

Buyer's Perception Study of Glass Bottle Packaging of Selected Food and Beverage Items

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ABSTRACT

Health has become the most prominent aspect of life as a side effect of pandemic. Contaminated food is one of the major reasons for health issues in the human body. The food packaging material is expected to address the aspect of health hygiene and environment friendly production methodologies. Food packaging is now a major factor affecting the buyer behavior and it has already attained the level of "means of dialogue" in the market. The right packaging makes a significant difference for all around experience on all ends of the spectrum. Glass packaging meets the global regulations of environmental conditions such as recyclable and eco-friendly products. It is predicted that purchasing decisions are going to be inclined towards recyclability and environmental considerations post COVID 19. To evaluate such a shift, an online survey was conducted, which was designed to draw out the perceptions of buyers. This study indicates a marked increase in usage of glass packaging in food items, post this pandemic.

KEYWORDS: Food Packaging, Food processing, Customer Perception, Green consumers, Sustainable food packaging

INTRODUCTION:

The COVID-19 pandemic has put many people's lives on hold and has caused individuals to re-evaluate their life-style choices and actions like food habits. The importance of health and safety has emerged as a major concern post Covid-19 era. At the same time, this year, there has been a big emerging trend towards sustainability.

In this health conscious time, buyer's perception is drifting towards hygiene. The advantages of a product to the purchasers are very much imparted through the packaging material. In the current competition oriented market, food-packaging holds significant factors in the purchase-decision process [1]. From the manufacturers' viewpoint, food-packaging becomes a pivotal part of the marketing strategy, providing an opportunity to convince potential buyers before brand selection.

From a buyer's viewpoint, this is considered a crucial resource of information at the point of sale [2]. The overall features of the products, including the packaging, underline the quality and the authenticity

of the product and, then impact the purchasing decisions [3].

The packaging has become a significant communication tool for food items and consumers are interested in reusing the packaging material. Food industry is majorly using packaging material such as cardboard, metal, plastic, wood and glass. Cardboard material is widely used in the food and pharmaceutical industry. It is relatively lighter in weight, economical, however, at the same time its major disadvantage is that it is not resistant to moisture and may react with food particles adversely.

Metal is widely used because it can sustain temperature, moisture and pressure. However, corrosion is one of the major disadvantages and it may cause contamination of food products by virtue of loss of vitamins and discoloration.

Plastic is also lighter in weight and configurable in shapes but at the same time it is highly flammable, difficult to decompose and it may contaminate the food items. Wood as a packaging material has

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benefits such as reusability, beautiful designs and air ventilation, etc. However, wood has a major disadvantage of changing color against moisture, wind and insects.

Glass as a packaging material has many advantages such as retaining the food taste, color, preventing moisture and air pollution, and being non-reactive to food [4]. Glass is also the only packaging material deemed as generally recognized as safe (GRAS) by the US FDA.

The first glass object for holding food is said to have been used around 3,000 BC. This packaging material clearly has a long history in food packaging. The manufacturing of glass involves heating of a mixture, sodium carbonate, silica, and alumina and limestone/calcium carbonate, in high temperatures until this matter melts into a thick mass of liquid, which is poured into molds. Reprocessed glass is used in the manufacturing of glass and it also accounts for a considerable percentage of all the raw materials.

Glass has lots of advantages in food packaging: it is unscented and inert with virtually all the food products. It is water-repellent to vapors as well as gases, it maintains the freshness of the food products for a relatively longer period of time without affecting the taste or the flavor. The capability to bear high processing temperatures makes it convenient for heat sterilization of both high and low acid foods. Also, glass being rigid, provides good insulation and it can be manufactured in different shapes. Glass being transparent allows buyers to see the food products, all while protecting light-sensitivity contents by using variations in glass. Further glass packaging also benefits the environment as it is reusable and endlessly recyclable without any loss in quality.

