

An Extensive Analysis of Understanding Consumer Intention towards Reduction of Food Waste

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ABSTRACT

Purpose: *People's purchasing and consumption patterns have been substantially influenced by different behaviours. The widespread concern about reducing food waste has resulted in the need for environmental concern. Consumer food purchases differ from each other when consuming in dine-in outlets where different factors can result in food trash leading to a serious threat in restaurants. Food waste has a significant impact on businesses across the country; this study will indicate by understanding the consumers' behavioural patterns whether or not the problem of food waste can be improved. This research helps to know the changes in consumers' intention consumption behaviours regarding food waste in dining outlets to avoid and reduce it.*

Design/Methodology: *This research is based on secondary sources acquired from extensive literature, case studies, journal articles, and internet searches.*

Findings: *According to the findings, society is becoming alert to the food waste problem and are taking proactive actions to prevent food waste in their households as well. The influence of the pandemic in 2020 has also served as a warning in every outlet regarding the environmental effects of food waste and pollution. This has enabled people to collaborate from the comfort of their own homes, and they are more cautious about purchasing food anywhere they go to dine and have a strong notion to reduce waste on their part. Because of the pandemic, the community's broad waste patterns have slowed, protecting the environment in the process and has given hope for sustainability.*

Research limitations/implications: *Restaurant food waste is India's growing problem. In addition to this, people are suffering a crisis due to the pandemic, which has resulted in food scarcity which is also leading to hunger. Because waste is one of the country's existing challenges due to its vast population, inefficient waste management methods must be fixed to minimize the possible risk of food waste contamination in households and food businesses.*

Originality/value: *There is a high demand in India for an efficient strategy to prevent future contamination of food waste by any further upcoming situation. With the rising population and urbanization, individuals have to change themselves to a more efficient in handling the situation by understanding the problem of waste that will help themselves and the environment to the greatest. This research intends to address the challenges of food waste generated by restaurants by consumers, as well as potential methods and backup plans for overcoming the food waste disaster with long-term solutions.*

Paper Type: *Review Paper*

Keywords: Food waste, Plate waste behaviour, Consumer Intention, Attitude, Awareness, Subjective Norms, Quality of Food, Environmental Concern, SWOC Analysis.

1. INTRODUCTION :

In every nation, food waste dived to a leading cause of food loss. It has become a major problem among industry players, consumers, policy makers globally. According to FAO report, it is said one-third of food prepared is being wasted along the food supply chain. Food waste may create considerable

environmental issues owing to squandered resources and GHG's (Green House Gas) emissions related with food production, and it has become a sustainability challenge. According to a recent study, there is a growth in the cause of food waste, despite the fact that it is a new topic that requires greater exploration, particularly at the level of consumer behaviour. A variety of contributing elements combine to produce the impact of food wastage at the consumer grounds.

A detailed knowledge of the factors impacting consumer intention behaviour toward food waste, both at home and at the point of purchase, is essential to curb out the problematic consumer-related food wastage in countries. Food waste behaviour have been the international focus of a studies in recent years, demanding a review of the present state of knowledge in order to properly spot future research. In order to attain this purpose, the study offers the results of a literature review.

In the recent scenario, Coronavirus outbreak has brought life to a halt in practically every area of the world. The sudden change has made everyones lives into a state of anxiety and insecurity because of the savings and incomes they hold. The epidemic has transformed people's normal lives in the midst of behavioural shifts that is related to social distancing and accumulating the food necessities [1]. This is because when Covid-19 had hit India there were large levels of disturbance in the food supply chains especially among other things. Mainly there was decline in household expenditures as there was no incomes due to unemployment or either way of less pay [2]. The problem has influenced food purchases and has changed the shopping habits and concerns towards the food waste. Due to these the worldwide waste generation systems have resulted changes in waste composition and quantity. The food management underpins the individuals to make use of sustainable food habits mainly when it comes to purchase of food. Because of the strict regulations imposed by the governments globally to combat the widespread of the virus the food management and consumptions has also evolved. The food waste creation in homes or anywhere they consume may increase significantly for one reason of panic buying and may decrease if the consumers have been using the stored food or leftovers in their shelves or by involving any best practises to mitigate food waste. Food waste accounts for a considerable portion of food waste in almost every nation indicating that food waste reduction measures are an essential focus for food waste mitigation efforts.

