

Consumer Behaviour and Sustainable Product Choices: Insights from Visual Trends

Dipali Baviskar^{1*}, Anushka Chattaraj², and Atharva Patil³

¹Assistant Professor, School of Computer Engineering & Technology, MIT-WPU, Pune, Maharashtra, India

²Student, B.Tech (Computer Science & Engineering), MIT-WPU, Pune, Maharashtra, India

³Student, B.Tech (Computer Science & Engineering), MIT-WPU, Pune, Maharashtra, India

Abstract. This research explores consumer behaviour towards sustainable product choices, emphasizing the influence of visual trends. Utilizing a comprehensive survey, we examined aspects such as environmental impact awareness during purchases, recycling practices, and reactions to eco-labelling. The data, visualized through Python, revealed a preference for sustainable products among environmentally aware consumers. However, a paradox emerges with the persistent preference for non-reusable plastics, despite awareness of their environmental impact. These findings underscore the complexity of consumer behaviour and highlight the necessity for education and practical measures to foster truly sustainable choices. This study contributes novel insights into the dynamics of consumer decision-making in the context of environmental sustainability.

1 Introduction

In today's global economy, environmental concerns are increasingly shaping consumer behaviour and business strategies. Issues like climate change and resource depletion intensify, and consumers play a pivotal role in either exacerbating or mitigating these problems through their purchasing choices. This trend has led to an increased preference for environmentally friendly and sustainable products and services.

The decision-making process in sustainable consumption is multifaceted. Factors such as product registration, certification, public reporting, and personal beliefs intricately influence consumer choices. While some consumers prioritize sustainability for ethical reasons, others balance this with factors like price, brand loyalty, and perceived value, creating a complex web of incentives and drivers for businesses to navigate.

Recent studies in the field of sustainable consumer behaviour provide valuable insights into these dynamics. One study focuses on the growing concern about environmental pollution due to excessive packaging of festival gifts, highlighting the importance of ease of use and usefulness of green packaging in increasing consumer willingness to accept eco-friendly options [1]. Another study explores how consumers' preferences for remanufactured

* Corresponding author: dipali.baviskar@mitwpu.edu.in

products are influenced by their green attributes, price, and the level of consumer greenness, indicating a complex interplay between these factors [2].

This study aims to delve deeper into the nuances of consumer behaviour towards sustainable products, focusing on how visual trends influence consumer decisions. We seek to contribute to the current understanding of sustainable consumer behaviour, addressing gaps in the literature and offering new perspectives for businesses, policymakers, and stakeholders.

2 Literature Review

Table 1. Summary of Sustainable Consumer Behaviour Studies

Study	Author(s)	Key Insights
New Consumer Trends [3]	Zalega T.	Examines eco-consumption and smart purchasing trends, emphasizing the need for businesses to adapt to evolving consumer motivations.
Research Trends in Green Product for Environment [4]	Bhardwaj AK, Garg A, Ram S, Gajpal Y, Zheng C.	Analyses the chronological development of the green goods sector, with a focus on consumer trust and health literacy.
New Trends and Patterns in Sustainable Consumption [5]	Sesini G., Castiglioni C., Lozza E.	Highlights the growing importance of sustainability's social impact, with a focus on sectors like tourism and clothing.
Consumer Perceptions of Sustainable Products [6]	Camilleri MA, Cricelli L, Mauriello R, Strazzullo S.	Details the characteristics influencing consumer perceptions of sustainability, advocating for a balanced approach encompassing financial, environmental, and social factors.
Factors Influencing Consumer Behavior toward Green Products [7]	Barbu A., Catană Ș. A., Deselnicu D. C., Cioca L. I., Ioanid A.	Explores consumer attitudes towards green products, outlining key influencing factors from product features to customer characteristics.

3 Unique Approach

Our study complements earlier research that highlights demographic, economic, and psychological aspects by focusing on the influence of visual trends and provides a novel viewpoint on sustainable consumer decisions. We fill a big gap in the research by looking at how visual communication is changing how it influences consumer behaviour. We offer insights for businesses and marketers to promote sustainable products by investigating how visual aesthetics affect consumer perceptions and choices. Our study includes a thorough survey that uses a variety of question types to gauge participants' awareness of environmental footprints, recycling behaviours, willingness to pay for sustainability, access to eco-friendly

information, preferences for sustainable versus non-sustainable products, knowledge of the effects of plastic waste, and the importance of labelling and certifications.

4 Methodology

This study employed a streamlined methodology to dissect consumer behaviour toward sustainable products. Our approach was designed to effectively navigate through the intricacies of this subject matter, ensuring a comprehensive understanding of the various facets involved.

