Consumer Perception and Preference towards Sustainable Food in India

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Abstract

Consumer attitudes, perceptions, and preferences toward sustainable food are examined in this study, including consumer attitudes toward sustainable food in general and their preference for organic food. Additionally, the study examines consumer behaviors and preferences in quick service restaurants (QSR) (home delivery packaging, service ware used in restaurants and for home delivery), as well as deliberate efforts/actions to reduce food waste that plays a significant role in food sustainability. The study's objective is to ascertain consumers' green values, their level of awareness of sustainable food items, their level of concern for environmental issues, the factors that influence their food purchasing decisions, and the barriers to purchasing sustainable food. It also highlights the consumer's packaging preference, their perception of the impact of sustainability on food, and their practice of food waste through the use of a structured questionnaire. The survey gathered data from 219 individuals.

Despite low understanding of the availability of the sustainable food and general awareness about sustainability, the participants in the study had shown responsibility and a preference for sustainable food consumption. Respondents had environmental values that could be seen in their responses. This study is contributing to a number of Sustainable Development Goals (such as ending world hunger (SDG:2) and responsible consumption & production (SDG:12) by providing valuable information that governments and corporations can use to achieve those two goals.

Keywords: Sustainable Food, Sustainable Packaging, Food Wastage Habits, SDG.

Introduction

The demand for sustainability is increasing as the number of endangered environments grows. Sustainability has progressed from an option to a requirement, to the point that the United Nations recognized the need of sustainability and established 17 sustainable goals(United Nations, 2021).

In light of the UN's aforementioned sustainable goals, this research is being conducted in order to contribute to the UN's sustainable goals of zero hunger (United Nations, 2021) and responsible consumption and production (NITI Ayog, 2021) by presenting relevant results on consumer behavior at the grassroots level.

India is the world's second most populous country and a developing country (Vermier, et al., 2020). The increasing population possess the problem of resource depletion along with severe environmental problems and therefore meeting global sustainability goals is crucial.

With all this, food waste is increasing, necessitating the establishment of sustainable practices. Around one-third of the 1.3 billion tonnes of food produced each year is wasted because it rots in the containers of consumers and merchants, degrades due to insufficient transportation and harvesting operations, or is lost due to inefficient distribution techniques(NITI Ayog, 2021).

Consumers have shifted away from conventional and wasteful practices and toward sustainable practices during the previous few decades. In such a fragile and changing climate, businesses and governments are seeking new ways to reduce their environmental imprint and encourage sustainable consumption. This study aims to identify how consumers' preferences for substantiated food consumption are evolving, as well as the variables that are preventing or boosting it. This will not only assist organizations in implementing various strategies in response to changing needs, but it will also assist governments in enacting necessary legislation or laws in order to encourage sustainable consumption and achieve the requisite SDG targets by 2030. (NITI Ayog, 2021)

Research Problem

Consumer plays an essential role in the food consumption and its behavior places a twofold environmental burden on the ecosystem. The growing threat to the environment demands the adoption of sustainable consumption practices. Understanding and developing the correct strategy to sustainable consumption requires an understanding of the end customer. This is because consumer knowledge, choices, behaviors, and lifestyles, as well as consumption decisions, all affect the strategy to be taken in order to achieve sustainable development, which is one of the most significant accords to emerge in the previous decade.

Research Objectives

The study examines four distinct customer preferences. Firstly, the preference towards sustainable food, the causes and constraints of adopting a sustainable way of life, how consumers feel about their duty to protect the environment, and how this impacts their consumption of sustainable food. Secondly, the preference towards organic products, awareness of organic products. Thirdly, packaging preferences and plastic consumption at quick-service restaurants (QSRs) and online delivery, plastic consumption during grocery shopping, and finally, the preference for alternative methods of food waste reduction.

The primary objective of the study is to find the elements that influence the ways of food intake in order to make a meaningful contribution to boosting sustainable food consumption.

Secondary objectives are as follows:

- To assess the consumer attitude towards green products & factors affecting their green purchase behavior
- To find which demographic is more likely to purchase green products.
- To determine the factors impacting consumers' food waste habits.

Research Hypotheses

1. Ho:There is no significant difference between knowledge of the consumer and preference for organic food

   H1: There is a significant difference between knowledge of the consumer and preference for organic food
2. Ho: There is no significant difference between demographics and the green values of consumers.

   H1: There is a significant difference between demographics and the green values of consumers.
3. Ho: There is no relationship between attitude towards the green value and preference towards the organic food.

H1: There is a relationship between attitude towards the green value and preference towards the organic food.

