

Food Wastage Awareness Among Restaurant Consumers In Subang Jaya

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Abstract: In this era, we are facing a very troublesome problem which is food wasting. Wasting food is not a new thing, it has started to happen in decades of years ago, and it is still happening today. The contribution to this problem is everyone on the earth. This is not only coming from large food and beverage operations, but sadly, also from the behavior of the people too. The main problem is not only about the concept of the restaurant, but the focusing is about the behavior of the customers when consuming the food. Which had made our topic makes more sense; "A Study of Awareness on Food Wastage among Consumers in Restaurants at Subang Jaya". The purpose of this study was to find out the acknowledgement regarding food wastage phenomenon in Subang Jaya. When we consume the food, we have to think the possibility of the food to become a waste as food waste contributes to a lot of bad effects. The objectives of this research are to determine to what extent the awareness on the wastage of food, and to also assess misperception of rules and regulations among consumers and also to identify the standard of living of the consumers will affect the reduction of the food wastage.

Index Terms: Level Of Awareness, Standards Of Living, Rules And Regulations, Reduce Food Wastage, Consumers, Reduction.

1. INTRODUCTION

Due to the living nature of humans, food wastage is thrown away on a daily basis through agriculture industry and also other industrial and domestic operations. This type of wastage sources can commonly be classified onto three types that are food losses, in example, food products wasted throughout the supply chain during preparing, manufacturing and development various stages. Inevitable food wastage, in example like the inedible pieces of food products wasted in the food production stage, just like mango peel, fruits and vegetables core, and so forth, and entirely preventable food scraps, like food products wasted in the production stage (Thi et al., 2015). Food scraps waste is classified under municipal waste discretion, which could be in any mechanism of destruction, deposit or decomposition underneath the Malaysia Solid Waste and Public Cleansing Management Act 2007 (Act 672). An article with The Star Online journalist mentioned a restaurant attendant estimating which 10 to 30 percent of wasted food in a daily average basis in Malaysia and that these consumers were not conscious or perhaps even concerned about the portion of food they end up wasting. Referring in these articles, when questioned how they didn't finish the food they ordered or served, most all of them answered, they couldn't finish it, but why should anyone care if the food was charged (Loo, 2017). But from some advanced and urbanized developed nations, it's quite dissimilar. There are several techniques in several of these countries which could be learned in terms of ideas regarding the lessening of food waste. Initiatives are already being conducted by most of these countries to reduce wastage. Environmental that was impacted by food wastage is also very bad. Every other year, it requires a density of population bigger than China to grow food that ultimately never consumes. Deforested land, species threatened with extinction, native populations shifted, soil which has been diminished to grow crops that we always throw away. Food which is never consumed often makes up of to 25 percent of the overall international freshwater usage. The biggest problem this research would like to emphasize in this research project is the rate of wastage arising from consumer impulsive behavior in Malaysia. To prevent food disposal, the aim of choosing to eat the right quantity of food is also very vital. The major priority would be to elevate awareness about this ongoing problem, thereby decreasing the amount of food scraps in Malaysia. The aim of this research is to identify the

awareness level of food waste phenomenon effect on reduction of food wastage. (Fatoumata et. al., 2017); to evaluate the perceptions of rules and regulations among consumer effect on the reduction of food wastage. (Von Massow, 2015); and to identify the standard of living of customers on food consuming affect the reduction of food wastage. (Fatoumata et. al., 2017).

2 LITERATURE REVIEW

2.1 Level of awareness

Food waste occurs on a daily basis in nearly every home, however, this is a delicate matter because it has always been at some point an interpretation about an individual or group life style. Before it finally reaches the consumer, food goes through a lot of processes. Disposal is almost certain to happen at each step of the procedure (Gilli, et. al., 2018). The highest percentage of waste, according to the available literature is astonishing percentage and rate at the level of the consumer (Heller & Keoleian, 2003; Stefan, et. al., 2013). The amount of wasted food tossed away is founded on many interrelated purposes with different degrees of household importance. Economics-cultural, social and economic-demographic profiles of eating patterns or food processing training could significantly affect the quantity of food disposed. Yet even with the food waste composition in Malaysia, the research specifics a significant quantity of food disposal in solid household waste; just about all citizens don't even see the relation among environmental disruption as well as resource wastefulness.

