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Consumer Preference for Green and Sustainable Product

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Abstract: *In recent years, consumer preference for green and sustainable food products has gained significant attention, driven by growing awareness of environmental, social, and health-related concerns. This study aims to understand consumer attitudes, awareness, and perceptions regarding sustainable food, and how these factors influence purchasing behaviour. A structured questionnaire was employed to gather primary data, while secondary data was collected from journals, articles, and reports on green marketing and consumer behaviour. Statistical tools such as T-test and ANOVA were used to analyse the relationship between consumer demographics, environmental awareness, and preference for sustainable products. The findings reveal that health benefits, environmental impact, and brand reputation are the most influential drivers of consumer choice, while higher costs and limited availability act as major barriers. Social media and peer recommendations emerged as the most effective sources of information, significantly shaping consumer trust and decisions. The study highlights the increasing importance of sustainable practices in shaping consumer loyalty and brand preference. It implies that businesses must address consumer concerns through transparent labelling, wider availability, and effective awareness strategies to differentiate themselves in a competitive market.*

Keywords: Green Products, Consumer Preference, Sustainable Food, Environmental Awareness, Buying Behaviour

I. INTRODUCTION

1.1 Shift in Consumer Preference

In recent years, people have increasingly chosen green and sustainable food products, mainly due to rising awareness of climate change, biodiversity loss, deforestation, water scarcity, and food waste. Consumers now prefer eco-friendly, ethically sourced, and minimally processed food across all stages—from farming to packaging and delivery.Millennials and Gen Z are driving this trend as they value environmental and social responsibility in their buying decisions.

1.2 Impact of the COVID-19 Pandemic

The pandemic further accelerated awareness about sustainable and resilient food systems. It highlighted the need for safe, healthy, and environmentally responsible products, pushing both consumers and companies to rethink priorities.

1.3 Challenges and Opportunities

Although higher costs, greenwashing doubts, and unclear definitions of sustainability remain barriers, demand continues to grow. About 70% of people now consider environmental impact in food choices, and 60% prefer sustainable products, showing a clear shift towards ethical and eco-conscious consumption.

II. RESEARCH AND METHODOLOGY

2.1 Statement of problem

Consumers today are becoming increasingly aware of the importance of green and sustainable products due to rising concerns about health, environment, and ethical consumption. However, despite this growing awareness, there remains a significant gap between consumer attitudes and their actual purchasing behaviour. Many people are discouraged from buying eco-friendly products because of higher prices, limited availability in the market, lack of reliable information, and confusion caused by greenwashing practices. Concerns related to product quality, taste, and trust in certifications

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also create hesitation among buyers. Moreover, demographic factors such as age and gender, along with external influences like social media, peer recommendations, and marketing strategies, strongly shape consumer decisions. This imbalance between awareness and adoption highlights the need to identify the key motivators and barriers influencing consumer preference, so that effective measures can be taken to promote sustainable consumption and encourage long-term behavioural change.

2.2 Objectives

1. To study the reasons why people prefer eco-friendly food.
2. To study the impact of environmental awareness on people's food buying decisions.
3. To identify product qualities that attract buyers toward green items.
4. To examine how a company's and responsibility influence choices.
5. To find suitable ways to promote eco-friendly products.

2.3 Scope of the Study

This study focuses on understanding the preferences of consumers towards green and sustainable products in Navi Mumbai. The research is based on the responses of 70 consumers who filled out a structured questionnaire. It looks at important points such as consumer awareness, interest in eco-friendly products, willingness to pay a higher price, and their actual buying behaviour. The study also tries to see how factors like age, gender, income, and education affect the choices of consumers in this area. The scope of this study is limited to Navi Mumbai and the 70 people surveyed, so the results cannot be applied to the whole country. Still, the study is important because it shows the current trend of urban consumers and their interest in sustainability.

2.4 Limitations of the Study

1. The study is limited to Navi Mumbai region only, so the results may not represent other areas.
2. The sample size is restricted to 70 respondents, which is small for
3. Higher Costs: Sustainable food products often come with a premium price, limiting accessibility for budget-conscious consumers.
4. Limited Availability: Access to green options can be restricted in certain regions, particularly low-income areas.
5. Lack of Awareness: Varying consumer knowledge about sustainable food benefits leads to inconsistent demand.