The United Nations has set an aim of reducing half of the global food waste per capita by 2030 as per Sustainable Development Goals, which practically the world is working toward. With such a lofty goal, government, industries, businesses, non-profit organisations are discussing the problem and hunting methods and techniques to mitigate food waste. The purpose of review is to present a comprehensive image of the influencing factors that contribute to consumer food wastage, identify potential action plans for reduction, and highlight research directions in consumer intention behaviour at the individual and in the consumer-retailer interaction [3].

2. OVERVIEW OF FOOD WASTAGE IN INDIA :

According to survey made by the Corporate Social Responsibility (CSR) journal, it was said that Indians squander food as the entire United Kingdom consumes. Therefore, as a result India's 1.3 billion population are sleeping hungry. For this India is scored 100th out of 119 countries in the 2017 Global Hunger Index. According to United Nations assessment, India is ahead of China in terms of food waste. The wastage of food in India is happening in all areas from the state of production to the final consumption. When it comes to the restaurants, events and homes tonnes of cooked food will get wasted throughout the year. The primary reason for being on the lower end of the spectrum is the use of land. Because land is the primary source of agriculture, our waste results in the loss of agricultural food such as wheat, grains, lentils, and so on. Meat accounts for 4% of food waste, whereas fruits and vegetables account for 70%, accounting for 40% of economic waste in the country.

Food waste is the major source of incapability in the global food systems. Under the umbrella of sustainability, food waste has become a challenging aspect in daily scenario where it has an infinite effect over the environment and human lives. As per the Food and Agriculture Report (FAO) every year, about one-third of the food is squandered globally. This is because we waste over a million tonnes of food over the food supply chains. In one of the food waste studies, households account for a large proportion of entire food waste. The end consumers bear the responsibility of food waste due to their varying consumption behaviour. This has resulted that food waste has received more attention these recent years due to the emergence of pandemic. In a recent survey it was said that Indian families contributed over 7.4 percent of worlds million tonnes of food waste. Average family household wastes

over 74 kg of food every year. The estimates in 2021 household food waste encounters over 50 kg per year in India [4].

3. CHANGES IN FOOD WASTE IN GLOBAL SCENARIO :

The pandemic in 2020 in India led to a significant effect on the food industry owing to shutdowns, as well as grocery shops, where it resulted in bare racks due to panic purchasing by customers. A study of food waste reveals if the food waste in all sector was greater during the epidemic or during regular buying. Several studies have found that panic purchase of supermarket products has resulted in decreased food waste since consumers bought more foods with the fear of food scarcity that may occur at any time. It has resulted in meal planning and food storage for future use [5]. Increased dependence on packaged foods, on the other hand, may minimise waste because these commodities may be preserved for longer periods of time. When it was evident that it was a stay-at-home arrangement from dining, every consumer behaviour changed dramatically. Due to the lockout, people's consumption patterns shifted and they began to cook more. Plate waste is an issue everywhere, including in restaurants. It has been calculated that 40% of food waste originates in the household during dinner preparation. Consumers were forced to manage their food consumption more carefully during the lockdown, which resulted in a reduction in the quantity of food wasted. "Although people are reporting wasting more food as restrictions are lifted, the good news is that 70% of people want to maintain their new-found food management behaviours in the long term," said Richard Swannell, director of WRAP Global (Waste & Resources Action Programme), an organisation that works with governments to reduce food waste. "This is a promising indicator that individuals are taking advantage of the opportunity to develop less wasteful lifestyle choices following lockdown." However, one bright light has been reduced household food waste. As per the food waste experts, consumers have grown more organised in meal planning, learned new culinary abilities, examined their cabinets and refrigerators more before shopping, and discovered better methods to use up leftovers as a result of need. "What people have been forced to do during the epidemic is plan ahead because they're now shopping less regularly," Dana Gunders an executive director of ReFED (Rethink Food Waste through Economics and Data), an organisation devoted to decreasing food waste and recycling, said. "They're being driven to cook more and improve their culinary talents [6].