2.2 Deficiency in proper law and legislation

The methodology of any such legal system is crucial in every government efforts to fight the negative cycle of throwing away food in social structure. "A Malaysian throws approximately one kilogram of sustenance nearly every day on an average. As anything other than, the country's government is indeed carefully to make sure working or studying the need to reformulate the food disposal Law all from numerous elements," she said during the closing down of the Malaysian Agriculture, Horticulture and Agro-Tourism Exhibition (MAHA) 2018. Malaysia do not have any kind of law in food waste (Bernama, 2018). In order to avoid the food waste that on the average, it is estimated a Malaysian discarded almost one

kilogram of food daily (Veronica, 2018). There is difficult to run the law of food wastage here in Malaysia basically are to apply the rule in Malaysian people (Sulaiman, 2018). However, each of little progress needs to be counted and it needs to begin as soon as possible to ensure the environment to be better in future. Beside to apply the law for the citizen, Malaysia government has applied the Food Bank (Bernama, 2018). Food bank in Malaysia are launched in December 2018, this program has been launched to avoid the food waste that is getting worst in Malaysia. Wastage era in Malaysia seems to be extremely high which could become a critical hurdle to overcome in the future, plus Malaysia might not use in the legal code to avoid food wastage (Mahssin et al., 2019).

2.3 Standards of living of consumer

Food wastage is indeed a global occurrence that needs to be addressed as a key element of sustainability utilization moves. As a whole, it has also been predicted which either 30 to 50 percent of food being produced in the world for human intake will either be lost or wasted through the supply chain annually (Gunders & Bloom, 2017; Gustavsson et al., 2011). Theoretically, food loss is those accumulated throughout production of food, sub-harvesting and manufacturing, whereas food wastage is a setback throughout the periods of distribution as well as utilization (Kummu, et al., 2012). Moreover, in several developing nations, particularly in industrialized countries, consumers (households) have also been recognized as the largest group held to account for some more than half of total wastage on sequent, in any relevant technique to minimize wastage, care should be taken.

2.4 Framework

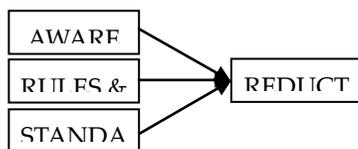


Figure 1: Research Framework

3 METHODOLOGY

Study Area

The study took place in Subang Jaya. The area is located in the municipality of Petaling District, Selangor, Malaysia, in the Kuala Lumpur (also known as Klang Valley). It includes Petaling's southern third district. Consists of Bandar Sunway's neighbourhood from SS12 to SS19, PJS7/PJS9/PJS11 (also partly within the jurisdiction of Petaling Jaya under the MBPJ), UEP Subang Jaya (USJ), Putra Heights and Batu Tiga, the municipality is regulated by the Municipal Council of Subang Jaya (MPSJ), which also governs other areas of the Petaling district, such as Puchong and Seri Kembangan. According to the Subang Jaya Municipal Council (Malay: MPSJ), Subang Jaya has a population of 315,800 as of the year 2018. Subang Jaya is a comparably urban centre and are mostly inhabited by public servants, students and families. This research aimed to cover as much of a place as possible in exchange to gain a decent representation of the population under this research study.