2.5 Research Design

The present study is descriptive and exploratory in nature, as it seeks to describe and analyse various aspects of consumer preferences, awareness, and buying behaviour towards green and sustainable products in Navi Mumbai. The primary data was collected through a structured questionnaire method. The research survey was conducted at different supermarkets, retail stores, and shopping areas across Navi Mumbai. A total of 70 questionnaires were distributed, out of which all 70 valid responses were considered for analysis. The questionnaire was designed to collect demographic information such as age, gender, education, occupation, and income. It also included questions related to consumer awareness, purchase behaviour, reasons for buying or not buying green and sustainable products, and willingness to pay for eco-friendly products. Consumers below the age of 18 were not included, as they were not considered representative of the target population. The convenience sampling method was used to approach consumers who were available and willing to participate.

2.6 Data Collection Methods

In this study, both primary and secondary data sources were used.

- Primary data was collected through structured questionnaires shared via Google Forms, surveys, and in-person interviews.

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- Secondary data was gathered from published articles, books, journals, websites, and reports related to consumer behaviour and sustainable products.
- For data analysis, statistical tools including t-test and ANOVA were used to examine differences and relationships among demographic groups and consumer preferences.
- The analysed data has been presented visually using graphs, pie charts, and diagrams to make the results more understandable

III. LITERATURE REVIEW

2020 – Yue, Lai, Wang & Mitchell

This study tested how much consumers care about farm-level sustainability programs. It found that people are willing to pay more if they know farmers are involved in sustainability practices like reducing carbon footprints or promoting science. Consumers also want clear communication and measurements of sustainability. The study identified three groups of consumers, each with different preferences toward sustainability.

2020 – Kosyak & Popov

This research analysed global consumer trends in buying green products. It found that price still plays the biggest role in decision-making. Many consumers buy eco-friendly products mainly for practical benefits, like saving money on electricity with energy-efficient appliances. When it comes to organic food, health benefits were the biggest reason people bought them. The study also saw a positive rise in waste management awareness but a decline in repairing old appliances, which adds to electronic waste.

2021 – Wojciechowska-Solis & Barska

This study of over 1,000 Polish consumers found a clear link between environmental awareness and buying organic food. People chose organic products mainly for their health benefits, nutrition, taste, and lack of harmful chemicals. The most commonly purchased organic items were eggs, fruits, vegetables, honey, milk, and cereals. The study concluded that caring for the environment and animals strongly influences the decision to buy organic.

2023- Ridvan Aydin & Myriam Mansour Journal of Engineering Research, 11(1), 100008

This study examined consumer behaviour toward remanufactured electronic products, which are previously sold items that have been recovered, repaired, and resold at lower prices. Consumers are increasingly interested in these products due to their cost savings and positive environmental impact, as remanufacturing reduces waste and resource consumption. However, the study highlighted that consumer behaviour in this area is not well understood, and more research is needed to compare factors that influence purchasing decisions for remanufactured electronics versus new products.

IV. FINDINGS AND DATA ANALYSIS

4.1 The Classification of Respondents Based on Age

Sr.No.	Row Labels	Count of What is your age?	Percentage
1	18-20 years	15	21.4%
2	21-23 years	19	27.1%
3	23-26years	8	11.4%
4	26 above	28	40.0%
	Grand Total	70	100%

Table No. 4.1 Age-wise distribution of the respondents

Source: Primary Data

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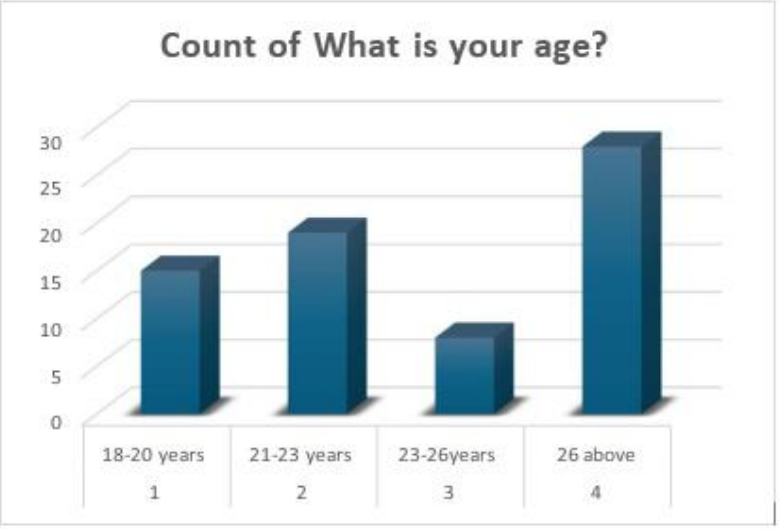

Figure No. 4.1 Age-wise distribution of the respondents
Source: Primary Data Interpretation

The survey sample is predominantly composed of young adults, with the largest single group being respondents aged 26 and above, who constitute 40% of the total. The second largest cohort is the 21-23 years age group, representing 27.1% of respondents. Together with the 18- 20 years group (21.4%), young adults aged 18-23 make up nearly half (48.5%) of the survey population. The smallest representation is from the 23-26 years bracket at 11.4%. This distribution indicates that the survey findings are most representative of the views of adults aged 26 and above and young adults in their early twenties.