4. FOOD WASTAGE IN DIFFERENT SECTORS :

The global food waste problem has become a serious challenge. The United Nations Environment Programme's 2021 (UNEP) estimates that earth creates around 931 million tonnes of consumable food waste every year. Around 569 tonnes of food waste arise from mainly households. The food service (244 million tonnes) and retail industries account for the remainder (118 million tonnes).

The UN Environment Programme's 2021 Food Waste Index estimates that the world creates 931 million tonnes of food waste each year, with 569 tonnes coming from homes. The food service (244 million tonnes) and retail industries account for the remainder (118 million tonnes).

Table 1: Food Waste by sector in global scenario

Source of Food Waste	Percentage of Total Food Waste	Food Waste in Kgs	Range of Food Items	Food waste (%)
Food Service	26%	32 kg	Cereals	6.36% – 5.99%
			Pulses	6.36% - 8.41%
Retailers	13%	15 kg	Oil Seeds	3.08% - 9.96%
			Fruits and Vegetables	4.58% - 15.88%
Households	61%	74 kg	Milk	0.92%
			Meat	2.71%
			Poultry Meat	6.74%

Source: UNEP Food Waste Index Report 2021

Table 2: Food waste produced globally (kg/ capita/ year)

S. No.	Country	Estimated food waste per capita (kg/ capita/ year)	Total Food Waste per year (tonnes)
1.	China	64	9,16,46,213
2.	India	50	6,87,60,163
3.	United States	59	1,93,59,951
4.	Japan	64	81,59,891
5.	Germany	75	62,63,775
6.	France	85	55,22,358
7.	United Kingdom	77	51,99,825
8.	Russia	33	48,68,564
9.	Spain	77	36,13,954
10.	Australia	102	25,63,110
11.	Bangladesh	65	1,06,18,233
12.	Iran	71	58,84,842
13.	Maldives	71	37,688
14.	Pakistan	74	1,59,47,645
15.	Sri Lanka	79	161
16.	Bhutan	79	60,000
17.	Nepal	79	22,49,412
18.	Afghanistan	82	31,09,153

Source: UNEP Food Waste Index Report 2021

5. OBJECTIVES OF THE STUDY :

This study focuses on a broad idea of consumer behaviour in relation to reducing food waste. The following are some of the objectives:

- (1) To assess the impact of consumer food waste in India through review of literature.
- (2) To explore the food waste generation and composition in different industry sectors and in different countries.
- (3) To determine the influencing factors regarding consumer behaviour to reduce food waste.
- (4) To identify the research gap by knowing current status and desired status in food waste.
- (5) To find various research issues to decrease the research gap.
- (6) To analyse the concept of reducing food waste using SWOC framework.
- (7) To suggest some strategies to be incorporated by consumers to reduce food waste.

6. RESEARCH METHODOLOGY :

This study includes secondary information from published research, as well as an analysis of a case study as systemic and situational methodologies, are used in the study. This study is being performed to understand better how consumers behaviour can influence to food not going to waste [7].

7. RELATED RESEARCH WORK :

7.1 Consumer Food Waste Behaviour in Restaurants:

Consumer food waste problem has urged a great concern in Indian communities, the problem has inspired individuals to adjust their thinking in order to effectively handle the difficulties of food shortage for the needy, the animals and the dangers of environmental impact. According to an FAO estimate, 35 percent of food is wasted during consumption. Individuals who eat in restaurants and residences have

become the primary sources of food waste. Food waste behaviour has resulted in massive amounts of food waste, which has a negative impact on the environment. If the variables influencing food waste behaviour can be addressed, the impact on our society can be mitigated. It is critical to comprehend the many aspects that influence consumer behaviour and contribute to food waste wherever they dine. Several researchers have explored into research on consumer food waste behaviour and the numerous elements that influence it. Many writers, to their knowledge, have contributed their works related to consumer food waste behaviour, as shown in Table-3 [8].