Sampling Procedure & Data Collection

The whole research structure is indeed a quantitative technique behind this research study. The data for this study were collected from 400 respondents in a sectional survey using a structured questionnaire that served as an interview guide. The simple random sampling technique was used to select the sampled respondents in the stated area of study. However, out of the 400 questionnaires administered, only 384 questionnaires were found suitable for analysis. The study measured food waste by computing the respondent information based on the questionnaire that have four sections which are Section A (i) the demographic details of respondents, Section A (ii) level of awareness, Section B implementation of rules and regulations and Section C standard of living. Another step after data gathering was the process of analysis of data. Explanatory instruments such as frequencies, tables and ratios were also used to describe the respondents' ecological-economic character traits, the contribution of public awareness level to the overall value of food wastage in the area, as well as the effectiveness of food legal system regulations and rules and standard of living. Before the actual data collection, this research questionnaire has been tested by the pilot test earlier. The questionnaire reliability was defined by the result of Cronbach's Alpha where this research questionnaire managed to get 0.76 on the reliability statistics.

4 FINDINGS

Demographics

Table 1: Demographic Information

QUESTION	ANSWER	FREQUENCY
Age	18-24	223
	25-34	98
	35-44	37
	45-54	12
	55-64	10
	64>	4
Gender	Male	169
	Female	215
Race	Malay	293
	Chinese	48
	Indian	30
	Other	13
Religion	Islam	306
	Buddha	38
	Hindu	21
	Christian	16
	Others	3
Household Size	Single	260
	Family Without Child	52
	Family With Child	72
Occupation	Students	256
	Self-Employed	47
	Professional	63
	Unemployed	16
	Others	2
Income Range Per Month	Below RM1,000	256
	RM1,001-RM3,000	57
	RM3,001-RM5,000	35
	RM5,001-RM7,000	13
	RM7,001-RM9,000	19
	RM9,001 Above	4
Education Of Respondent	Certificate	29
	Diploma	94
	Degree	223
	Master	24
	Ph.D.	13

Table 1 showed the demographic information. The majority of respondents were 18-34, 215 female and 169 Male. Majority Malay race, single. Half of the respondents were students with degree certification.

Table2: Level of Awareness

No	Questions	Respondent Answers				
		1	2	3	4	5
1	It feels like if I do wastage, I've got a bad conscience.	21	24	37	121	181
2	It feels good to clean out the refrigerator and freezer.	13	18	43	119	191
3	Food wastage is not anything that I ever consider	85	59	81	80	79
4	I've do purchase based on promotions (Buy 1, Free 1, Half-price etc.)	10	22	98	148	106
5	I've purchase food items with discount coupons.	27	43	111	104	99
6	I've make several purchases in a week.	21	146	119	123	76
7	Food waste is harmful to the environment.	20	35	65	130	134
8	Food waste creates economic damage to people.	19	30	75	122	138
9	I think it is important that I don't waste food.	13	18	32	110	211

Based on table 2 the question 1 to 3 which is most of the respondents is given the positive result which is the mean and the average answer is agreed. For the question first, the highest result is strongly agreed which is consist 181 out of 384. 191 from 384 answers strongly agree for the second question and it shows that the awareness to clean out the refrigerator and freezer are high. Next, the question 3 shows the result of the strongly disagree are the most answer which is 85 or 22.1% show that the respondent are aware about the food wastage. To the question 4 to 6 are referring to the awareness of the respondent on purchases. For the question 4, the highest result is agreed which is 148 and it shows that promotion affects the purchases among consumer. Besides, the discount coupons get the highest natural result and shows that it is not an argument or acceptable for the consumer to having purchases. Next, consumer, most agree on the several purchases in a week from the result which is 32%. The question 7 to 9 are based on the effect of the surrounding and the awareness of the consumer which is the strongly agree are the most answer in this part.