Asia is the leading market for use glass packaging because of its largest usage in beer[5]. After China, India is considered to be the second biggest market for glass packaging. According to Mordor Intelligence forecast, it is expected that the Indian container glass market may register a CAGR of 6.78% during 2020-2025[6]. The Indian alcohol market is expected to grow by 18.91% during 2016-2021 which shall be further boosted by Indian beer market increase of 7.5% in next five years [1]. This positive growth over the period of time has been largely driven by the growing beer market, as the consumers are now experimenting in what previously used to be a spirit-drinking nation. Despite the fact that there is a shift towards alternative packaging like beverage cans and PET bottles, it is still expected that India will witness the largest growth in glass packaging, which is due to the expanding beverage market in India and rising disposable incomes. Also,

India is expected to become one of the leaders in glass in the beauty and personal care sector, due to the increasing awareness about the latest trends through exposure on social media [2]. Overall, the growing trend of sustainability will ensure the relevance of the glass market in the growing future of the packaging industry, which makes glass a noteworthy option for the industry.

Food packaging materials, especially corresponding to green consumers should be to an extent that to indulge with consumers and to be considered among other comparative items and entice recognition. Now consumers are becoming sensitive about environmental impacts and they are inclined towards reusable and recyclable food packaging materials which are eco-friendly [7].

As cities begin easing out lockdown restrictions, it is predicted that purchasing decisions are going to be inclined towards recyclability and environmental considerations. Therefore, a research has been carried out to understand the awareness of glass packaging material amongst consumers. This work has been carried out to approach the topic from the consumers perspective and allow the market to better understand the necessities of the consumers, as well as giving input for future research.

Literature Review

Reusable products in contrast to single use products have a longer lifecycle and can be reused over the period of time [8]. This makes them sustainable, and these reusable products further contribute to reduction of waste and resource conservation. As environmental consciousness has escalated over the period of time, researches have increasingly focused on the 're-use' phenomena, as a socially relevant product feature.

The sole purpose of packaging of food still continues to be sustainment of safety, quality and hygiene of the food. Higher per-capita income, increasing urbanization and structured retail sector contributes to the demand-increase in the food-packaging industry. The research has been carried out in the domain of single-serve and multi-serve packaging in food packaging and also in pharmaceutical industry[9].

The common food-packaging materials prevalent in the market are glass, polymer based, metallic-foils, tetra-packs, single-use plastics, etc. Under the increasing focus on the environmental impact of the products, from the government, buyers and media, the food-packaging industry is being forced to find new ways to make its products more sustainable. Standard sustainable trends of packaging are improved recycling and waste recovery, and increase in the use of recycled content[10].

The results of this study suggest that the perceptions of buyers on product effectiveness are pivotal in deciding the amount of product the buyers will eventually use for a given instance. Notably, the pattern of regular product versus green product usage is relatively prominent among the buyers who are environment conscious. Advertisement about the perceived effectiveness of the green products will help reduce the discrepancy between green and regular product usage [11].

The research shows that various intrapsychic variables concomitantly impact the consumption of reusable packaging. The results of the study support inclusion of the context factors as a significant predictor of perceived behavioral control and attitude. Also, the findings of the study support inclusion of the motivational factors foregoing, intention and. Both motivation and perceived behavioral controls influence the buyer's perception of environmental elements. It is very important to regulate these perceptions, because they create an effect on the motivation and perceived behavioral control. Further, the study findings emphasize on the significance of the consumption of reusable packaging. In doing so, buyers will perceive reusable packaging as a relatively convenient alternative, which will further affect their intent to consume multistage packaging [12].

Buyers are concerned about the change in the environment and the purchasing behavior has been hugely affected as well, in this regard. Concern for the environmental impact of the packaging in buying patterns of buyers who prefer food products that support the environment is visible in the growing trend. The authors (Esmailpour & Rajabi, 2018) have mentioned that the buyers eco-friendly belief have a significant impact on his susceptibility to recyclable and reusable food packaging material. Marketers are suggested, for green consumers, provide reusable packaging. Also, awareness for this reusable packaging can be spread amongst consumers, using advertisement. The results of this study show that correlation of green buyers provides reusable packaging. Companies are recommended to consider the same for their products [13].

Methodology

This study aims to understand the predicted change in buyers perception's purchasing decisions post pandemic pertaining to certain food items, which include the following products (refer to Table 1).