4. Ho: There is no relationship between preference towards plastic packaging and usage of plastic.
   H1: There is a relationship between preference towards plastic packaging and usage of plastic
5. Ho: There is no relationship in frequency of going out and intention towards food conservation

   H1: There is a relationship in frequency of going out and intention towards food conservation
6. Ho: All factors are equally important when choosing the QSR

   H1: All factors are equally important when choosing the QSR

Literature Review

As climate change continues to wreak havoc on ecosystems, it becomes critical to explore alternate ways and embrace sustainable consumption behavior. Numerous researches have been conducted on this subject (Reisch, Eberle, & Lorek, 2013; Wang, Ghadimi, Lim, & Tseng, 2019; Govindan, 2018)where sustainability as a term has been observed as a broad word that has been classed on a variety of levels, from organic food to renewable packaging to zero food waste.

Consumer preference towards sustainable food in general

Sustainability is a complicated notion that necessitates an adaptable, balanced, and context- sensitive approach. Consumers do not view sustainability as a notion limited to the manufacturing phase, but rather as an integral part of their lifestyle, particularly in terms of consumption. (Cristiana, Merlino, Sottile, & Borra, 2019)

Individuals' environmental concerns and attitudes about green products are recognized as the primary drivers of young consumers' purchasing intention toward green items. Indian youthful consumers have been shown to be aware of present environmental issues and to have a favorable attitude toward purchasing green items for future usage. (Yadav & Pathak, 2016)

Health, affordability, environmental sustainability, and flavour are the most often cited reasons for food selection wherein people are willing to adopt sustainability for environmental good. Diverse demographic groups have varying attitudes about and willingness to adopt sustainable eating behaviors. Although customers are eager to embrace sustainability, there remain impediments. which emphasizes the importance of policy action in facilitating behavior change.(Culliford & Bradbury, 2020)

Apart from the reasons mentioned above, consumers' sustainable purchasing decisions are also influenced by their feelings of pride, guilt, respect, and rage(Wang & WU, 2016).

Customer effectiveness, as seen by the consumer, is the most powerful component on green purchase intention, whereas consumer guilt has both direct and indirect impacts on the desire to purchase green products. (Kabadayi, Dursun, Alan, & Tuger, 2015)

Terlau & Hirsch (2015) found that purchasing barriers exist as market share for organic food is smaller than the preferences expressed.(Hirsch & Terlau, 2015)

Consumer preference and awareness of organic food.

Consumer purchase intentions for organic food are positively influenced by factors such as health and lifestyle, environmental concern, safety and trust, convenience and price, subjective norms and attitude, and convenience and price. (Basha, et al., 2021)

Variables such as perceived health, product characteristic, social welfare, product feature, and availability to purchase organic foods all influence a consumer's decision to purchase organic foods and have a higher impact. Some of the indirect reasons for purchasing organic food include the nutritional content, natural components, food safety, availability, and public knowledge of the availability of organic food. (Rengeswari & Palaneeswari, 2017)

Organic food label recall is poor among consumers, indicating inadequate understanding and decision-making. The current eco-labels aren't adequate to buy organic food. Current organic food labels aren't enough for consumers too. (Dangi, 2021)

Affordability is the most significant purchasing barrier for sustainable (organic) food, followed by lack of immediate accessibility and sensory criteria. Lack or overload of information, low- involvement nature of food products in tandem with well-established consumption routines, a lack of transparency, and a lack of trust in labels and certifications are also some observed barriers. (Hirsch & Terlau, 2015)

The major motivation for buying organic food was health. Though organic foods were deemed healthful, lack of faith in their authenticity was another reason for not purchasing organic foods. (Baladhandapani & Sivalingam, 2017)

Consumer preference towards reusable packaging

The perceived utility of the packaging influences the choice to buy sustainably. The customer prefers items with beneficial or important plastic packaging over those without. Thus, utility perception drove plastic usage decisions.(Núñez-Cacho, Leyva-Díaz, Sánchez-Molina, Gun, & Rody, 2020)

People are aware of the environmental impact of packaging. Primary reasons for purchase are environmental protection, recycling, and a sense of responsibility. Paper, glass, and cardboard are preferred packaging materials. Although, consumers are unwilling to pay extra for green packaging due to the high cost of items in relation to their limited budgets and a lack of information. (Orzan, Cruceru, Bălăceanu, & Chivu, 2018)

Consumers that care about the environment choose reusable packaging over single-use packaging. The more the consumer's environmental participation and favourable attitude toward the environment, the more people are inclined towards renewable packaging decisions, provided they are provided with complete information. (Bhardwaj, 2019)

Consumers differentiate packaging mostly on the basis of convenience and ease of use, package type, and sustainability. Environmental stewardship is the most critical aspect of sustainability, followed by packing quantity, recyclability, reusability, and biodegradability. (Steenis, 2019)

Understanding food wastage habits of consumers

The lower the urban household consumer perception positive index, the lower the quantity of food waste per capita each meal & vice versa. These findings imply that customer perception influences urban household food waste. (Zhang, Zhang, & Cheng, 2020)

In addition to the TPB, contextual factors such as food excess and fasting affects food waste behavior (Aktas, et al., 2018). While decreasing food waste can be beneficial to the environment, more and more individuals are considering how reducing food waste might benefit them personally, with people's desire to save money outweighing their concern for the environment. (Food Insight, 2019)

Research Methodology

This research is based on descriptive type of research study. The research was designed using a combination of both qualitative and quantitative methods which are as follows:

Secondary research

The first step of the market research was to study existing relevant literature which would provide with insights and hypotheses to structure qualitative and quantitative studies, respectively.