Table3: Implementation of Rules & Regulations

No	Question	Respondent Answers				
		1	2	3	4	5
1	It is necessary for the government to take part actively in the food waste problem.	11	13	45	113	202
2	I think the law enforcement can reduce the number of food waste.	12	16	48	133	175
3	The government should make a law towards the proper that are doing food waste.	14	16	58	150	146
4	The government should take action on premises that throw away food waste.	20	18	53	117	178
5	The citizens will understand more about food waste if the law was implemented in Malaysia.	10	19	51	119	185
6	Developing a national wastage plan for Food Waste Management in Malaysia can reduce number of food waste.	8	9	49	147	171
7	I'm aware of the penalty imposed to customer at restaurant for leftover.	16	25	83	131	129

This section on perception of rule and regulation. The question 1, 3 and 4 are the take part of government for this food wastage issue. From the result, the consumer is feeling better on the involvement from the government in this food waste and create the law towards the consumer that doing food waste. From the result question 1, 3 and 4, the average answer strongly agree. The consumer perception towards the government involvement are positive and the hope that it will decrease the number of the food waste after this. Besides, the question 2, 5 and 7 shows the rule on this food wastage. The consumer is mostly strongly agreeing on the law enforcement, which is can reduce the amount of food waste. From the question 2, can relate that laws and enactment can change the perspective of the people, which is to reduce this food waste, the law enforcement will be the one of the opportunities to reduce food waste. By creating the law, people will understand about the issue that are facing. The result from question 5 make this statement become strong. After the understanding of the problem and law for this issue, the consumer will aware much of the penalty imposed to a

customer at a restaurant for leftover. The result which is from question 7 that the result of agree are the most which is 34.1%. Next, the question 6 show the suggestion for the decreasing of the food waste which is "Developing a National Strategic Plan for Food Waste Management in Malaysia can reduce the amount of food waste" and the result is 171 strongly agree out of 384 respondents.

Table4: Standard of Living

No	Question	Respondent Answers				
		1	2	3	4	5
1	I don't mind spending any amount of money on food.	17	39	52	125	151
2	I prefer dining in restaurants even though I have groceries at home.	62	71	103	87	61
3	I am interested with special offers in restaurants and will definitely come.	22	49	121	116	76
4	Whenever I didn't finish my food, I always pack for takeaway.	20	34	72	138	120
5	I am not worried about the cost of food that I throw away.	105	94	68	66	52
6	I rather discard my food than keeping it in the fridge.	77	87	79	70	71
7	I don't mind spending money than eating leftovers.	50	70	105	87	72

This section is on about standard of living. The result from question 1 and 7 shows that most of the consumers do not mind on spending their money for food. With the result of question 1, the strongly agree that the consumer do not mind on spending their money for food are high which is 39.3%. Also, in question 7, they rather spend their money to eat new food instead of eating leftover. Next, is the concept of eating behaviour. From the result question 2 and 3, the result of neutral (3) is the most and from this result. It shows that the consumers are balance to eat at home and eat at the restaurant. The special offer in question 3 show the amount of neutral is the most (121 out of 384) and the agree result is the second most answers (116 out of 384). Besides, the question 4, 5 and 6 are the behaviour of consumers when do not finish their food. Based on question 3 which is the behaviour of packaging for takeaway food that are not finished having a positive feedback which is most of the consumers are agreeing on this question which is consist of 35.9%. Next the behaviour of not worried about the cost of food that they throw away is less. The consumer care about the cost of food by not waste it through the result which is the strongly disagree are the most for this question. Finally, the most answers for question 6 is between disagreeing and neutral. From this result, the consumers that rather discard their food than keeping it in the fridge are on average.

Table5: Reduction of Food Waste

No	Question	Respondent Answers				
		1	2	3	4	5
1	I find it is our duty to reduce food waste as much as possible.	7	21	37	12	18
2	I know how to reduce my food waste.	10	24	43	18	12
3	I understand the environmental reasons for reducing my food waste.	9	24	58	13	7
4	I understand why the government want me to reduce my food waste.	12	33	48	18	13
5	I find that responsibility for reducing food wastage should be accounted on manufacturers retailer and consumer.	19	20	81	12	62
6	I think the primary responsibility for reducing food waste is a good rule.	16	40	59	13	13
7	I feel embarrassed if people know I cannot eat leftovers.	58	63	75	89	91
8	I get a lot of satisfaction when I splurge on food.	28	27	79	88	12
9	I find that eating leftovers is a low status.	18	43	64	83	12