Table 1: Food and Beverage Products

S. No.	Food and Beverage Products
1	Ketchup
2	Jam
3	Pickle
4	Honey
5	Ghee
6	Oils
7	Squash
8	Salsa
9	Mayonnaise
10	Flavoured Milk
11	Juice

This entire work was carried out to understand the perception of the buyers of certain food items. Here the term buyers refers to the end consumers who purchase packaged food.

An online survey was carried out to understand buyer's perceptions related to the packing of food items and the change in the preference post SARS-CoV-2. Given the lockdown, the use of an online medium for conducting the survey was found to be the most appropriate to capture the target audience, with access to the internet. Demographic data of participants was captured so as to better assess their range of choices in food packaging preference. Online survey form was circulated to masses via social media platforms and electronic mails.

Despite the fact, survey was conducted online, there were responses across the country along with some other parts of the globe. A nationwide lockdown was declared in India on 23 March 2020 followed by Unlock 1 and Unlock2 on 1st and 25th of June 2020, respectively. The survey was conducted between 4th to 15th July 2020 to ensure that the respondents are not in the initial panic state during lockdown and after more than 100 days, so that they would have started learning to live with pandemic situations and are in an unbiased state.

Results and Discussions

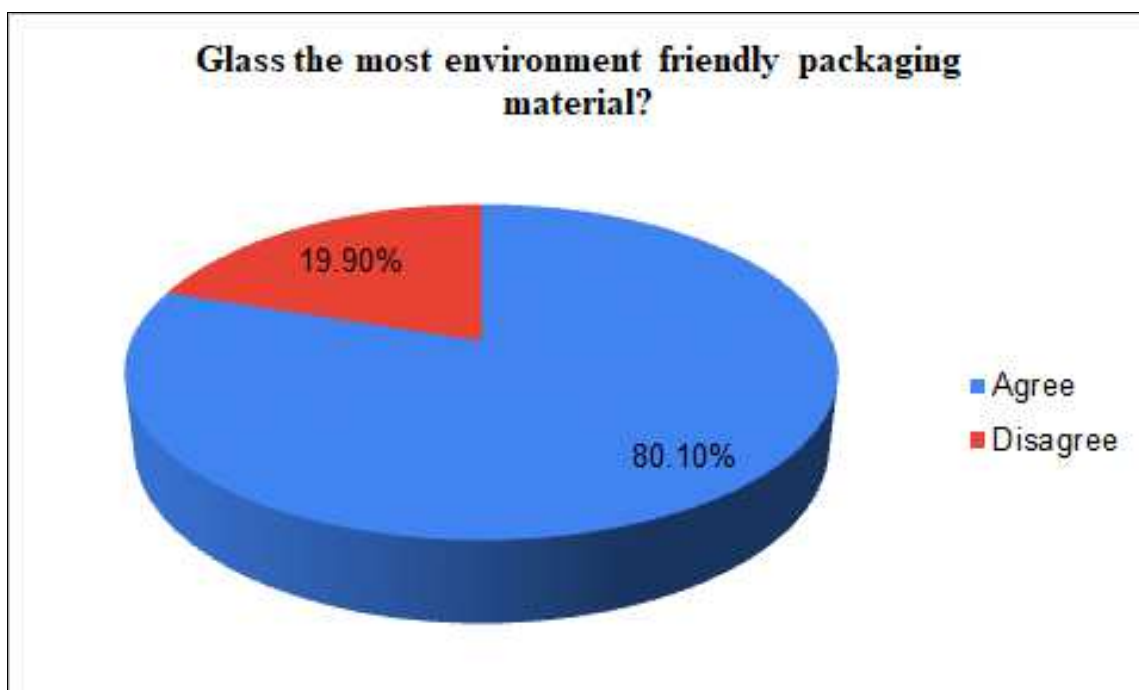
The results recorded from the survey was analyzed as mentioned below.

