	Flowers	
Tissue Paper	Batteries	
Tyres	Skin Products	
Fabrics		
Device Covers		
Toilet Paper		
Gift Wraps		
Buckets		
Food Packaging		
Mop		
Candles		
Yoga Mat		
Trinkets		
Sunglasses		
Containers		
Metal		
Trays		
Incense		

V. DISCUSSIONS AND CONCLUSIONS

The demand for recycled products in India is influenced by a number of factors, including the perceived quality, availability, price, and environmental benefits of these products.

- *Quality-*

As mentioned in “recycled products in general”, one of the major cons of marketing recycled and upcycled products are the perceived quality. This is also backed by Figure 6 in the survey above, demonstrating quality to be the most common concern with purchasing recycled products. Furthermore, the case study on Ecokaari and Glass Up show the level of importance that is given to quality control as they sacrifice the production time and price to rule out any manufacturing flaws to minimise the sceptical views about their products and increase consumer confidence.

- *Limited Availability/Variety-*

Depending on the availability of recyclable materials, manufacturers may face supply limitations, hindering production and scalability which would lead to the range of available recycled products being narrower compared to non-recycled alternatives, limiting consumer choice. As interpreted from Figure 5, a majority exceeding two-thirds of the surveyed individuals hold the view that enhancing the widespread accessibility of recycled products represents the most effective approach for recycling projects to enhance their marketing strategies. As observed in the case study, Ecokaari lays emphasis on the vast variety of products they sell on their website ranging through multiple areas of usage

such as bags, pouches, stationary, decor and more and Glass Up also expands its product range from candles to platters to hydro planters etc.

But, the limited variety issue has to also be seen in the context of the products that are largely preferred in the market for sales. This is to minimise the feeling of lac of variety by consumers but also fulfilling the wanted variety on a larger scale consumer wise.

- *Preferred Recycled Products-*

As seen in the case study on Ecokaari and the responses from the survey, there is a very close similarity in the products that people would be willing to buy if recycled and the products sold by Ecokaari and Glass Up. Such products include- Stationary, bags, pouches, planters, decor, device covers, books, candles etc.

- *Price-*

One of the concerns related to purchasing recycled products is the price differential present. As seen in the survey, 31% of the people believe decreasing the price of the recycled goods would be an effective marketing strategy for recycling companies and the ratio of people willing to pay to not willing to pay more is 31:19. As we can see Ecokaari tends to mediate its price range between the average price of the products to a bit higher than average. According to the survey, most people are willing to pay the extra price due to high production time and labour intensive manufacturing factors. In the case of Glass Up too, the prices are only a bit higher than the average price which is

backed by the survey response of the willingness of people to pay the reasonable extra price for recycled goods.

In addition to these factors, the demand for recycled products is also influenced by the environmental awareness of consumers. Many consumers are now more aware of the environmental benefits of recycling and are willing to pay a premium for recycled products.

- *Spread awareness-*

Numerous consumers derive a sense of contentment from effecting ecologically conscientious decisions, harmonising their purchases with their deeply-held values. This provides them with a sense of personal fulfilment. Along with this, some customers are environmentally conscious and tend to seek recycled products with a considerable impact as seen in Figure 2 in the survey. Interpreting data from the survey, Figure 3 represents that for a significant majority comprising over two-thirds of the sample, the pivotal determinant guiding their choice to procure a recycled product resides in the product's environmental impact. Along with that, more than 50% of the people believe educating customers about the environmental benefits of recycling is an effective way for recycling projects to improve their marketing strategies. This can also be observed in the case of Ecokaari, as it conducts Awareness sessions in schools, colleges, companies, and neighbourhood societies

By addressing these factors, the government and other stakeholders can help to increase the demand for recycled products in India and make a positive contribution to the environment. I propose the following actions that may lead to a positive impact and result in an increase in demand and awareness regarding recycling.

- Setting clear recycling targets and regulations. The government can set clear targets for recycling, such as the target of recycling 30% of all plastic waste by 2025. It can also implement regulations that require businesses to recycle a certain percentage of their waste.
- Providing financial incentives for recycling. The government can provide financial incentives for recycling, such as tax breaks or rebates for businesses that recycle. It can also subsidise the cost of recycling programs for consumers.
- Educating the public about the benefits of recycling. The government can educate the public about the benefits of recycling, such as the environmental benefits and the economic benefits. It can do this through public awareness campaigns, school programs, and other initiatives.
- Making recycled products more affordable and accessible. The government can make recycled products more affordable and accessible by providing subsidies or tax breaks to businesses that use recycled materials. It can also require businesses to use a certain percentage of recycled materials in their products.
- The economic benefits of recycling include job creation, increased tax revenue, and reduced pollution. The social benefits of recycling include improved air quality and

reduced environmental degradation. The environmental benefits of recycling include reduced greenhouse gas emissions and conserved natural resources.

The research paper is important for the Indian economy and businesses because it provides insights into how to increase the demand for recycled goods. By understanding the drivers of demand, businesses can develop strategies to market and sell recycled products. The research paper also provides insights into the social and environmental benefits of recycling, which can help to build support for recycling programs.

Overall these facts and data show that the demand for recycled products in India is strong and is expected to continue to grow in the coming years. By addressing the factors that are driving this demand, the government and other stakeholders can help to make India a more sustainable country.

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