4.1 Survey Design

Our primary research tool was a meticulously crafted questionnaire. Tailored to capture a diverse array of attitudes, levels of knowledge, and practices concerning product selection, this tool was pivotal in gauging the intricate aspects of sustainable consumer behaviour.

4.2 Participant Selection

We implemented purposive sampling [8], selecting participants across varied demographics such as age, gender, occupation, and socioeconomic status. This diversity provided a well-rounded perspective, particularly emphasizing urban residents due to their increased access to sustainable products and information.

4.3 Survey Questions

The questionnaire encompassed a range of query types, including closed-ended, Likert scale, and multiple-choice formats. Key focus areas included:

- Awareness of the environmental impact of daily product choices.
- Recycling practices, particularly related to packaging.
- Willingness to pay a premium for sustainable goods.
- Access to information about eco-friendly products.
- Choices between sustainable and non-sustainable products.
- Impact of knowledge about plastic waste on purchasing decisions.
- Importance of labelling and certifications in the selection of sustainable products.

4.4 Data Collection

Data was collected over a three-week period using an online survey. Following a preliminary review by a selected group and subsequent revisions based on their feedback, the survey link was disseminated through email and social media platforms to ensure a broad reach.

4.5 Data Visualization

The final step involved the visualization of collected data for enhanced understanding and analysis. Python was the chosen tool for this phase, utilizing its libraries such as Pandas for data manipulation and Matplotlib and Seaborn for visual representation. This selection was informed by Python's capabilities in handling large datasets and its flexibility in various visualization techniques, including:

- Line plots for tracking shifts in environmental-friendly attitudes [9].
- Bar plots for comparing consumer preferences [10].
- Pie charts for a percentage-based view of data points [11].

4.6 Data Analysis

Beyond mere visualization, a deeper dive into the data was paramount. Employing inferential statistical methods enabled us to tease out patterns, correlations, and significant insights. By analysing the relationships between different variables, we were able to uncover more profound behavioural trends and their possible implications.

5 Results

Understanding consumer behaviour, particularly in the context of sustainable choices, is central to our research. The insights from the collected data reveal a variety of dimensions, each providing unique insights into the factors that influence security decisions.

5.1 Awareness and Sustainable Product Choices

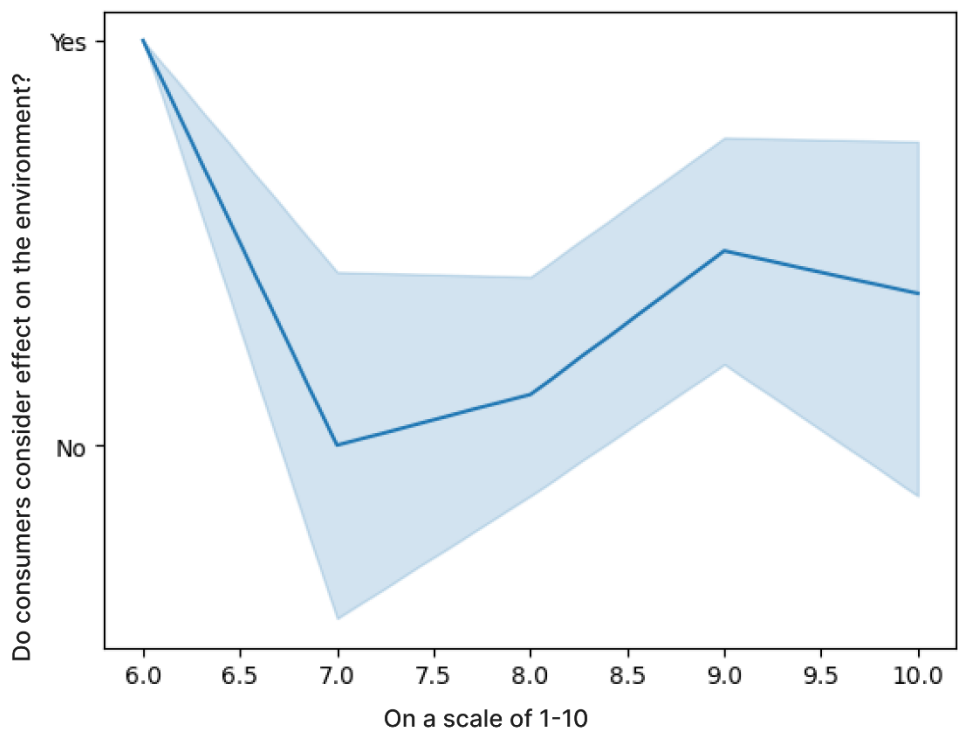


Fig. 1. Line Plot Highlighting Discrepancy Between Environmental Impact Awareness and Preference for Labelled Sustainable Products