The online survey of buyers responses was analysed, respondents of the survey were from 80 cities spread across India and less than 2% of the responses were recorded from participants belonging to six different countries across the globe. Respondents were initially categorized based on their annual income as depicted in Table 2

Table 2: Population Classification

Category	Population Classification (on the basis of Annual Household income)	Total Respondents (in %)
Tier 1	Less than 10 lakhs	68.00
Tier 2	10 lakhs- 30 lakhs	28.71
Tier 3	More than 30 lakhs	3.29

As depicted in Figure 1, the majority of the respondents (80.5%), aged 16 to 61 years, state that they consider glass as the most environmental-friendly packaging material.

**Figure 1: Buyers response whether glass is the most environment friendly packaging material**

As shown in Figure 2, 74.5% of these participants stated that they are willing to pay relatively more, when it comes to purchasing the same food and beverage item in a glass packaging instead of a plastic/tin can/paper box.

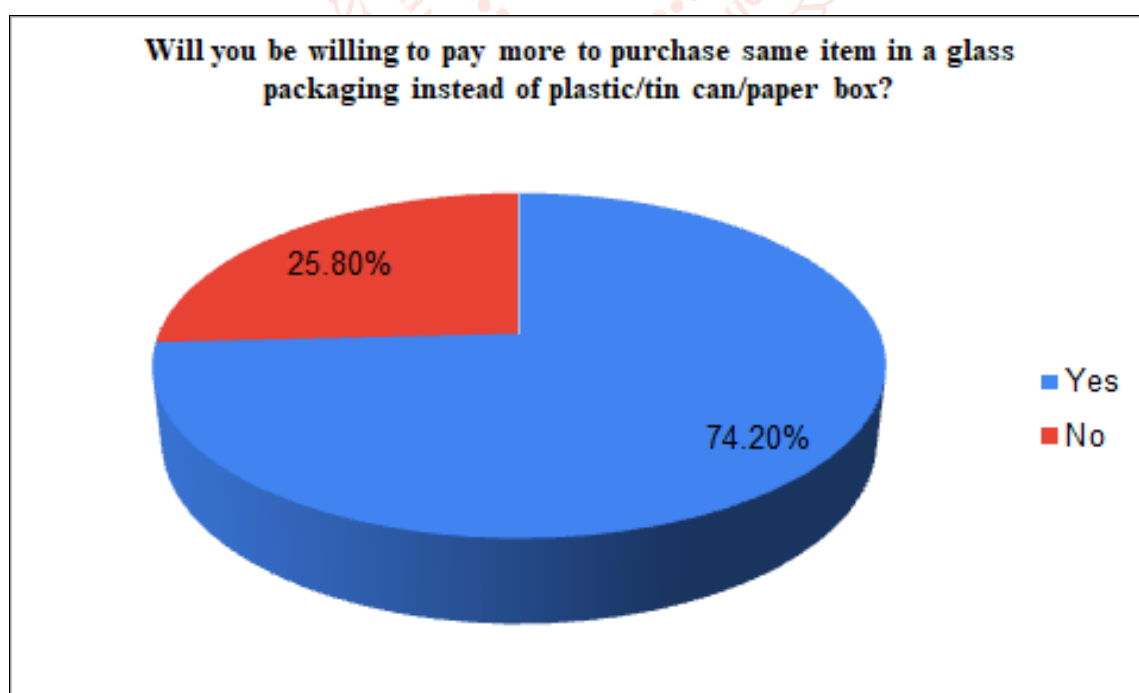
**Figure 2: Buyers response whether they are willing to pay more for glass packaging material**

Figure 3 provides a relatively clear understanding of the fact that people are willing to pay relatively more, when it comes to purchasing the same food item in a glass packaging instead of a plastic/tin can/paper box.

