

Measuring The Influence Of Social Awareness Campaign On Achieving Sustainable Development Goal 11.6 Waste Management: A Quantitative Study On Food Waste At Jakarta Culinary Center

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Abstract

This study investigated the level of exposure to social awareness campaigns, knowledge about sustainable food waste management, attitudes towards food waste reduction, and concrete behaviors in food waste management among participants. Data was collected through a survey conducted at the Jakarta Culinary Center, with rigorous validity and reliability testing to ensure data integrity. The quantitative method was chosen by the researcher in this study because the data is in the form of numbers that will be processed to obtain the research results. Using statistical techniques, including regression and correlation analysis in SPSS, this research aims to achieve four main objectives: 1) measure the effect of the campaign on increasing participants' knowledge of sustainable food waste management, 2) analyze how participants' perception of the effectiveness of the campaign affects their attitude towards food waste reduction, 3) evaluate the correlation between campaign exposure and participants' concrete behavior in sustainable food waste management. Findings from this study: 1) We have observed a significant positive relationship between the level of exposure to the social awareness campaign and participants' increased knowledge on sustainable food waste management, 2) The campaign not only provided information but also managed to positively influence individual attitudes, encouraging a more conscientious approach to food waste, 3) We have established a noteworthy positive relationship between the level of exposure to the social awareness campaign and participants' concrete behavior in sustainable food waste management.

Keywords-development goal 11.6, social awareness campaign, food waste management, culinary institutions, quantitative study

Abstrak

Penelitian ini menyelidiki tingkat paparan kampanye kesadaran sosial, pengetahuan tentang pengelolaan sampah makanan yang berkelanjutan, sikap terhadap pengurangan sampah makanan, dan perilaku konkret dalam pengelolaan sampah makanan di antara para peserta. Data dikumpulkan melalui survei yang dilaksanakan di Jakarta Culinary Center, dengan pengujian validitas dan reliabilitas yang ketat untuk memastikan integritas data. Metode kuantitatif dipilih oleh peneliti dalam penelitian ini karena data yang diolah berupa angka-angka yang nantinya akan diolah untuk mendapatkan hasil penelitian. Dengan menggunakan teknik statistik, termasuk analisis regresi dan korelasi dalam SPSS, penelitian ini bertujuan untuk mencapai empat tujuan utama: 1) mengukur pengaruh kampanye terhadap peningkatan pengetahuan peserta tentang pengelolaan sampah makanan berkelanjutan, 2) menganalisis bagaimana persepsi peserta terhadap efektivitas kampanye mempengaruhi sikap mereka terhadap pengurangan sampah makanan, 3) mengevaluasi korelasi antara paparan kampanye dan perilaku konkret peserta dalam pengelolaan sampah makanan berkelanjutan. Temuan dari penelitian ini: 1) Kami telah mengamati hubungan positif yang signifikan antara tingkat paparan kampanye kesadaran sosial dan peningkatan pengetahuan peserta tentang pengelolaan sampah makanan yang berkelanjutan, 2) Kampanye ini tidak hanya memberikan informasi tetapi juga berhasil mempengaruhi sikap individu secara positif, mendorong pendekatan yang lebih teliti terhadap sampah makanan, 3) Kami telah membangun hubungan positif yang patut diperhatikan antara tingkat paparan kampanye kesadaran sosial dan perilaku konkret peserta dalam pengelolaan sampah makanan yang berkelanjutan.

Kata Kunci-sustainable development goal 11.6, social awareness campaign, food waste management, culinary institutions, quantitative study

I. PENDAHULUAN

The issue of global food waste is multifaceted, spanning from the initial stages of agricultural production to the ultimate destination of landfills. The agricultural and livestock sectors, which fall under the purview of food production, are among the most influential factors impacting sustainability (Şahin & Gök Demir, 2023). The COVID-19 pandemic has significantly disrupted the food supply chain, causing instability across various sectors of the economy (Ming, 2021; OECD, 2020). However, it is noteworthy that this crisis has also resulted in a reduction of food waste in several countries (Iranmanesh et al., 2022). To sustain the favorable COVID-19-induced attitudes towards the prevention of food waste, it is imperative to intensify educational and communicative initiatives aimed at enhancing public awareness of the overall ramifications of food waste and the advantages of prevention (Jribi et al., 2020).