"Fig.1" shows a favourable correlation between awareness and sustainable product selections. As consumer knowledge grows, there is a noticeable increase in the number of consumers purchasing sustainable products. This tendency emphasizes the importance of

information transmission in influencing purchase behaviour. Such findings align with the theoretical frameworks presented in "Explaining Sustainable Consumption: A Theoretical and Empirical Analysis: An Abstract"[12]. The picture also suggests potential saturation points where awareness levels do not significantly influence product selections, implying that other underlying causes are at work. Addressing these issues could be critical for organizations looking to enter markets with high awareness but low conversion rates.

5.2 Reusable Items and Purchase Decisions

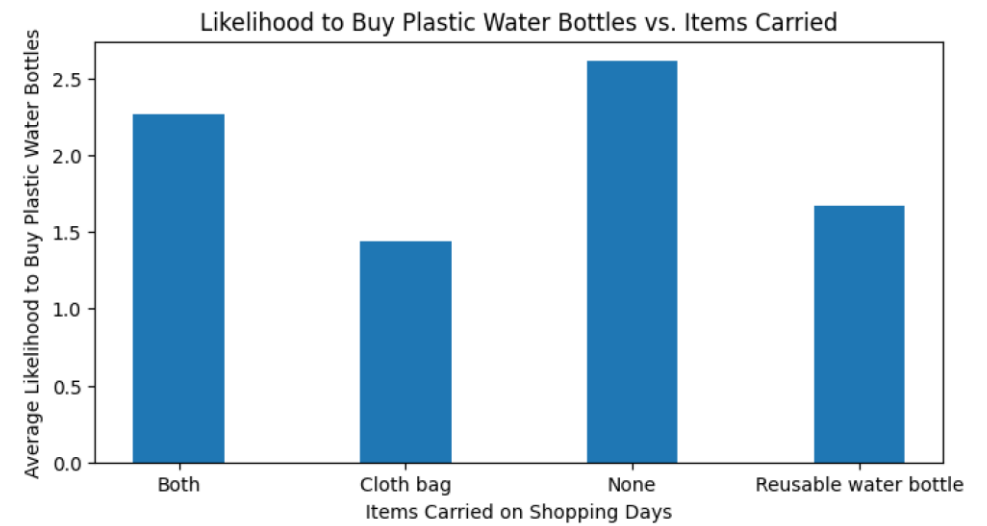


Fig. 2. This Graph Compares the Likelihood of Purchasing Plastic bottles vs Items carried. The graph in "Fig. 2" depicts the association between things usually carried on shop-ping days and people's average likelihood to purchase non-reusable plastic water bottles on a scale of 1 to 5. It illustrates how many objects influence consumer preferences, providing insights into sustainable product selections while buying.

5.3 Economic Implication

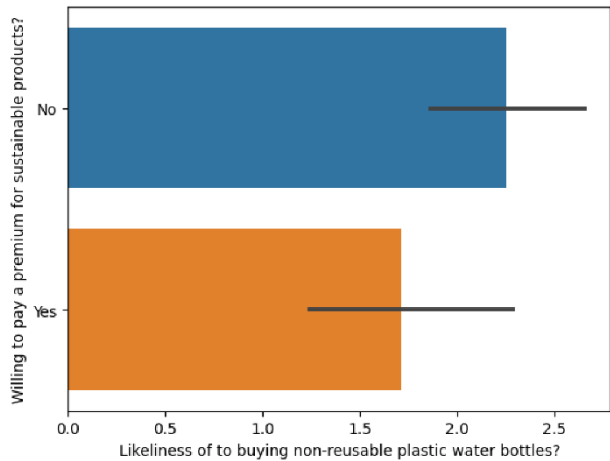


Fig. 3. Bar Plot Illustrating Consumers' Willingness to Pay Premiums for Sustainable Products.

Surprisingly, the bar plot in "Fig. 3" shows a group of consumers willing to pay a premium even for non-sustainable products, similar to the findings of [13]. This trend could be due to a variety of factors, including brand loyalty, perceived quality, and even a lack of knowledge about sustainable alternatives. Another possibility is the prestige attached to certain high-end, non-sustainable brands. To tap into this market, a fresh marketing strategy would be required, emphasizing other product benefits in addition to sustainability.