The study mainly covered the literature on four aspects –

a) Consumer perception and preference towards sustainable food,

b) Consumer preference and organic product barriers

c) Consumer preference towards reusable packaging and,

d) Understanding food wastage habits of consumers.

The following were the intended outcomes of secondary research:

1. Insights on sustainable food consumer preferences and purchasing criteria.
2. Practices carried out in order to achieve sustainable goals
3. Hypotheses to test in quantitative research

The insights from the literature review were verified using the primary analysis to the extent possible.

Quantitative survey

On this stage an online survey was carried which was aimed at testing the sustainable food, organic food & package preference hypotheses and features driving them towards the type of food along with the attitude towards food conservation. The survey consisted of the following:

The data collected through this survey was used to determine the following:

1. All of the attributes that influence and limit purchase behavior for sustainable food.
2. Characteristics that influence and limit organic food purchases.
3. Characteristics that influence and limit the use of plastic packaging in both offline and online dining.
4. Food waste and food conservation habits.

Research Design:

- Research Type: Descriptive Research

"Descriptive research is a type of research that describes a population, situation, or phenomenon that is being studied. It focuses on answering the how, what, when, and where questions."

Plan for Data Collection:

- Primary Data – The primary data for this research was collected using online survey.
- Type of Questionnaire structured – Close-Ended Questions
- Research Instrument – Primary data for the study collected through self-structured questionnaire.
- Secondary Data – The secondary source of data is being collected from websites and through various research paper, articles, census report.

Sampling Method:

"The primary data for the study is collected through convenient sampling. This was done in order to make quick, simple, and cost-effective inferences regarding the data collected."

Population – Data Collected from Indian Population

Sample Unit – Sample unit is the sample that is used to represent the entire population which isNo. of respondents.

Sample Size – Data Collected from 219 Respondents.

Time Dimension – 2 Months

Data Analysis

Descriptive Analysis

Descriptive analysis is used to determine the distribution, types, and outliers of data, as well as the similarities across variables.

Q.1

Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under 18	3	1.4	1.4	1.4
	18-24	160	73.1	73.1	74.4
	25-34	46	21.0	21.0	95.4
	35-34	6	2.7	2.7	98.2
	45-54	2	0.9	0.9	99.1
	Above 54	2	0.9	0.9	100.0
	Total	**219**	**100.0**	**100.0**	
The primary research got total of 219 respondents with distribution as above. The majority respondents were the youth with total number of respondents as 160.					

Q.2

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	139	63.5	63.5	63.5
	Female	80	36.5	36.5	100.0
	Total	**219**	**100.0**	**100.0**	
The primary research got total of 219 respondents with distribution as above. The majority respondents were the male with total number of respondents as 139. This shows that distribution of gender in the data is shifted towards males.					

Q.3

Occupation					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Student	151	68.9	68.9	68.9
	Employee	56	25.6	25.6	94.5
	Entrepreneur	11	5.0	5.0	99.5
	Homemaker	1	0.5	0.5	100.0
	Total	**219**	**100.0**	**100.0**	
The primary research got total of 219 respondents with distribution as above. The majority respondents were the students with total number of respondents as 151.					

Q.4

Education					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	HighSchool	6	2.7	2.7	2.7
	Graduate	88	40.2	40.2	42.9
	Postgraduate	121	55.3	55.3	98.2
	Other	4	1.8	1.8	100.0
	Total	**219**	**100.0**	**100.0**	
The primary research got total of 219 respondents with distribution as above. The majority respondents were the postgraduates with total number of respondents as 121. This shows that respondents in the research are well educated.					

Q.5

When considering purchasing "green"/" sustainable" food products, which of the following statement is more applicable to you?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I'm not sure whether the things I buy are sustainable or not	56	25.6	25.6	25.6
	I never buy sustainable products.	3	1.4	1.4	26.9
	I rarely buy sustainable products.	23	10.5	10.5	37.4
	I buy sustainable products when they are available if the price is reasonable.	124	56.6	56.6	94.1
	I buy sustainable products when they are available even if the price is high.	13	5.9	5.9	100
Total		**219**	**100**	**100**	
The primary research got total of 219 respondents with distribution as above. The majority respondents were aware of sustainable products and prefer to buy when price is reasonable. Thenumber of such respondents is 124.					