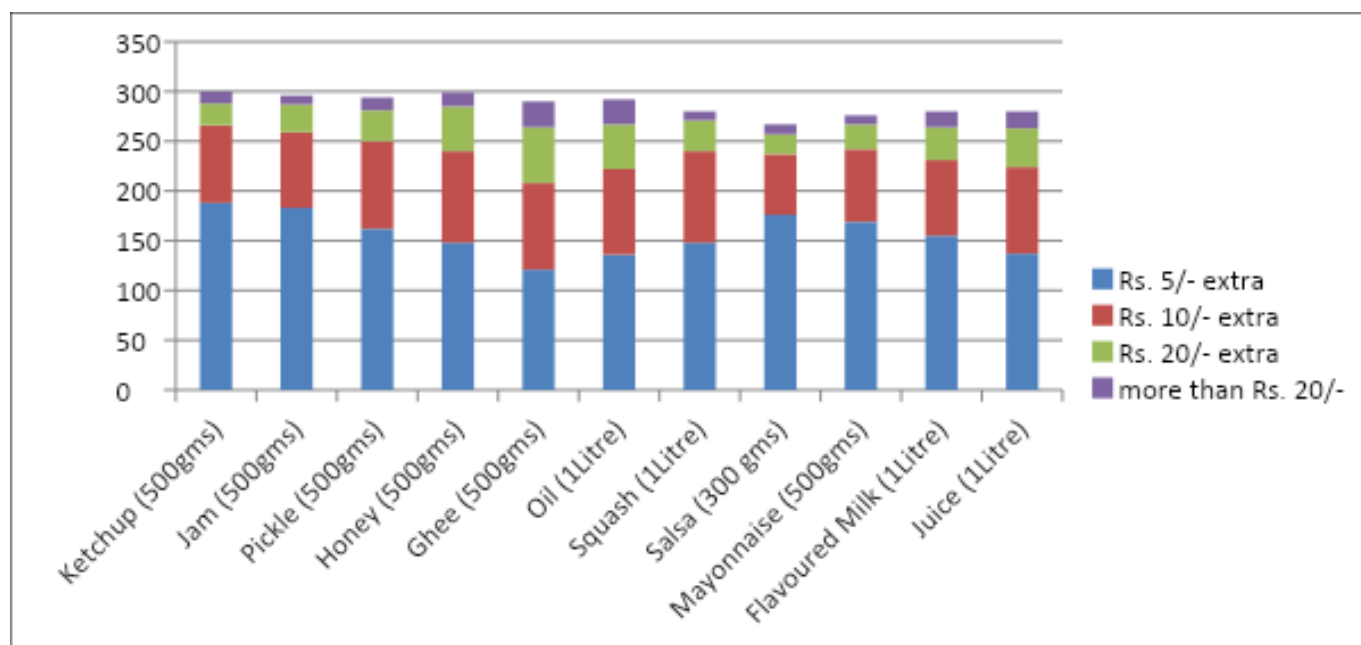


Figure 3: How much more are buyers willing to pay(INR), for specific products

Study on the buyer's perception of glass packaging of food reveals that a vast majority of the respondents prefer food items in glass as compared to other food packaging materials, as it is depicted in Figure 4.