5.4 General Consumer Inclination Towards Sustainability

On a scale of 1 to 10, how likely are you to purchase a product if it is labeled as sustainable or eco-friendly?

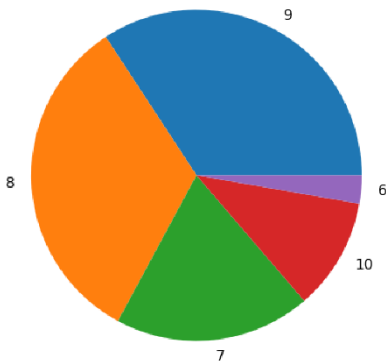


Fig. 4. Pie Chart: Majority Preference for Sustainable Products

A positive trend is shown by the pie chart in "Fig. 4": a sizable majority of consumers are attracted towards sustainable items. This reflects a wider, worldwide paradigm change that emphasizes the necessity of environmental preservation. To counter this tendency, businesses would do well to match their product ranges, marketing plans, and overall mission. Addressing the minority group is equally important, though, as doing so could lead to new business prospects.

5.5 The Paradox of Non-Reusable Plastic Usage

From a scale of 1 to 5 how likely are you to buy non-reusable plastic water bottle

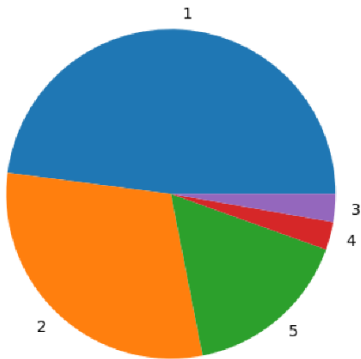


Fig. 5. Pie Chart: Persistent Favouritism for Non-Reusable Plastics Despite Awareness

Despite being inundated with depressing information regarding plastic waste, a puzzling subset of consumers—shown in "Fig. 5"—continues to favour non-reusable plastics. This behaviour could be explained by several factors. Sometimes, it may just be an issue of convenience or a lack of readily available alternatives. Others might not be convinced of the seriousness of the plastic trash problem or even think that small changes in behaviour won't have a big impact. The solution to this problem must be broad, involving everything from public awareness efforts to the introduction of workable, sustainable alternatives that don't sacrifice convenience.

The survey's findings provide a complex picture of consumer attitudes towards sustainability. Businesses, decision-makers, and communities now have a responsibility to use this information to create a more sustainable future.

6 Quantitative Analysis

6.1 Environmental Considerations in Consumer Choices

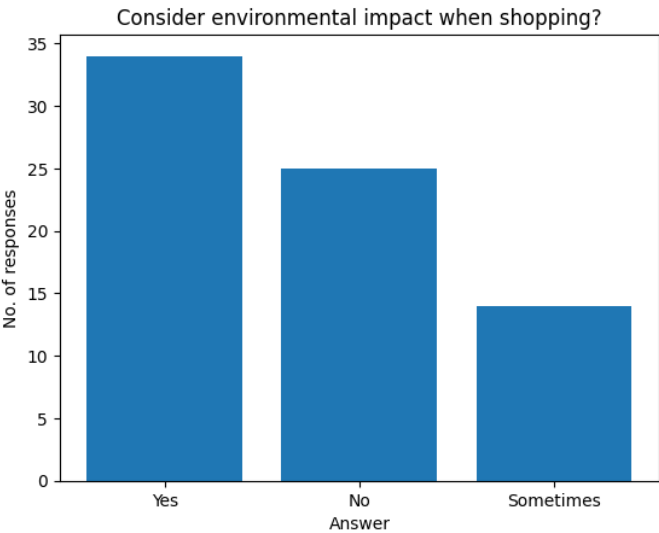


Fig. 6. Mindful consumer choices: Consideration of environmental impact in daily purchases.

The survey explored consumer behaviour regarding environmental considerations in daily purchases. Responses varied between 'yes,' 'no,' and 'sometimes.'

Data analysis suggests a significant mindfulness among consumers in their purchasing decisions, with a balanced distribution across the response categories. This trend highlights an increased awareness of ecological impacts associated with daily consumer choices.