Q.6

As an individual, how much do you agree or disagree that you are responsible to protect the environment?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	2.7	2.7	2.7
	Disagree	1	0.5	0.5	3.2
	Neutral	34	15.5	15.5	18.7
	Agree	71	32.4	32.4	51.1
	Strongly Agree	107	48.9	48.9	100
	Total	**219**	**100**	**100**	
The primary research got total of 219 respondents with distribution as above. The majority respondents agree and own the responsibility to protect the environment. This shows that the green values among the respondents are high.					

Q.7

How strongly do you believe that you prefer a new brand that practicessustainability over an established company that does not?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	1.8	1.8	1.8
	Disagree	7	3.2	3.2	5
	Neutral	59	26.9	26.9	32
	Agree	105	47.9	47.9	79.9
	Strongly Agree	44	20.1	20.1	100
	Total	**219**	**100**	**100**	
The primary research got total of 219 respondents with distribution as above. The majority respondents agree and prefer to buy sustainable products from a new brand over an established brand.					

Q.8

Sustainability is inferred to have negative impact on taste of the food					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	24	11	11	11
	Disagree	80	36.5	36.5	47.5
	Neutral	77	35.2	35.2	82.6
	Agree	32	14.6	14.6	97.3
	Strongly Agree	6	2.7	2.7	100
	Total	**219**	**100**	**100**	
The primary research got total of 219 respondents with distribution as above. Maximum of the respondents either disagreed or remained neutral and thus, not much of an impact was found of sustainable food on taste					

The primary research got total of 219 respondents with distribution as above. Maximum of the respondents either disagreed or remained neutral and thus, not much of an impact was found of sustainable food on taste

Sustainability is inferred to have negative impact on convenience to consume the food					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	15	6.8	6.8	6.8
	Disagree	92	42	42	48.9
	Neutral	79	36.1	36.1	84.9
	Agree	31	14.2	14.2	99.1
	Strongly Agree	2	0.9	0.9	100
	Total	**219**	**100**	**100**	
The primary research got total of 219 respondents with distribution as above. Maximum of the respondents either disagreed or remained neutral and thus, not much of an impact was found of sustainable food on convenience.					

Sustainability is inferred to have negative impact on healthy properties of the food					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	29	13.2	13.2	13.2
	Disagree	109	49.8	49.8	63
	Neutral	53	24.2	24.2	87.2
	Agree	22	10	10	97.3
	Strongly Agree	6	2.7	2.7	100
	Total	219	100	100	
The primary research got total of 219 respondents with distribution as above. Maximum of the respondents either disagreed or remained neutral and thus, not much of an impact was found of sustainable food on healthy properties of food.					

Sustainability is inferred to have negative impact on visual appeal of the food					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	24	11	11	11
	Disagree	86	39.3	39.3	50.2
	Neutral	69	31.5	31.5	81.7
	Agree	34	15.5	15.5	97.3
	Strongly Agree	6	2.7	2.7	100
	Total	219	100	100	
The primary research got total of 219 respondents with distribution as above. Maximum of					
the respondents disagreed or remained neutral and thus, no impact was found of sustainability on visual appeal of food.					

Q.9

As an individual, how important is it for you to consider the negative influence on the environment while making purchases?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at allImportant	4	1.8	1.8	1.8
	Slightly Important	29	13.2	13.2	15.1
	Moderately Important	72	32.9	32.9	47.9
	Very Important	86	39.3	39.3	87.2
	Extremely Important	28	12.8	12.8	100
	Total	219	100	100	
The primary research got total of 219 respondents with distribution as above. Maximum of					
the respondents agreed or remained neutral and thus, moderate to high number of respondents consider green values while making purchases.					

Q. 10

It is important that food I eat is	
	Mean Rank
Healthy	2.26
Tasty	2.83
Good value for money	3.19
Eco-friendly.	3.28
Cost & Accessibility	3.44

A Friedman test was carried out to compare the total understanding of the relationship of all the factors affecting the decision in choosing the type of food respondents want to eat. When the mean ranks are compared a significant difference has been found between the features where cost & accessibility of food is rated the highest.

Q. 11

Are you aware of "Jaivik Bharat" label displayed on food products?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	71	32.4	32.4	32.4
	No	148	67.6	67.6	100.0
	Total	219	100.0	100.0	

The primary research got total of 219 respondents with distribution as above. Maximum of the respondents are not aware about labels displayed on food products.

Q. 12

"Jaivik Bharat" label certifies for food to be organic. How likely are you to buy food labelled with "Jaivik Bharat"?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Likely	29	13.2	13.2	13.2
	Likely	82	37.4	37.4	50.7
	Neutral	83	37.9	37.9	88.6
	Unlikely	20	9.1	9.1	97.7
	Very Unlikely	5	2.3	2.3	100
	Total	219	100	100	

The primary research got total of 219 respondents with distribution as above. Maximum of the respondents were likely or remained neutral after getting aware about labels displayed on food products.