Table 3: Related contributions given by different authors on consumer food waste behaviour in restaurants

S. No	Authors	Contributions
1	Lavén, (2017). [9]	Environmental attitudes and beliefs were shown to be the most powerful determinants of food waste behaviour. Environmental sentiments are also influenced by moral values. Situational variables and the desire to reduce waste are two more elements that influence restaurant patrons' food waste behaviour.
2	Jagau, H. L., et al. (2017). [10]	Consumers' intents to reduce food waste are connected to social feelings of guilt and shame, indicating channels to include in a successful information campaign urging people to eat less and waste less food
3	Sirieix, L., et al. (2017). [11]	The findings reveal a double paradox of contradicting norms and emotions: personal standards advocate not wasting, but important societal norms support leaving leftovers; asking for a doggie bag causes immediate embarrassment, while leaving leftovers causes anticipatory regret and guilt. Finally, the paper discusses the challenges that must be solved in order for this social innovation to be adopted.
4	Bharucha, J. (2018). [12]	The ultimate solution rests in raising awareness of proper waste management techniques in the restaurant business, and severe steps must be implemented to guarantee that these are properly followed. Efforts that are haphazard and intermittent will not be sustainable. Though some restaurants have a solid handle on it, every restaurant should strive to the benefit of the community, the environment, and the bottom line, it is more difficult to monitor and reduce food waste. Encountering the discovery there is a shaky link in waste reduction behaviour and personal waste prevention, practises, huge increases in pro-environmental behaviours and values might be realised. It's simply a matter of determining the best strategy for the establishment.
5	Chen, H. S., & Jai, T. M., et al. (2018). [13]	The findings show that an environmental message has an influence on consumers' attitudes toward reducing food waste in restaurants. Furthermore, message appeals and source trustworthiness had a substantial interaction effect on consumers' perceptions of corporate social responsibility. Consumers with greater levels of socially responsible consumption would respond strongly to reduce food waste in restaurants, while perceived corporate social responsibility and attitudes improve behavioural intents of minimising food waste.
6	Coşkun, A., et al. (2020). [14]	The findings revealed that (1) the expanded TPB model is beneficial in forecasting consumer food waste behaviour in restaurants, with a variation in food waste behaviour improved from 13% to 15%; (2) Food waste behaviour was significantly influenced by the aim to limit food waste and perceived behavioural control; (3) Food flavour had a strong favourable influence on food waste behaviour; (4) Intention to decrease food waste was favourably influenced by views concerning food waste, perceived behavioural control, and price sensitivity.

7	Filimonau, V., Matute, J., et al. (2019). [15]	It examines the influence of public environmental awareness, environmental concern, expected remorse, and pro-environmental behaviour at home in generating favourable customer attitudes regarding the need to reduce restaurant food waste, as well as the following trigger of behavioural intents to do so. The paper makes policy and managerial suggestions for how to support these behavioural objectives.
8	Filimonau, V., et al. 2021. [16]	Market orientation influences management intention to decrease FW but not attitude, while environmental indifference influences managerial attitudes but not behavioural intention, according to the study. The analysis reveals that neutralizers like appealing to greater loyalty and denying damage have a detrimental effect on decreasing management intention to minimise FW. Despite early expectations, another well-established neutralizer, denial of responsibility, had no impact.
9	Talwar, S., Kaur, P., Yadav, R., et al. (2020). [17]	The results imply that norms are linked to attitudes about bringing leftovers home; these, in turn, are linked to intentions, which are linked to over-ordering than needed behaviour. The reasons opposing are related with a negative mindset. The findings also support the postulated associations' mediation impact of reasons for, attitude, and goals, as well as the moderation effect of residual reuse routine.
10	Blešić, I., Petrović, M. D., Gajić, T., et al. 2021. [18]	(1) Personal attitudes toward food waste positively affect an individual's intention not to waste food; (2) perceived behavioural control positively affects an individual's intention not to waste food; (3) the intention not to waste food negatively affects self-reported food waste behaviour; (4) negative environmental attitudes negatively affect intention not to waste food; and (5) hygiene-based food waste negatively affects perceived behavioural control. This study contributes to a better knowledge of restaurant patrons' food waste habits and might have practical ramifications in the hospitality industry.
11	Talwar, S., Kaur, P., et al. (2021). [19]	Not only is attitude adversely connected with wasting leftovers, but it also partially buffers the link between reasons and wasting leftovers. Our findings may be used by companies and researchers to encourage green consumer behaviour.