This section is focused on reduction of food waste. From the question 1 to 4, it is focusing on the understanding and the feeling of the consumer for the reduction of food waste. Question 1 and 2 are focusing on the feeling of consumer toward their duty to reduce food waste and how to our success which is the rate of strongly agree and agree are dominant. The agree result of the understanding in reducing food waste due to environmental reasons and reason government wants to reduce food waste is the positive result among consumer for this both question. Next, the result on the question 5 which

is mostly agree make the finding of this question is consumer know about knowledge of the manufacturer/retailer food waste. Finally, the question 6 to 9 is the concept of opinion and the feel towards the food waste. For question 6, the consumer strongly agrees that the needed of penalty towards the restaurant that do leftovers or food waste. The most answer agree on the question 7 make the perception towards the customer that the consumer have a high standard of living. Besides, the agree on the feeling of satisfaction when splurge on food (question 8) and feel that reusing leftovers is a low lifestyle (question 9) make the perception about consumer have a high standard of living are accepted.

Hypothesis 1 (H1) is accepted because there is a positive relationship between the level of awareness on food waste and reduction of food waste. Meanwhile, for hypothesis 2 (H2) is accepted because there is a positive relationship between the perceptions of rules and regulations among consumer and effect on the reduction of food waste. In addition to the third independent variable, hypothesis 3 (H3) is accepted because there is a positive relationship between the standard of living of customer and effect on the reduction of food waste. Correlation is significant at the 0.01 level (2-tailed). Correlation is significant at the 0.05 level (2-tailed).

CONCLUSION

Indeed the results of this whole research work do have the potential to influence the lowering of food waste within the proper implementation of strategy by notifying strategies on waste management and trying to regulate grocery stores while creating a food-safe environment for people. The originality of the whole research study is seized in the research framework that shows the huge impact of the awareness level of food waste phenomenon, which related to eating habits during certain situation and of food primary surplus in waste behaviour. This research results and hypotheses contribute information to the community regarding this continuous issue of food waste. Throughout the findings of this study, the minimal sensitivity of individuals regarding wastage may result in higher quantities of waste, while especially post-shopping activities may negatively affect the behaviour of food waste. All those other findings show consistency with previous studies (Jarjusey & Chamhuri, 2017). Secondly, according to the research study did recommend that the current administration to improvise the infra structure of laws and regulations and legislation to incentivize consumers to make real use of their food while being conscious of it with the expenditure on excessive food that can cause waste. Referring to this present research, in future it would very helpful if the administration is also simply enforcing penalties on consumers who throw away food in restaurants and shops. In order to have access, the current administration is also enforcing the Malaysian Food Bank Program to resolve wastage in stores and restaurants (Veronica Elankovan, 2018). Thirdly, citizens seem to have been conscious of the economic consequences of wastage, but maybe less unaware of either the impacts on the environment. Environmentally, as said by Lyndhurst (2007), most of the other consumers in his research project say find the cost of dumped food made them think multiple times, whereas the residual 10 percent admit that they really don't consider about the cost of any kind. A high awareness level may be because it was one that directly impacts the wallet to pay for consumer. The awareness and understanding

of the negative environmental impact of food scraps is shown in the responses that this research has got about who really benefits from minimizing wastage. The ecosystem had already been stated only 12 percent, while the largest specifically effecting the consumer was stated just about 30 percent. As a whole, citizens are not likely to relate food wastage with danger to the environmental aspect (Lyndhurst, 2007). The importance of the awareness role works can't be overemphasized as UK witnessed a huge reduction in overall food wastage from 8 million tons to 7 million tons between 2009 and 2011 as the outcome of the huge program to raise awareness to reduce food waste.

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