4.2 The Classification of Respondents Based on Gender

Sr.No.	Row Labels	Count of What is your gender?	Percentage
1	Female	41	58.6%
2	Male	29	41.4%
	Grand Total	70	100%

Table No. 4.2 Gender-wise distribution of the respondents
Source: Primary Data

Interpretation

The data clearly shows that female respondents significantly outnumber male respondents in this survey. Women make up a substantial majority of 58.6% of the sample, while men constitute 41.4%. This indicates a gender imbalance in the survey population, with females representing nearly 6 out of every 10 participants.

4.3 Health benefits of sustainable food

Sr.No.	Health benefits of sustainable food	Responses	Percentage
1	Not very confident	7	10.0%
2	Somewhat confident	27	38.6%
3	Very confident	36	51.4%
	Grand Total	70	100%

Table No. 4.3 Health benefits of sustainable food
Source: Primary Data

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Interpretation

The survey data reveals an overwhelming public consensus, with a combined 90% of respondents expressing confidence in the health benefits of sustainable food, and notably, the majority (51.4%) identify as "Very Confident," indicating a strong, firm belief rather than a tentative one. This demonstrates that the perception of sustainable food as healthy is not just common but is a deeply held conviction for most people, while skepticism is a minority viewpoint at only 10%. This strong positive association suggests that health is a powerful and compelling factor influencing consumer attitudes and choices towards sustainable food products.

4.4 Barrier you face when purchasing sustainable food products

Sr.No	Barrier you face when purchasing sustainable food products	Responses	percentage
1	Higher cost	24	34.3%
2	Lack of information	11	15.7%
3	Limited availability	26	37.1%
4	Taste preferences	9	12.9%
	Grand Total	70	100%

Table No. 4.4 Barrier you face when purchasing sustainable food products

Source: Primary Data

Interpretation

The data clearly shows that the primary barriers to purchasing sustainable food are practical issues of access and cost. Limited availability is the most significant barrier, cited by 37.1% of respondents. Higher cost is a very close second, mentioned by 34.3% of respondents. Together, these two factors represent a barrier for 71.4% of the survey population. The other barriers are less prominent, with Lack of information affecting 15.7% and Taste preferences being the least common concern at 12.9%.

4.5 Primary motivation to choose sustainable food products

Sr.No	Primary motivation to choose sustainable food products	Responses	Percentage
1	Brand loyalty	9	12.9%
2	Environment impact	27	38.6%
3	Health benefits	34	48.6%
	Grand Total	70	100%

Table No. 4.5 Primary motivation to choose sustainable food products

Source: Primary Data

Interpretation:

The data shows that personal health benefits (48.6%) are the strongest motivator for choosing sustainable food, significantly outweighing environmental impact (38.6%) as the primary reason. Brand loyalty (12.9%) is a minor factor, indicating consumers care more about the product's attributes than the brand name.

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4.6 Frequency seeking sustainability information before purchase

Sr.No	Frequency seeking sustainability information before purchase	Responses	Percentage
1	Always	18	26.1%
2	Often	30	43.5%
3	Rarely	2	2.9%
4	Sometimes	20	29.0%
	Grand Total	70	100%

Table No. 4.6 Frequency seeking sustainability information before purchase
Source: Primary Data

Interpretation

Most consumers (about 70%) often or always check sustainability information before buying, showing strong awareness. Very few (2.9%) rarely consider it, meaning sustainability is an important factor in purchase decisions.

4.7 The Role of Environmental Concerns in Shaping Sustainable Food Preferences

Sr.No.	The Role of Environmental Concerns in Shaping Sustainable Food Preferences	Responses	Percentage
1	Major role	25	35.7%
2	Minor role	8	11.4%
3	Moderate role	37	52.9%
	Grand Total	70	100%

Table No 4.7 The Role of Environmental Concerns in Shaping Sustainable Food Preferences
Source: Primary Data Interpretation

The table shows that environmental concerns play a significant part in shaping sustainable food preferences. A majority of respondents (52.9%) believe environmental concerns have a moderate role, while 35.7% consider them to have a major role. Only a small portion (11.4%) feels they play a minor role.