7.2 Consumer Behavioural Intention:

Consumer behavioural intention refers to a person's readiness to engage in various motivating factors that lead to a given working activity. It is a goal that requires a conscious mind to comprehend and act on a predetermined result in either a good or negative manner [20]. Many scholars have examined the approach to consumer behavioural intention for food waste reduction in their scholarly works, as well as their contributions on outcome factors and references in Table -4.

Table 4: Review by authors on consumers intention for reduction of food waste

S. No.	Author name	Contribution
1	Silvennoinen et al. (2012). [21]	Has shown that the restaurants produce the most food waste, as eating out has become more popular and common in all developing countries.
2	Parfitt et al. (2010). [22]	Consumers' plate waste behaviour is a devastating source of "away-from-home" food waste, with the majority of these coming from food businesses, erupting the necessity to change the consumer's behavioural intention at first.

3	Blackwell et al., (2017). [23]	Consumers are generally prepared to do what they like and dislike, and attitudes regulate behavior intention by letting people know what they like and dislike.
4	Secondi et al. (2019). [24]	As per studies, the most significant factor in reducing food waste in developing countries is consumer behaviour intention.
5	Parizeau et al. (2015). [25]	Found that consumers believe that the responsibility to reduce is an individual concern. Thereby it indicates that environmental beliefs effect food waste behaviour through intention.
6	Stancu et al. (2016). [26]	Explain that the intention to avoid food waste is one of the primary factors that determine consumer food waste behaviour.
7	Farr-Wharrton et al. (2014). [27]	The author emphasises the importance of environmental considerations when researching food waste behavioural intention.
8	Stenmarck et al. (2016). [28]	Consumer leftovers are the most common source of food waste in restaurants: what differentiates them is what is left on the plate that isn't eaten at the table or taken home, and which the restauranters are forced to discard.

8. CURRENT STATUS OF THE STUDY :

The current status of the research aims to identify and analyse the number of alternative scenarios to curb down the food waste reduction possibilities by intervening the consumer behavioural intention. According to the research, customers' willingness to limit food waste will assist to mitigate the massive environmental damage that would occur. Food waste occurs throughout the food supply chain, from preparation to consumption. Discarded waste is increasingly causing pollution in every corner of the globe, wreaking havoc on our environment. According to UNEP executive director claims that minimising food waste would reduce greenhouse gas emissions, limit environmental degradation through land conversion and pollution, increase food supply and hence reduce hunger, and save money during a global economic downturn. The present scenario will assist society in promoting consciousness on reducing their food waste habits by implementing various methods to combat the problem of food waste. In order to modify the diverse food waste behaviours of consumers in different locations, efficient food waste mitigation criteria must be specially applied in every restaurant. Research and policies should focus on each region individually. Food waste reduction is now being attempted by government and social organisations through awareness initiatives and food disposal practises.

9. FACTORS INFLUENCING CONSUMER INTENTION TOWARDS REDUCTION OF FOOD WASTE :

9.1 Attitude:

The behavioural outcome of an individual mitigating plate waste behaviour is an attitude toward a consumer's intention [29-32]. A positive attitude emphasises intention based on income, education, and other factors, as well as the belief that food should not be wasted due to its taste, healthier alternatives, and environmental benefits [33]. Consumers' attitudes toward food waste reduction are an important component of their desire to reduce food waste [34]. According to studies, a favourable attitude toward reducing plate waste will increase consumers' positive intentions [35]. Consumers' adoption of reducing food waste while dining out demonstrates that a positive attitude leads to the fulfilment of intentions of consumers to reduce food waste generation [36]. The consumers generally choose not to waste food because it is better for their health, is better for the environment, and tastes better. As a result, consumers' intentions are naturally influenced by their beliefs about the gain [37]. On variables being compared, the analyst of behaviour always tries to minimise the negative impact on the environmental surrounding [38]. According to social psychological research, attitude is a mediator of both behaviour and intention to reduce food waste [39]. According to planned behaviour theory, a consumer's attitude and intention lead to a purchase intention [40]. Individual attitudes must be altered in order to shift consumer behaviour toward pro-environmental issues [41]. A positive attitude toward food waste reduction may result from a comfortable intention [42].