6.2 Interest in Sustainable Products

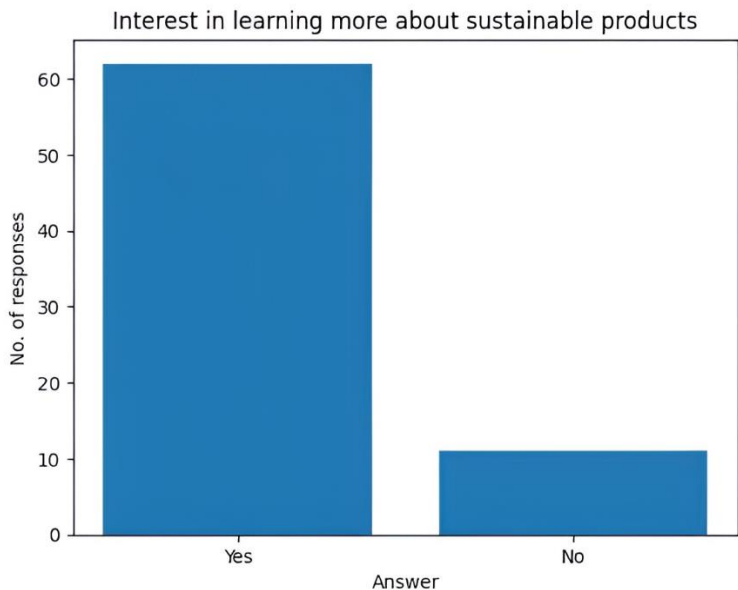


Fig. 7. Exploring sustainable choices: A keen interest in learning more about eco-friendly products.

In the conducted survey, a notable majority of respondents expressed a keen interest in learning more about sustainable products, with a lesser but still noteworthy number indicating less interest. This positive inclination towards gaining knowledge about sustainable options signifies a growing awareness and curiosity among individuals regarding environmentally conscious and ethical consumption. It reflects an encouraging trend where people are actively seeking information to make informed choices that align with sustainability principles.

6.3 Role of Certifications and Labels in Sustainable Choices

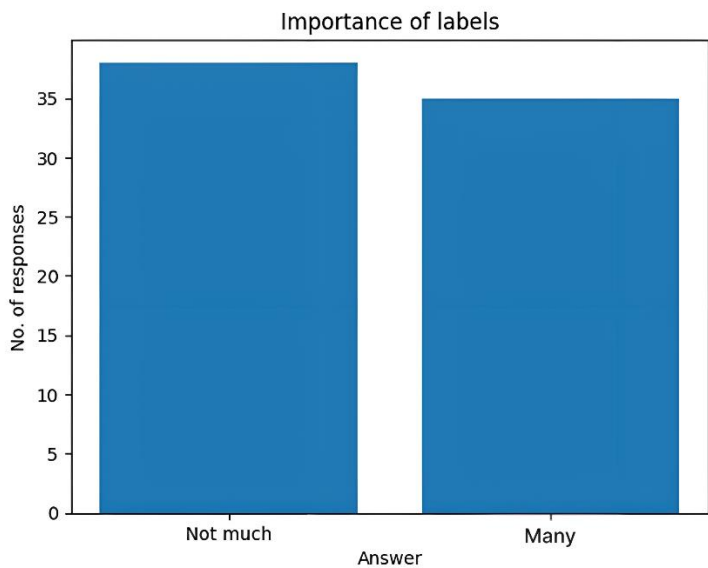


Fig. 8. Decision factors: Assessing the significance of certificates and labels in choosing sustainable products.

The respondents in the survey were tasked with evaluating decision factors, specifically assessing the significance of certificates and labels in the selection of sustainable products. Interestingly, the data revealed a nuanced distribution of responses, with 'Not much' garnering slightly more votes than 'Many.' This outcome suggests that while certificates and labels hold a level of importance, there is a noteworthy portion of the respondents for whom these factors may not be the predominant consideration in their choice of sustainable products. This insight emphasizes the multifaceted nature of decision-making processes when it comes to sustainability, highlighting the need for a diverse range of strategies to effectively communicate the value of such certifications to consumers.

7 Implications of Findings

The survey's findings provide a complex picture of consumer attitudes towards sustainability. Businesses, decision-makers, and communities now have a responsibility to use this information to create a more sustainable future.

7.1 For Businesses

- **Targeted Information Dissemination:** Because purchasing sustainable products is strongly correlated with consumer awareness, firms must make it a priority to tell consumers about the sustainable features of their goods. Campaigns for marketing, product labelling, and openness in manufacturing and sourcing can all help with this. This aligns with findings from "Understanding Environmentally Friendly Consumer Behaviour," which emphasizes the impact of information dissemination on environmentally conscious decision-making [14]
- **Product and Service Adaptation:** Businesses should adjust their product lines to be more environmentally friendly because a sizeable portion of consumers are demonstrating an interest in sustainable items. This can entail using reusable or recyclable packaging, guaranteeing ethical production procedures, and employing sustainable raw materials.
- **Engaging the Premium Segment:** Companies should target the group of customers who are willing to spend more for products that are not sustainable. Businesses can close the gap between premium and sustainable solutions by promoting other value propositions alongside sustainability, such as durability, brand heritage, or unique selling characteristics.