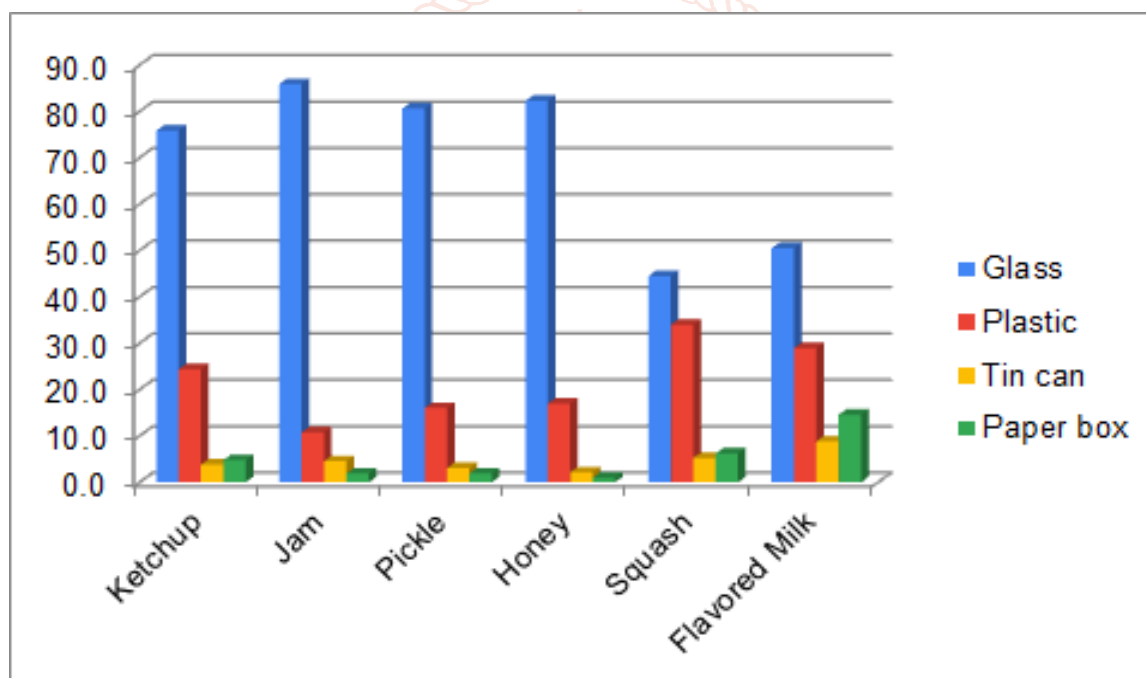


Figure 4: Buyers preference of food packaging materials (in percentage)

Study on the buyer's perception of glass packaging of food and beverage item reveals that people find glass to be the safest packaging and the best at preserving flavor, aroma or composition of its contents. As shown in Figure 5, 76.6% of the people choose that they prefer glass because it does not affect the flavor, aroma or composition of its contents, 62.2% choose that they prefer glass because it is 100% recyclable and 28.2% choose that they prefer glass because it is made from all natural materials. 3.2% of the participants have mentioned other reasons such as it gives luxurious experience, the food content is visible, glass is non-reactive, preservation for longer duration, glass is reusable etc.

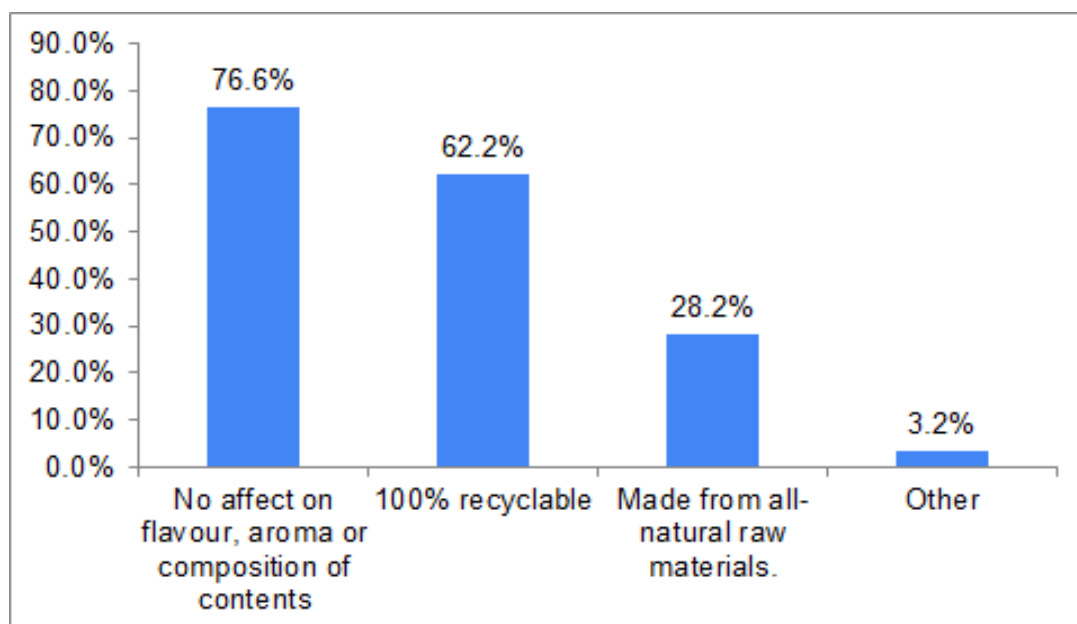


Figure 5: Buyer's perception about choosing glass over other food packaging material

As depicted in figure 6, the respondents of the survey also answered the question of, what are the barriers preventing people from buying or using glass packaging of food items, with 76.1% of the respondents saying that glass being fragile and more dangerous when broken as compared to other packaging material, makes them prefer other packaging material (plastic/tin/paper box) over glass, 40.4% of the respondents said that glass is heavy compared to paper, plastic or even some metal containers, which makes them prefer other packaging material (plastic/tin/paper box) over glass, 32.1% said that the reason they prefer other packaging material is because glass is relatively expensive.