9.2 Environmental Concern:

Consumers are not wasting food in restaurants because of environmental concerns. Consumers' intentions to reduce plate waste have been influenced by this mindset [43]. India is working to implement food waste prevention measures in order to maintain its sustainability. Consumers are becoming more interested in avoiding food waste as a result of the growing environmental concern among businesses [44]. The consumers environmental concern towards mitigating food waste in restaurants will prepare a commendable attitude towards the problem [45]. The commitment toward environmental sustainability foresees to control the depletion of resources and will curb down the hunger issues among human and animals [46]. The people with more concern over the environmental issue are willing to avoid food wastage while dining than the people who show less concern towards environmental issues [47]. An individual's environmental concern leads to psychological aspects such as belief, attitude, and so on, which lead to human pro-environmental behaviour. According to studies, customers' attitudes toward reducing food waste are influenced by their health and the environment [48]. There has been a need to avoid waste in all concerns for several years, which has led to environmental protection and an increase in consumers' desire to avoid food waste in restaurants [49]. Several environmentally friendly approaches to avoiding food waste have emerged, where consumers are more conscious of the environment, resulting in a greater impact on them while eating anywhere and at any time [50]. Because of the high level of environmental concern, many consumers are exercising good judgement when it comes to green measures by ordering food in the proper proportion [51].

9.3 Awareness:

The attitudes associated with awareness have found in terms of describing intents to decrease food waste and general food waste reduction, the results are equivocal. The majority of the consumers in their study were unaware of the environmental consequences of food waste. The degree to which consumers are aware of their responsibilities and rights in the society when making decisions is referred to as consumer awareness [52]. Consumer awareness of environmental concerns is growing as environmental information becomes more widely available [53]. People who place a high value on reducing food waste are more likely to be concerned about environmental issues. Consumer awareness has been studied as a single dimension, including hunger awareness, environmental awareness, economic awareness, landfill awareness [54-59].

9.4 Quality of food:

Quality of food refers to the 'characteristics of food that a customer finds acceptable' [60]. Quality of food includes the 'overall quality of the food, as well as the taste, freshness, nutritional value, and portion size'. Food quality has been given a lot of attention as a core product of a restaurants, and it's been checked for a lot of things like temperature, texture, flavour, wherein it will allow the consumers end up in relishing the food on their plate resulting in not wasting food [61-63]. Consumers' intentions to return to a particular restaurant are thought to be influenced by the quality of the food served which will lead to not wasting food. Furthermore, some restaurants linked to poor food quality and poor food choices, both of which have negative consequences in making consumers waste food while dining [64]. It is the responsibility of every restaurant to create an environment that encourages consumers to eat healthier foods. This encourages health-conscious consumers to finish their meals properly. Furthermore, it is the restaurants responsibility to provide a diverse range of quality of food in their menus so that consumers have more options to choose the right proportion which will help to lower down food wastage to some extent. The restaurant menu is undoubtedly one of the most important indicators of a restaurant's marketing strategy.

9.5 Subjective Norms:

Subjective norms are defined as the societal pressure on any person to comply or participate in a set of behaviours, those of friends and family. According to studies, the influence from friends and family has a significant impact over the individual behaviour, which allows consumers' intentions to reduce food waste [65]. The values set at home have a major turning point on the change of behaviour towards mitigation of plate waste behaviour [66]. The involvement of family and friends has an impact on consumer intentions to reduce food waste [67]. Consumers believe that if others believe that reducing food waste is important, they will be more likely to follow it and as a result, they also implement it [68].

Due to the opinions of close friends and family, subjective norms influence a person's purchase intention [69]. A favourable attitude can be developed based on the observations of known people, which may lead to purchase intention [70]. The subjective norm is defined as a social pressure that encourages an individual to engage in a particular behaviour and motivates them to follow as per their support or guidance [71].

9.6 Consumers Intention:

Consumers who place a high value on environmental attitudes are found to be high scorers with strong mitigating food waste intentions [72]. Individuals who place a high value on reducing plate waste are influenced by their belief in food safety and health concerns, which leads to food waste reduction behaviour [73]. Consumer intention is a scenario in which customers want to participate in plate waste reduction [74]. Consumer intention is a subjective judgement made by consumers after an assessment of the impact in order to avoid food waste [75]. Through propaganda and advertisements in various media, an individual can increase his intention to reduce plate waste and develop an awareness attachment to that need [76]. A consumer's waste reduction intention may be influenced by his or her knowledge of the cause and its attributes [77]. The motivating attribute for the rise in the positive response to mitigating food waste intention is word of mouth [78].