Q. 13

I usually prefer organic food over inorganic food.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	0.9	0.9	0.9
	Disagree	29	13.2	13.2	14.2
	Neutral	91	41.6	41.6	55.7
	Agree	73	33.3	33.3	89
	Strongly Agree	24	11	11	100
	Total	219	100	100	
The primary research got total of 219 respondents with distribution as above. Maximum of the respondents were found neutral for the preference of organic over inorganic food.					

I believe that food made from organic raw materials tastes better than the usual					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	0.5	0.5	0.5
	Disagree	26	11.9	11.9	12.3
	Neutral	102	46.6	46.6	58.9
	Agree	64	29.2	29.2	88.1
	Strongly Agree	26	11.9	11.9	100
	Total	219	100	100	
The primary research got total of 219 respondents with distribution as above. Maximum of the respondents showed no impact of organic food on taste.					

Q. 14

Some products have an eco-label that certifies that they are environmentally friendly					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Eco-label plays an important part in my purchasingdecisions	109	49.8	49.8	49.8
	Eco-label does not play an important part in my purchasingdecisions.	54	24.7	24.7	74.4
	I'm not aware of any such labels	56	25.6	25.6	100
	Total	219	100	100	
The primary research got total of 219 respondents with distribution as above. Maximum of the respondents perceive that eco labels does play an important part while they go for shopping					

Q. 15

I always use eco-friendly food products.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	44	20.1	20.1	20.1
	Neutral	110	50.2	50.2	70.3
	Agree	47	21.5	21.5	91.8
	StronglyAgree	18	8.2	8.2	100
	Total	219	100	100	
The primary research got total of 219 respondents with distribution as above. Maximum of the respondents believed that they are not inclined towards eco-friendly food products.					

I believe that expensive nature of eco-friendly products hinders me from buying them.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	0.9	0.9	0.9
	Disagree	14	6.4	6.4	7.3
	Neutral	84	38.4	38.4	45.7
	Agree	101	46.1	46.1	91.8
	StronglyAgree	18	8.2	8.2	100
	Total	219	100	100	
The primary research got total of 219 respondents with distribution as above. Maximum of the respondents believed that they are not inclined towards eco-friendly food productsbecause of their expensive nature.					

I intend to buy Eco-labelled food products from my next purchase.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	3.2	3.2	3.2
	Disagree	84	38.4	38.4	41.6
	Neutral	107	48.9	48.9	90.4
	Agree	21	9.6	9.6	100
	StronglyAgree	0	0	100	
	Total	210	100	100	
The primary research got total of 219 respondents with distribution as above. Maximum of the respondents agreed upon intending to buy eco-labelled food from their next purchase.					

Q. 16

Do you agree that plastic is a daily part of your daily life?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	8	3.7	3.7	3.7
	Disagree	21	9.6	9.6	13.2
	Neutral	37	16.9	16.9	30.1
	Agree	120	54.8	54.8	84.9
	StronglyAgree	33	15.1	15.1	100
	Total	219	100	100	
A total of 219 people responded to the primary study, with the distribution described above. Majority of respondents stated that they use plastic on a daily basis.					

Q. 17

I mostly use plastic bag to collect bought products when I go to the grocery store.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	25	11.4	11.4	11.4
	Disagree	69	31.5	31.5	42.9
	Neutral	60	27.4	27.4	70.3
	Agree	56	25.6	25.6	95.9
	StronglyAgree	9	4.1	4.1	100
	Total	219	100	100	
A total of 219 people responded to the primary study, with the distribution described above. Majority of the respondents disagreed in using plastic bags while shopping at grocery store but not much of a difference was found between the respondents.					

I mostly take a cloth bag/other renewable bag when I go to the grocery store.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	2.3	2.3	2.3
	Disagree	10	4.6	4.6	6.8
	Neutral	50	22.8	22.8	29.7
	Agree	95	43.4	43.4	73.1
	Strongly Agree	59	26.9	26.9	100
	Total	219	100	100	
A total of 219 people responded to the primary study, with the distribution described above. Majority of the respondents agreed on using renewable bags while they go out for grocery shopping.					

I believe shelf life is reduced with renewable packaging.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	3.2	3.2	3.2
	Disagree	28	12.8	12.8	16
	Neutral	84	38.4	38.4	54.3
	Agree	83	37.9	37.9	92.2
	Strongly Agree	17	7.8	7.8	100
	Total	219	100	100	
The primary study received 219 responses, with the distribution described above. The majority of respondents believe or are agnostic on the statement that the shelf life of foodis shortened as a result of renewable packaging.					

I believe laws are required to prevent plastic usage					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	0.9	0.9	0.9
	Disagree	4	1.8	1.8	2.7
	Neutral	32	14.6	14.6	17.4
	Agree	79	36.1	36.1	53.4
	Strongly Agree	102	46.6	46.6	100
	Total	219	100	100	
The primary study received 219 responses, with the distribution described above. The majority of respondents strongly believed that laws are required to stop the suage of plastic.					