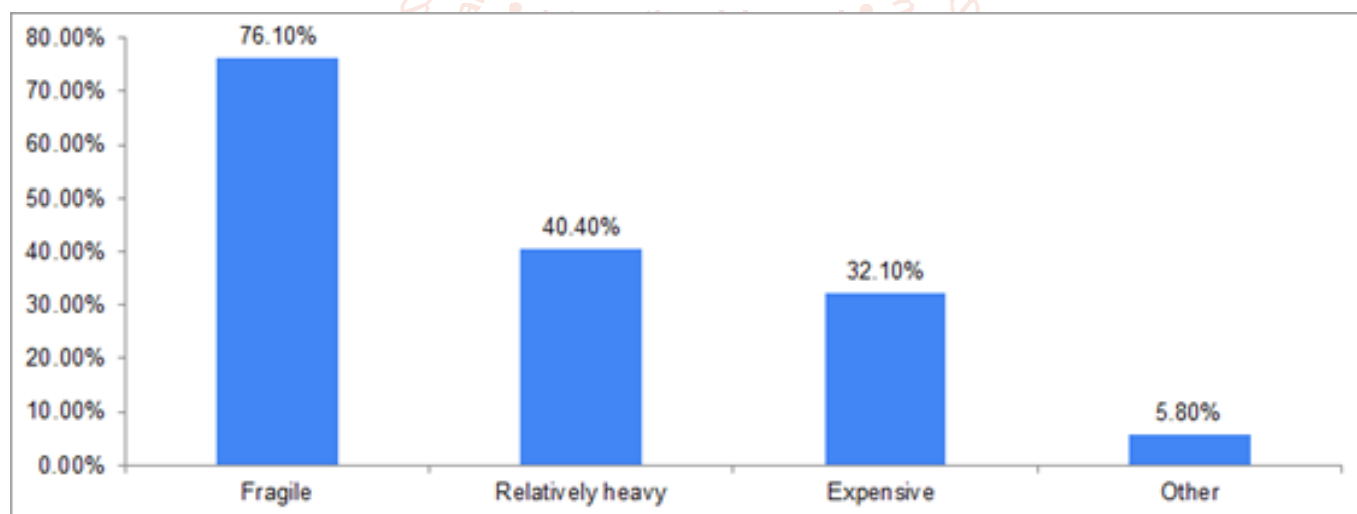


Figure 6: Barriers preventing buyers from buying or using glass

As depicted in Figure 7, post COVID 19, 81.6% of the respondents claim that they would prefer glass packaging over other food packaging materials. What is the biggest reason for preferring glass over other packaging materials after Covid