10. IDEAL STATUS AND DESIRED STATUS :

The research work aims to understand the consumers intention in reducing food waste, applied in different sectors. In order to ensure a sustainable future, every company concern is striving to develop new policies and procedures that will result in optimum status to "zero waste" in a reduced environmental impact as part of socially responsible activities, as well as to carve out a new niche for environmentally conscious customers.

According to the report, the food waste that is been happening around globally is a major threat to the earth. Different organisations are collaborating to develop tactics and methods to eliminate food waste, such as composting, feeding animals, and distributing unused food to hungry people, which can help to reduce pollution to some extent. Every individual must take the necessary steps to decrease food waste and environmental damage by adjusting their eating habits, such as avoiding becoming picky eaters and respecting the needs of people who are hungry. Therefore, it is the ideal responsibility to make the world a safer and more ecologically friendly place for all animals to live.

11. RESEARCH GAP :

Research gap is the possible gap between the current status and desired status of food waste. Some of the research issues to fill the gap are:

- (1) There hasn't been much study on consumer attitudes around consuming healthy foods. Studies did not contribute on consumer attitudes over dietary concerns, healthy meal ordering practices might prevent people from making impulsive food purchases or wasting food.
- (2) Many studies have looked into the consumer attitudes regarding impact of food waste in households and in the food industry as a whole. However, the aim of consumers to decrease their food waste behaviour at restaurants has not been studied.
- (3) Few researches on food waste in hospitality and food services have been conducted in Mumbai. However, no research has been discovered on consumer intentions to minimize food waste in restaurants in Karnataka.
- (4) According to studies, consumer segmentation based on education level have aided in the reduction of food waste. However, studies have not shown that consumers may be affected by restaurant awareness campaigns, such as prompt-type messaging or posters on the walls, which can help reduce food waste. However, studies did not show that these practices can intend the consumers to mitigate wasting food.

12. RESEARCH AGENDAS :

The following Research Agenda enables future identification of influencing factors for consumers' intention to avoid food waste in restaurants, with the goal of limiting the immediate and long-term repercussions that can happen to the environment and society.

- (1) What are the various aspects that influence consumer behaviour in order to reduce food waste in restaurants?
- (2) To look into a good theory to expand on, a theoretical framework for future research.
- (3) What are the advantages, disadvantages, opportunities, and problems of consumer behaviour in terms of food waste reduction?
- (4) What suggestions do you have for improving the reduction of food waste in restaurants?

13. FURTHER RESEARCH PROPOSAL :

Although there has been a significant increase in the number of studies on food waste in recent years, there is still a need to investigate how consumers might reduce their food waste behaviour. A framework based on multiple antecedents must be constructed in order to analyse customers' intention to reduce food waste behaviour. The mitigation of consumer food waste behaviour research topic aims to reflect on the current situation in order to test new techniques and find solutions to the problem. The goal of the study is to aid in the transformation of the food system to one that is more sustainable, as well as to motivate consumers to adopt policies to reduce food waste. This will enhance customer awareness of waste and enable them to think more sustainably in the future.

14. SWOC ANALYSIS OF CONSUMER BEHAVIOUR TOWARDS REDUCTION OF FOOD WASTE :

SWOC study assesses the business strengths, weaknesses, opportunities, and challenges [79-80]. Internal components in SWOC Analysis are strengths and weaknesses, whereas external structures are opportunities and challenges. SWOC Analysis is a proven approach that allows a company to measure itself against competitors in its industry.