Q. 18

I mostly prefer to order my food online than dining out.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	10	4.6	4.6	4.6
	Disagree	47	21.5	21.5	26
	Neutral	74	33.8	33.8	59.8
	Agree	68	31.1	31.1	90.9
	Strongly Agree	20	9.1	9.1	100
	Total	219	100	100	
The primary study obtained 219 responses, which were distributed as follows. The majority of people were neutral about whether they preferred online food delivery or dining out.					

I would prefer plastic packed food which is less expensive over renewable packed which is more costly.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	13	5.9	5.9	5.9
	Disagree	69	31.5	31.5	37.4
	Neutral	74	33.8	33.8	71.2
	Agree	50	22.8	22.8	94.1
	Strongly Agree	13	5.9	5.9	100
	Total	219	100	100	
The primary study obtained 219 responses, which were distributed as follows. The majority of people were neutral about whether they preferred plastic packaging or renewable packaging.					

I prefer plastic straw over paper straws to have soft drinks					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	36	16.4	16.4	16.4
	Disagree	77	35.2	35.2	51.6
	Neutral	55	25.1	25.1	76.7
	Agree	38	17.4	17.4	94.1
	Strongly Agree	13	5.9	5.9	100
	Total	219	100	100	
The primary study obtained 219 responses, which were distributed as follows. The majority of people preferred paper straw over plastic straw.					

Q. 19

According to the below features, you would prefer product with:	
	Mean Rank
High Price with no plastic usage but made of inorganic materials	2.35
High price with plastic usage but organic raw materials	2.32
High price with the same brand and no sustainability	2.93
High price with other brand but high sustainability	2.41

A Friedman test was used to examine the overall comprehension of the effect of price on four different variables:

1) inorganic substance composed food,
2) organic substance composed food, and
3) The same brand with no sustainable practices, and the last one with other brand with high sustainability practice.

When comparing the mean ranks, there isn't much of a difference between thefeatures, but high price with the same brand and no sustainability is the most coveted.

Q. 20

How frequently do you go out to eat?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	2	0.9	0.9	0.9
	Once in a while	129	58.9	58.9	59.8
	About half the time	54	24.7	24.7	84.5
	Most of the time	28	12.8	12.8	97.3
	Always	6	2.7	2.7	100
	Total	219	100	100	
The original study yielded 219 replies, which were divided into the following categories. The majority of respondents go out to eat once in a while, according to research.					

Q. 21

While eating out, how likely is food wastage (thrown away food) on your mind?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Likely	35	16	16	16
	Likely	32	14.6	14.6	30.6
	Neutral	48	21.9	21.9	52.5
	Unlikely	57	26	26	78.5
	Very Unlikely	47	21.5	21.5	100
	Total	219	100	100	
The original study yielded 219 replies, which were divided into the following categories. The majority of respondents were found neutral towards trying or thinking to conserve the food while they go out.					

Q. 22

The following reasons make you think about food waste when eating out:	
	Mean Rank
To reduce amount of money spent	2.15
Concerned that people would go hungry	1.67
Concerned about environment	2.19
A Friedman test was used to compare the overall understanding of what factors contribute to a food-saving mindset. When the mean ranks of the features are compared, it is discovered that individuals appreciate both money and the environment, with the environment being the most important.	

Q. 23

I would do the following to reduce the waste when eating out?	
	Mean Rank
Take leftovers home	2.18
Order small meal	1.86
Share meals	2.46
Nothing, it doesn't bother me	3.5
A Friedman test was used to determine what actions respondents took to reduce food wastage. When the mean ranks are compared, there is a considerable gap between the factors, and the majority of the respondents are unconcerned about food waste.	

Reliability Test

Cronbach's alpha test was taken to check the reliability of 4 Likert scale questions included in the questionnaire. When value of Cronbach's alpha is in the range of .6-.7, the data is considered questionable but can be move forwarded with.

Reliability Statistics	
Cronbach's Alpha	N of Items
0.642	23
Here, the test showed the value as 0.642 which is in the questionable range for reliability.	

Hypothesis tests:

Hypothesis 1

H0: There is no significance difference between knowledge of the consumer and preference for organic food.

H1: There is significance difference between knowledge of the consumer and preference for organic food.

To test this hypothesis, independent factor: Knowledge of the respondent and dependent factor: consumer preference for organic food was considered. Independent t test has been performed to understand whether consumer preference for organic food differed based on knowledge of the consumer

Looking at Group statistics table, the mean difference of likeliness to buy organic food of aware consumers is low then of unaware consumers.