7.2 For Policymakers

- **Promote Sustainable Education:** Policymakers ought to take sustainability education into account at the very beginning of the educational process. Future sustainable consumption patterns are more likely to occur when citizens are more informed.
- **Tax breaks, grants, and other financial incentives** for companies that adopt sustainable business practices can function as a powerful catalyst for changes in the entire sector. Additionally, it creates a level playing field for startups that want to compete with established companies on a long-term basis.
- **Non-reusable plastics rules:** Tougher regulations may be required given the continued usage of non-reusable plastics. This can entail implementing charges

on non-sustainable packaging, forcible recycling programs, or restrictions on particular single-use plastics.

7.3 For the General Public

- **Consumer Power:** People need to understand the influence their purchases have on the world. Every sustainable decision moves the market one step closer to eco-friendly products.
- **Educate and Advocate:** Spreading knowledge about the advantages of sustainable products within one's own networks might have a domino effect. Peer recommendations have a lot of power, and customers have a big impact on how their peers think.
- **Demand Transparency:** Customers need to make it known that they expect businesses to be open and honest about their sustainability claims. They may make sure that sustainability is a real business practice rather than just a marketing gimmick by keeping corporations accountable.

The survey's results highlight how closely related consumer behaviour, commercial practices, and political choices are. We can all work together to create a sustain-able future by recognizing these implications and taking appropriate action.

8 Recommendations

Based on the statistics and subsequent analysis, businesses, policymakers, and conclusions draw from being "Green Marketing and Its Effects on Consumer Behaviour"[15]. One of the most pertinent can think about the following doable actions to encourage sustainable consumption and broaden the impact of sustainable products:

8.1 For Businesses

- **Make use of digital marketing:** Inform consumers about the sustainable features of items via online channels. Webinars, interactive information, and narrative can all help to clarify the manufacturing process and highlight how environmentally friendly a product is.
- **Launch Loyalty Programs:** Reward customers who consistently make eco-friendly purchases. For instance, provide customers who recycle their packaging or who frequently buy eco-friendly products discounts or loyalty points.
- **Collaborative Initiatives:** Join with NGOs or other groups to support and accredit sustainable practices, enhancing consumer confidence and verifying the veracity of marketing promises.

8.2 For Policymakers

- **Launch national campaigns** highlighting the value of sustainable consumerism and highlighting the environmental and long-term economic benefits.
- **Support Sustainable Research:** Provide funding to promote the study of sustainable substitutes, particularly in industries where non-sustainable products are the norm.
- **Strengthening Certification Bodies:** Give independent organizations the authority and funding to verify and validate a company's statements regarding its commitment to sustainability, fostering customer confidence and market openness.

8.3 For the general public

- Participate in your community by starting or joining groups that promote sustainable living. These sites can be useful for knowledge exchange, sharing sustainable purchasing experiences, and group change advocacy.
- Sustainable Lifestyle Choices: In addition to making purchases, people might consider incorporating sustainability into their daily routines by using less water, less electricity, or using the bus or train.
- Consumer input: Actively offer firms customer input. Encourage those who are making sincere efforts towards sustainability and voice your concerns to those who are falling behind in order to encourage businesses to improve their procedures.

8.4 Cross Sectional Recommendations

- Collaborative Workshops: Arrange gatherings of individuals from the business world, government officials, and the general public. Such partnerships may result in comprehensive solutions that take a variety of issues and challenges into account.
- Awards for sustainability: Businesses, communities, or people should be honoured for their contributions to sustainability promotion. Such actions may motivate others to take concrete moves.
- Programs for Schools and Colleges: Implement sustainability-focused curricula or programs at educational institutions to ensure that the next generation is well-versed in sustainable issues and motivated to champion them.

9 Limitation and Future Research

9.1 Limitation

- Sample Size and Demographics: Despite being varied, the study's participant pool may not accurately represent the overall community. Biases related to culture, socioeconomic status, and geography might have influenced the results.
- Survey Method: Relying on self-reported surveys can lead to biases like the social desirability bias, where participants may reply in a way, they think is socially acceptable rather than their genuine behaviour or beliefs.
- Time Restrictions: The survey was completed in a short amount of time, which may have left out developing trends and changes in consumer behaviour over longer periods of time.
- Generalizability: Because the research was limited to areas or circumstances, it's possible that the conclusions won't apply generally to other geographical or cultural contexts.
- Potential Confounding Variables: Although numerous variables were intended to be controlled for in the research design, there may still be outside influences on the findings that were not taken into account.