Table 5: SWOC analysis on consumer behaviour towards food waste reduction in restaurants

Constructs	Features
Strengths of reduction of consumer food waste in restaurants	<ul style="list-style-type: none"> ➤ Reduces consequences on the environment, particularly methane gas. ➤ a lower cost of waste disposal. ➤ Brings down the hunger among people and animals. ➤ Green employments have the potential to be created, leading to a sustainable stay-in restaurant. ➤ Promotes healthier lifestyle.
Weakness of reduction of consumer food waste in restaurants	<ul style="list-style-type: none"> ➤ There is no centralised database for reliable, up-to-date, and easily accessible food waste data. ➤ Composting activities in the community are still neglected as part of a zero-waste strategy. ➤ Large-scale unplanned composting infrastructure, especially for food waste, is inadequate. ➤ The food waste problem in restaurant makes it difficult to transmit a clear and concise message to customers and the wider public.
Opportunities of reduction of consumer food waste in restaurants	<ul style="list-style-type: none"> ➤ Food waste education should be taught at all levels of schooling. ➤ Food waste reduction campaign can help promote businesses around food waste solutions. ➤ Creates good name for the firm. ➤ Develop food waste composting strategies and large-scale composting solutions for agriculture areas and farms. ➤ Residents should be educated on the effects of food waste and possible remedies like domestic food source reduction, backyard composting, etc.
Challenges of reduction of consumer food waste in restaurants	<ul style="list-style-type: none"> ➤ Food waste is not incentivized in society or the food businesses.

	<ul style="list-style-type: none">➤ Emerging pandemics and new threats.➤ It takes time for an impact and results to manifest.➤ Consumer waste prevention behaviour is challenged by throwaway culture and an industrialised food system.➤ Liability on food safety
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15. FINDINGS OF THE STUDY :

Our findings indicate that consumer behaviour had a greater influence on food waste reduction which can result to the reduced quantity of food trash availability. To sustain positive behaviours in minimising food waste, education campaigns and technology solutions must be prioritised in order to create knowledge of the consequences that can occur for the environment and its relevance beginning from every individual.

16. SUGGESTIONS :

(1) Aspects such as food quality, service and support, and so on will influence consumer intention. As a result, the goal of minimising food waste will be aided by positive customer intentions. It is critical for restaurants that serve meals to make the decision-making process easier by offering a larger menu selection. Food quality must also be checked in order to persuade consumers in addition to avoid wasting food.

(2) In recent years, it has been noticed that a section of the consumer population has converted to a healthier lifestyle. When it turned to dining, individuals opted for a healthier option. This is because, in recent years, consumers have prioritised personal dietary concerns and have been forced to conform to dietary restrictions set by their experts. As a result, the restaurant must take into account the concerns of various segments of the health or diet, as well as personalise customer demands, which will help the restaurant to avoid food waste due to accurate proportion ordering.

(3) It's worth noting that in restaurants, service is fundamental. Consumers want their meals to arrive on schedule and in acceptable condition. If the services provided are not properly delivered, the customer will be dissatisfied; it will take a long time to resolve such issues because the service will include the neatness of the surroundings, the time, and the quality of the food served, all of which will delight the consumer in one way or another and ultimately allow them to avoid wasting food.

(4) The restaurant must provide a package service for leftovers if customers want it, as well as doggy bags if customers prefer to feed their leftovers to animals. The restaurant should invest in good packaging and make it available to customers. It will be useful to reduce food waste if the restaurant emphasises the importance of carrying leftovers either to take home or to feed animals.

17. LIMITATIONS :

(1) Regardless of the fact that there are many consumer eateries, the current analysis focuses on a few consumer dining restaurants rather than hotels and cafes.

(2) Consumers should also recognise their shifting behaviour and encourage their family or friends to instil plate waste mitigation practise at home or anywhere else for a better food waste reduction. This consumer mentality may assist to protect the environment and minimise food waste to some extent. However, this study focuses solely on reducing consumer plate waste in restaurants.

(3) It must be observed that intentions don't necessarily translate into good actions. It is not inevitably carried out because a person wants to do something. In this study, it was assumed that the purpose is a self-motivation to engage in a particular behaviour.

18. CONCLUSION :

The consumers intention towards reducing food waste has a vast impact on everyone's daily habits and economic activity. Consumer preferences and attitudes toward wasting food shifted, and people began looking for methods to reduce waste maximum. If there is a silver lining in food waste, it is that the consumers intention has reduced the amount of food waste for the vast majority of every sector in India. For this contributing evidence, authorities must evaluate consumer's preference and design more effective and efficient regulations around food wastage and responsible system for production and

consumption. To protect the environment, more technical and sustainable solutions to the food waste problem might be considered.

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