Group Statistics					
	Are you aware about Jaivik Bharat	N	Mean	Std. Deviation	Std. Error Mean
Likeliness to buy organic food	Yes	71	2.27	.810	.096
	No	148	2.61	.945	.078

Independent Samples Test										
	Levene's Test for Equality of Variances		t-test for Equality of Means							
	F	Sig.	t	df	Significance	Mean Difference	Std. Error Difference		95% Confidence Interval of the Difference	
					One- Side	Two- Sided			Lower	Upper
					d p	p				
Equal variances assumed	2.306	0.13	-2.61	217	0.005	0.01	-0.341	0.13	-0.598	-0.083
Equal variances not assumed			-2.755	158.998	0.003	0.007	-0.341	0.124	-0.585	-0.096

The p-value of Levene's test is more than 0.05, so we fail to reject the null of Levene's test and conclude that the likeliness to buy organic food of aware consumer is not significantly different from that of unaware consumer.

Based on the results, we can state the following:

- There was no significant difference in likeliness to buy organic food between aware and unaware consumers (p > .005).
- The likeliness to buy organic food for aware consumers was .34 slower than the unaware consumers

Final Interpretation: Failure to reject null hypothesis. Hence, no significant difference is found in knowledge and consumer preference for organic food.

Hypothesis 2

H0: There is no significant difference between demographics and the green values of the consumer.

H1: There is significant difference between demographics and the green values of the consumer.

To test this hypothesis, independent factor: demographics (Age, Gender, Occupation & Education) and dependent factor: green values of consumers was considered. Multiple regression analysis was performed to find the relative contribution of each of the demographics to the green value of consumers.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.098[a]	0.01	-0.012	0.751
a. Predictors: (Constant), V6, V4, V5, V3				

As the R value is coming to 9.8%, the relationship between variables is not very strong. Similarly with R square coming to 10%.

Coefficients [a]							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	4.481	.372		12.044	.000	3.747	5.215
Age	-.033	.080	-.030	-.409	.683	-.190	.125
Gender	-.033	.113	-.021	-.291	.772	-.256	.191
Occupation	-.111	.091	-.090	-1.209	.228	-.291	.070
Education	.026	.096	.020	.269	.789	-.163	.214
a. Dependent Variable: V7							

As the p-value is greater than the significance level, it is concluded that there is no statistically significant association between the response variable and the term

Final Interpretation: Failure to reject null hypothesis. Hence, there is no significant difference between demographics and the green values of the consumer.

Hypothesis 3

H0: There is no significant relationship between attitude towards the green value and preference towards the organic food.

H1: There is significant relationship between attitude towards the green value and preference towards the organic food.

To test this hypothesis, independent factor: attitude towards the green value and dependent factor: preference towards the organic food was considered. Spearman correlation has been performed to establish relationship between both the independent and dependent factors.

Correlations				
			Green value	Preference towards the organic food.
Spearman's rho	Green value	Correlation Coefficient	1.000	.396**
		Sig. (2-tailed)	.	.000
		N	219	219
	Preference towards the organic food.	Correlation Coefficient	.396**	1.000
		Sig. (2-tailed)	.000	.
		N	219	219
**. Correlation is significant at the 0.01 level (2-tailed).				

The table presents Spearman correlation, its significance value and the sample size that the calculation was based on. Here, we can see that Spearman's correlation coefficient, is 0.000, and that this is statistically significant (p = .000). As the p value is less than .05, therefore there is significant relationship between the two variables.

Final Interpretation: Rejecting the null hypothesis. Hence, there is significant relationship between attitude towards the green value and preference towards the organic food

Hypothesis 4

Ho: There is no relationship between preference towards plastic packaging and usage of plastic

H1: There is relationship between preference towards plastic packaging and usage of plastic

To test this hypothesis, independent factor: preference towards plastic packaging and dependent factor: usage of plastic. Multiple regression analysis was performed to find the relative contribution of each of the demographics to the green value of consumers.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.009[a]	.000	-.005	.595
a. Predictors: (Constant), V12				

As the R value is coming to 9%, the relationship between variables is not very strong. Similarly with R square coming to 0%.

Coefficients [a]						
Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
B	Std. Error	Beta			Lower Bound	Upper Bound
3.851	.136		28.411	.000	3.583	4.118
-.005	.044	-.009	-.121	.904	-.092	.081
a. Dependent Variable: V10						

As the p-value is greater than the significance level, it is concluded that there is no statistically significant association between the response variable and the term

Final Interpretation: Failure to reject null hypothesis. Hence, there is no relationship between preference towards plastic packaging and usage of plastic (checking the sustainability preference

Hypothesis 5

Ho: There is no relationship between frequency of going out and intention towards food conservation

H1: There is a relationship between frequency of going out and intention towards food conservation

To test this hypothesis, independent factor: frequency of going out and dependent factor: intention towards food conservation was observed. Spearman correlation and linear regression analysis was performed to find the relative contribution of frequency of going out to intention towards food conservation.

Correlations				
			Frequency of going out	Intention towards food conservation
Spearman's rho	Frequency of going out	Correlation Coefficient	1.000	-.047
		Sig. (2-tailed)	.	.487
		N	219	219
	Intention towards food conservation	Correlation Coefficient	-.047	1.000
		Sig. (2-tailed)	.487	.
		N	219	219

The table presents Spearman's correlation and its significance value. Here, we can see that Spearman's correlation coefficient, is 0.487, and that this is statistically not significant (p =.000). As the p value is more than .05, therefore there is no significant association between the two variables.