9.2 Future Research

- **Broadening Demographics:** To acquire a more comprehensive picture of sustainable consumer behaviour, future research can cast a wider net and include individuals from a variety of age groups, economic backgrounds, and cultures.
- **Longitudinal Study:** By tracking changing consumer behaviour patterns towards sustainability, a longitudinal study can provide more in-depth understanding of the development of the sustainability movement.
- **Using a mixed-methods approach** might result in data that is deeper and more complex by combining quantitative techniques with qualitative ones, such as focus groups or interviews.
- **Investigating Particular Niches:** To fully grasp the nuances and particular difficulties of each niche industry, research can be conducted in-depth into areas like sustainable fashion or green technology.
- **Influence of Marketing on Sustainable Decisions:** Given the persuasiveness of modern advertising, it may be worthwhile to explore how marketing strategies influence customer decisions about sustainable products. Further research can build on theoretical framework mentioned in [16], which emphasises the significance of green marketing communication in influencing consumer behaviour in emerging economies.
- **Behavioural Economics Insights:** Incorporating principles of behavioural economics can unravel the underlying cognitive biases and decision-making patterns guiding consumers towards or away from sustainable choices.
- **E-commerce's Influence on Sustainable Decisions:** Given the expanding trend of e-commerce, particularly post-Covid-19, pointed out in [17], future research should evaluate the impact of online shopping platforms on customers' decisions about sustainable items. To advance our understanding of green consumption in the digital age, we may need to explore underlying behavioural changes, opportunities, and constraints in the e-commerce environment.

10 Conclusion

A greater understanding of consumer preferences for sustainable products has been made possible by this study. It is obvious that greater understanding is associated with a preference for environmentally friendly options. Despite being aware of their negative effects on the environment, some paradoxes nevertheless exist, such as the continuous usage of non-recyclable plastics.

Businesses might conclude that while many consumers are eager to spend more money on sustainable products, some are still committed to non-sustainable choices owing to numerous influencing reasons. For organizations wanting to adapt their plans to changing consumer tastes, this knowledge is essential.

The study emphasizes the need for larger awareness campaigns and initiatives for policymakers that deal with ingrained habits and views in addition to knowledge gaps.

In sum, this study sheds light on the intricate dynamics influencing consumer behaviour towards sustainable products. It reveals a complex interplay between environmental awareness, visual trends, and purchasing habits. Nonetheless, the research uncovers persistent gaps, especially in the translation of awareness to action concerning non-reusable plastics. Future research directions should focus on deepening the understanding of these gaps, exploring the influence of digital platforms in shaping green consumerism, and examining long-term behavioural shifts post-Covid-19. Additionally, investigations into the effectiveness of various green marketing strategies across different cultural and geographical contexts are suggested to enhance the global applicability of the findings. Continual

exploration in these areas can significantly contribute to strategies promoting sustainable consumer behaviour, aligning with broader environmental and societal objectives.

We're deeply thankful to our survey participants, whose responses were critical in guiding this research. Our peers and colleagues deserve appreciation for their insightful feedback and enduring support. Lastly, our heartfelt gratitude goes to family and friends for their constant encouragement, ensuring this study's progression.