4.8 Influence of Certification Types on Consumer Choices for Sustainable Food

Sr. No	Influence of Certification Types on Consumer Choices for Sustainable Food	Responses	Percentage
1	Fair trade	20	28.57%
2	Local	4	5.71%
3	Non-GMO	2	2.86%
4	Organic	44	62.86%
	Grand Total	70	100%

Table No 4.8 Influence of Certification Types on Consumer Choices for Sustainable Food
Source: Primary Data

Interpretation:

The data shows that Organic certification (62.86%) is the most influential factor guiding consumer choices for sustainable food, followed by Fair Trade certification (28.57%). On the other hand, Local (5.71%) and non-GMO (2.86%) certifications have minimal influence. This indicates that consumers strongly associate sustainability with organic standards, while other certifications play a smaller role in decision-making.

HYPOTHESIS TESTING

1st Hypothesis

H_0: There is no significant difference between males and females in the influence of social media on their perception and adoption of sustainable food.

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H_1: There is a significant difference between males and females in the influence of social media on their perception and adoption of sustainable food.

Row Labels	Female	Male	Grand Total
Netural	11	7	18
Somewhat positive	20	13	33
Strongly positive	10	9	19
Grand Total	41	29	70

Table 5.1 The influence of social media on their perception and adoption of sustainable food.

t-Test: Paired Two Sample for Mean

	Female	*Male*
Mean	13.66667	9.666667
Variance	30.33333	9.333333
Observations	3	3
Pearson Correlation	0.911293	
Hypothesized Mean Difference	1	
Df	2	
t Stat	1.732051	
P(T<=t) one-tail	0.112702	
t Critical one-tail	2.919986	
P(T<=t) two-tail	0.225403	
t Critical two-tail	4.302653	

Since the p-value (0.225) is greater than 0.05, the null hypothesis is accepted, indicating no gender-based difference in social media influence on sustainable food adoption.

2ND Hypothesis:

H_0: Product qualities and certifications do not significantly influence consumers' choice of green products.

H_1: Product qualities and certifications significantly influence consumers' choice of green products.

Row Labels	Female	Male	Grand Total
Much higher quality	13	10	23
Similar quality	4	2	6
Slightly higher quality	23	17	40
Grand Total	40	29	69

Table 5.2 choice of green products.

Anova: Single Factor

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
13	2	27	13.5	180.5
10	2	19	9.5	112.5

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	16	1	16	0.109215	0.772448	18.51282
Within Groups	293	2	146.5			
Total	309	3				

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Since the p-value (0.772) is greater than 0.05, the analysis shows that product qualities and certifications do not have a significant influence on consumer preference for green products. Hence null hypothesis is accepted.

III. FINDINGS

- Younger consumers show stronger preference for green products compared to older groups.
- Eco-friendly packaging is a top factor in Fast-Moving Consumer Goods.
- High price and limited availability are the two most common obstacles.
- The most common categories for green purchases are food and personal care products.
- Consumers are willing to pay a little extra (around 5–15%) for sustainable products.

SUGGESTIONS

1. Target Younger Consumers: Since younger buyers show stronger preference, companies should focus their marketing and awareness campaigns on this age group through social media and digital platforms.
2. Promote Eco-Friendly Packaging: Brands should invest in sustainable packaging as it is a key driver of purchase decisions in FMCG products.
3. Improve Affordability & Availability: To overcome high price and limited access, companies can introduce smaller pack sizes, offer discounts, and expand distribution to local markets.
4. Focus on Food & Personal Care Products: Since these are the most common green purchase categories, businesses can diversify product lines here and highlight their sustainability aspects.
5. Highlight Value Over Price: As consumers are willing to pay 5–15% extra, businesses should emphasize long-term benefits (health, environment, quality) to justify the premium pricing.

IV. CONCLUSION

In recent years, people have shown more interest in green and sustainable food products because they are more aware of environmental issues and want healthier options. Many consumers now prefer organic, locally grown, or certified products as they show care for health, environment, and ethics. Although many are ready to pay a little extra for such products, problems like high prices and limited availability still exist, especially for low-income groups. This shows the need for the food industry to bring new ideas and make sustainable products more affordable and accessible. Overall, this shift towards green food reflects people's concern for their health, the environment, and society.

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