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	2.672	.144		18.559	.009	2.388	2.956
	Intention towards food conservation	-.030	.041	-.049	-.730	.466	-.111	.051
a. Dependent Variable: V13								

As the p-value is greater than the significance level, it is concluded that there is no statistically significant association between the response variable and the term

Final Interpretation: Failure to reject null hypothesis. Hence, there is no relationship between frequency of going out and intention towards food conservation

Hypothesis 6

Ho: All factors are equally important when choosing the QSR

H1: All factors are not equally important when choosing the QSR

A Friedman test was carried out to compare the total understanding of the relationship of all the factors affecting the decision in choosing the quick service restaurant. When the mean ranks are compared a significant difference has been found between the features.

Ranks	
	Mean Rank
Taste	1.74
Price	2.37
Convenience	2.81
Sustainable and Eco-friendly	3.08

Looking further to the test statistics, there was found to be a significant difference between the features, 135.636, 0.000.

Test Statistics[a]	
N	219
Chi-Square	135.636
df	3
Asymp. Sig.	.000
a. Friedman Test	

Final Interpretation: As significant difference was found between the factors affecting the decision in choosing the quick service restaurant; therefore, we reject the null hypotheses asserting that All factors are equally important when choosing the QSR.

Findings

The goal of this study is to map and determine the factors that influence long-term food consumption. The research's major goal is to determine which factors influence sustainable food consumption decision-making. While the secondary research looked at many factors influencing consumer behavior around the world, the primary study looked at factors influencing consumer behavior toward sustainable food consumption in India in four different ways.

The key findings are as follows:

1. Consumer preference towards sustainable food in general
    a. The overall cost of sustainable food influences the buying decision of the Indian consumer. Even when they are aware about the goodness of eco labels, the restrict themselves to go for eco labeled product because of high perceived cost
    b. Brand loyalty is not taken into consideration when opting for sustainable consumption. It was found that people tend to go for the brand high in green values.
    c. Although the previous paper reflected varying attitude towards sustainable consumption, but the primary findings indicated that demographic factors like age, gender, education & occupation had no impact on the preference for sustainable consumption.
    d. Taste, convenience, healthy properties & visual appeal were found to be ineffective in preference for sustainable food consumption.
2. Consumer preference and awareness of organic food.
    a. High green values were found in the respondents, and it was found that it does affect their preference for organic food. Health properties of organic food was found to be the motivating factor.
    b. Awareness & taste of organic food and labels were found to have no impact on the preference for organic food products.
3. Consumer preference towards reusable packaging
    a. It was found that cost of renewable packaging does not affect the consumer in acknowledging renewable over plastic package.
    b. It was also found that respondents are using the plastic daily but when asked about grocery shopping, they preferred using renewable bags. Also, while dining in or food through delivery, renewable service ware was preferred. This suggested that plastic as a whole is a big part of their daily life, but people are trying to cut back on it where they can.
4. Understanding food wastage habits of consumers
    a. Food wastage was found to be a non-concerning topic for respondents and even if they did, it was found more diverted towards saving money than environment.

Limitations

a) While sample sizes met the requirements for a valid study, more generalizable results can be obtained through larger samples

b) Data is highly scattered to the respondents for age 18-25, thus, of responses from 25 and above is less

c) Findings in the paper are categorized on the basis of 4 different categories. Further research can be done by interrelating all the used four factors which could give much better view for the study

Suggestions

- Consumers should be educated on the benefits of a balanced diet and an active lifestyle, and its impacts should be tracked constantly.
- A live study should be undertaken to evaluate if promoting green values while consumption or buying product both at restaurants and grocery store helps customers to attain sustainability.
- Specific measures of food loss and waste should be defined and created for use at home and in restaurants, with any deviation attracting a penalty. The same should again be tracked to determine its effect.
- Cost of some portion of sustainable consumption can be brought down by adopting organic farming at home.
- Further research can be carried out on the effect of positive reinforcement to prevent food wastage.
- Regulations should be enacted requiring leftover food to be packaged and sent with the individual or to be made available to any indigent person.

Conclusion

The survey produced intriguing results in terms of understanding consumer attitudes as well as learning the perceptions of other large green goods companies' customers. When it came to the idea of saving the

environment by maintaining a proper level of food consumption, consumers expressed a strong desire to protect the environment and were judged to be responsible citizens, but the same did not hold true in practice. The cost of sustainable food consumption, as well as the lack of better items (such as less plastic-contained packages) in the market to convert to, were the main motivating factors. Aside from that, visual attractiveness, taste, and convenience were found to have no substantial impact on the decision to consume sustainable food. Organic food's healthful features, on the other hand, have been discovered to be a primary driving force behind this.

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