References

1. Li, O., Zeng, X., Ling, J. (2023). Influence Factors of Green Packaging on Consumers' Willingness to Accept Festive Gifts. In: Stephanidis, C., Antona, M., Ntoa, S., Salvendy, G. (eds) HCI International 2023 Posters. HCII 2023. Communications in Computer and Information Science, vol 1835. Springer, Cham.
https://doi.org/10.1007/978-3-031-36001-5_46
2. Wang, Y., Yin, X., Du, Q., Jia, S., Xie, Y., He, S. (2018). Consumers' Green Preferences for Remanufactured Products. In: Wang, S., Price, M., Lim, M., Jin, Y., Luo, Y., Chen, R. (eds) Recent Advances in Intelligent Manufacturing . ICSEE IMIOT 2018 2018. Communications in Computer and Information Science, vol 923. Springer, Singapore. https://doi.org/10.1007/978-981-13-2396-6_32
3. Zalega T., (2015), New consumer trends, [in:] Burchard-Dziubińska M. (ed.), Towards a green economy. From ideas to practice, Wydawnictwo Uniwersytetu Łódzkiego, Łódź, p. 79–92
4. Bhardwaj AK, Garg A, Ram S, Gajpal Y, Zheng C. Research Trends in Green Product for Environment: A Bibliometric Perspective. International Journal of Environmental Research and Public Health. 2020; 17(22):8469.
<https://doi.org/10.3390/ijerph17228469K>
5. Sesini, Giulia & Castiglioni, Cinzia & Lozza, Edoardo. (2020). New Trends and Patterns in Sustainable Consumption: A Systematic Review and Research Agenda. Sustainability. 12. 5935. 10.3390/su12155935.
6. Camilleri MA, Cricelli L, Mauriello R, Strazzullo S. Consumer Perceptions of Sustainable Products: A Systematic Literature Review. Sustainability. 2023; 15(11):8923. <https://doi.org/10.3390/su15118923>
7. Barbu, A., Catană, Ș. A., Deselnicu, D. C., Cioca, L. I., & Ioanid, A. (2022). Factors Influencing Consumer Behavior toward Green Products: A Systematic Literature Review. International journal of environmental research and public health, 19(24), 16568. <https://doi.org/10.3390/ijerph192416568>
8. Campbell S, Greenwood M, Prior S, et al. Purposive sampling: complex or simple? Research case examples. Journal of Research in Nursing. 2020;25(8):652-661. doi:10.1177/1744987120927206.
9. Fausset, C. B., Rogers, W. A., & Fisk, A. D. (2008). Understanding the Required Resources in Line Graph Comprehension. Proceedings of the Human Factors and Ergonomics Society ... Annual Meeting. Human Factors and Ergonomics Society. Annual meeting, 52(22), 1830–1834. <https://doi.org/10.1177/154193120805202210>
10. Slutsky D. J. (2014). The effective use of graphs. Journal of wrist surgery, 3(2), 67–68. <https://doi.org/10.1055/s-0034-1375704>

11. Diezmann, Carmel M. (2009) The role of fluency in a mathematics item with an embedded graphic: Interpreting a pie chart. *ZDM: The International Journal on Mathematics Education*, 41(5). pp. 651-662.
12. Onel, N. (2020). Explaining Sustainable Consumption: A Theoretical and Empirical Analysis: An Abstract. In: Wu, S., Pantoja, F., Krey, N. (eds) *Marketing Opportunities and Challenges in a Changing Global Marketplace. AMSAC 2019. Developments in Marketing Science: Proceedings of the Academy of Marketing Science*. Springer, Cham. https://doi.org/10.1007/978-3-030-39165-2_33
13. Essoussi, L.H., Linton, J.D. (2015). Consumers' Willingness to Pay for Recycled Versus New/Conventional Products. In: Robinson, Jr., L. (eds) *Proceedings of the 2008 Academy of Marketing Science (AMS) Annual Conference. Developments in Marketing Science: Proceedings of the Academy of Marketing Science*. Springer, Cham. https://doi.org/10.1007/978-3-319-10963-3_185
14. Yahya, W.K., Musa, N.D., Hashim, N.H. (2016). Understanding Environmentally Friendly Consumer Behavior. In: Abdullah, M., Yahya, W., Ramli, N., Mohamed, S., Ahmad, B. (eds) *Regional Conference on Science, Technology and Social Sciences (RCSTSS 2014)*. Springer, Singapore. https://doi.org/10.1007/978-981-10-1458-1_82
15. Chitrao, P.V., Bhoyar, P.K., Divekar, B.R., Singh, M. (2023). Green Marketing and Its Effects on Consumer Behaviour. In: Joshi, A., Mahmud, M., Ragel, R.G. (eds) *Information and Communication Technology for Competitive Strategies (ICTCS 2022)*. ICTCS 2022. Lecture Notes in Networks and Systems, vol 623. Springer, Singapore. https://doi.org/10.1007/978-981-19-9638-2_70
16. Nguyen, N.P., Mogaji, E. (2022). A Theoretical Framework for the Influence of Green Marketing Communication on Consumer Behaviour in Emerging Economies. In: Mogaji, E., Adeola, O., Adisa, I., Hinson, R.E., Mukonza, C., Kirgiz, A.C. (eds) *Green Marketing in Emerging Economies. Palgrave Studies of Marketing in Emerging Economies*. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-030-82572-0_11
17. Ghosal, I., Prasad, B., Gupta, B. (2022). Restructuring the Green Consumerism Through e-commerce Portals: A Behavioural Congruence During Post-Covid-19. In: Subudhi, R.N., Mishra, S., Saleh, A., Khezrimotlagh, D. (eds) *Future of Work and Business in Covid-19 Era. Springer Proceedings in Business and Economics*. Springer, Singapore. https://doi.org/10.1007/978-981-19-0357-1_9