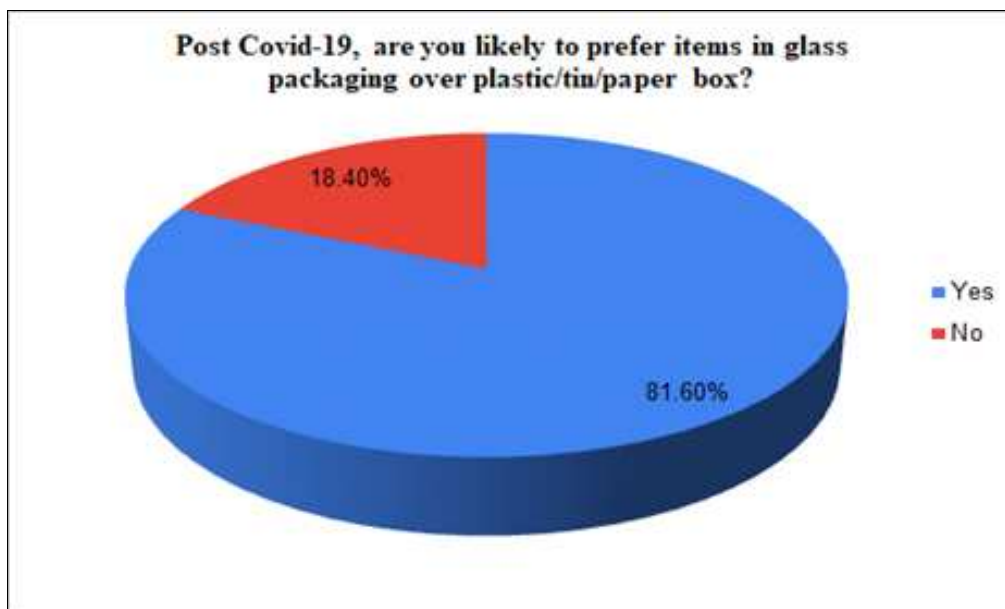


Figure 7: Buyers' response, whether they would prefer glass packaging over other alternatives

The qualitative analysis of the survey has been discussed below.

- A. Buyers prefer glass as food packaging material in comparison to other material because it does not impact the flavor, aroma or composition of its contents, that is, glass packaging provides exactly what is required for the food products: the long-term preservation of their original qualities. Therefore, it can be stated that with its unique quality to be recycled infinitely, being environmentally sustainable material, and during uncertain times like these, makes glass a relatively more favorable choice for packaging.
- B. Buyers are health conscious and they are willing to pay extra for hygienic food packaging material in the form of glass over other packaging material.
- C. From the survey, it can be stated that glass being fragile and more dangerous when broken as compared to other packaging material, makes buyers prefer other packaging material (plastic/tin/paper box) over glass. Further research can be done in glass packaging engineering for better strength without impacting the quality.
- D. The overall shift in the preferences of food packaging and the environmental impact will depend on the interplay between these factors.
- E. This has also evolved from the survey results carried out during unlock 2 that the food industry will witness strong switch to eco-friendly alternatives, such as replacing single-use packaging materials. There may also be an increase in sense of responsibility towards the environment. The food item packaging industry is also expected to experience change as the nation moves towards new normal.

- F. Based on data derived from the survey, people are becoming more aware about the ethical and environmental impact of goods and services. Soon almost every packaging industry, large and small, will start using their environmental practices as a marketing tool. Although it may not necessarily be the case that the well informed consumers will make the 'right' choice, the data of this survey is evidence which suggests that buyers are reacting more strongly against the businesses that disregard environmental and ethical concerns.

Conclusion:

The aim of this work was to evaluate the impact of buyer's eco-friendly attitude towards food packaging material and their sensitivity about the recyclability of products packaging.

The results show that post COVID 19, buyer perception and buying habits is going to be heavily influenced by the ethical and environmental impact of goods and services. The reason for ensuring that products have the right kind of packaging is because it is one of the most influencing variables for buyers purchasing decisions.

Buyers also believe that poor quality food items are likely to be packaged in poor quality materials and hence, buyers avoid buying such products. This clearly shows that packaging can either encourage or discourage potential clients for buying the products. Accordingly, food packaging industries are recommended for providing recyclable packaging for green consumers. Considering the change in preference, the use of reusable packaging materials should be motivated due to environmental impacts of single-use packaging materials. This can also be stated that environmentally friendly products are

adopted only if they also fulfill practical requirements, so it is recommended that these benefits should be communicated by food packaging industries to reach a maximum target market.

It has emerged from this survey that post pandemic, buyers will become more health conscious, sensitive towards the recyclability and environmental impact of product packaging. Also, the buyers are willing to pay a bit extra for health hygienic packaging material

Buyers now know that glass packaging is the preferred alternative; however, to drive purchases of food products in glass packaging, further initiatives may be taken for a glass material which is lighter in weight and cost effective, is going to boost the glass packaging industry.

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