As one of the largest countries in Southeast Asia, Indonesia was forecasted to reach approximately 309.8 million people in 2035 (Leander von Kameke, 2022). However, with significant population growth, the amount of food wasted might also increase (Goyal et al., 2023). Furthermore, Indonesia turns out to be one of the countries that contribute significantly to food loss and waste in the world (Iriyadi et al., 2023). The quantity of food waste created in metropolitan settings such as the capital city of Indonesia, Jakarta is fast growing due to rapid population expansion and rising food consumption.

II. TINJAUAN LITERATUR

A. Sustainable Development Goals

According to (Emas, 2013) Sustainable Development Programs are programs, policies, or sets of actions aimed at promoting and achieving sustainability in different facets of human existence, including the environmental, social, and economic. The primary objective of sustainable development (SD) is long-term economic and environmental stability; this can only be achieved by integrating and acknowledging economic, environmental, and social issues throughout the decision-making process.

B. Waste Management

1. Food Waste Management

The notion of zero waste has been embraced by policymakers across various sectors due to its potential to promote sustainable production and consumption, as well as facilitate optimal recycling and resource recovery. Food waste is a major environmental, social, and economic concern on a global scale (Pearson & Perera, 2018). The present paper adopts the definition of food waste as proposed by the European FUSIONS project, which states that food waste encompasses any food item or inedible component of food that is eliminated from the food supply chain with the intention of being either recovered or disposed of (Goossens et al., 2019). This includes various methods such as composting, plowing crops in or not harvesting them, anaerobic digestion, bio-energy production, co-generation, incineration, disposal to sewer, landfill, or discarding to sea.

2. Knowledge of Sustainable Food Waste Practices

According to (FAO, 2015), five important messages in reducing FLW are as follows: (1) one of the SDGs targets is to reduce FLW in addition to achieving food and nutrition security targets as well as environmental conservation; (2) approximately 14% of food produced globally is lost at the postharvest and processing stages of the food chain; retailers, food service providers, and consumers are not included; (3) addressing the causes of FLW is critical, which requires data on where FLW occurs in the food chain; (4) Reducing FLW can save money, but it comes at a cost that will rise as low-cost alternatives to preventing FLW become unavailable; and (5) more detailed analysis of the precise relationship between FLW and food security, nutrition, and environmental resiliency is required to reduce FLW and generate significant societal benefits.

C. Theory of Planned Behavior

1. Attitude towards Food Waste Reduction

Attitudes towards food waste refer to individuals' evaluations, beliefs, and emotional responses regarding the issue of wasting food (Szakos et al., 2021)(Szakos et al., 2021). It reflects their opinions and feelings about the importance of minimizing food waste and the potential consequences it has on various aspects, such as the environment, society, and economy. (Purwanto et al., 2023) tested and proved that a person's positive attitude would affect their high intention to reduce food waste. They also show how their actions to prevent food waste are influenced by a stronger intention to reduce waste.

2. Concrete Behavior in Food Waste Management

It is essential to have a thorough grasp of the variables influencing consumer perception and behavior linked to food waste in developed countries in order to minimize consumer-related food waste (Mulyo et al., 2022). As public awareness of the topic of food waste has developed, solutions to decrease it have been researched and implemented at the governmental, private, and consumer levels. In the context of food waste, this relates to whether an individual believes that reducing, reusing, and recycling food waste are essential concerns that are worthwhile, safe, and have a monetary impact (Ariyani & Ririh, 2020). The food waste hierarchy classifies measures aimed at decreasing food loss and waste into three categories: (1) prevention, (2) recovery, and (3) recycling (Pearson & Perera, 2018).

D. Social Marketing Theory

In order to produce inclusive, safe, diversified, sustainable food systems that offer healthy, affordable food to all people within a framework based on human rights, reduce waste, protect biodiversity, and adapt to and mitigate the effects of climate change (Lombardi & Costantino, 2020). Furthermore, the Sustainable Development Goals (hereafter referred to as SDGs) SDG 1 and SDG 12 are intimately tied to the problem of food waste (Oosterhof, 2018). While SDG 1 focuses on eradicating poverty and reducing inequality, SDG 11.6 Waste Management is more concerned with encouraging responsible patterns of consumption and production (SDG, 2022).

E. Social Awareness Campaign

It is more likely to be true, it is said, that people who are well informed about reducing, reusing, and recycling food waste are more likely to participate in these activities. Furthermore, promoting sustainable food waste behavior also involves raising knowledge of how food waste affects the environment (Ariyani & Ririh, 2020).

F. Research Framework

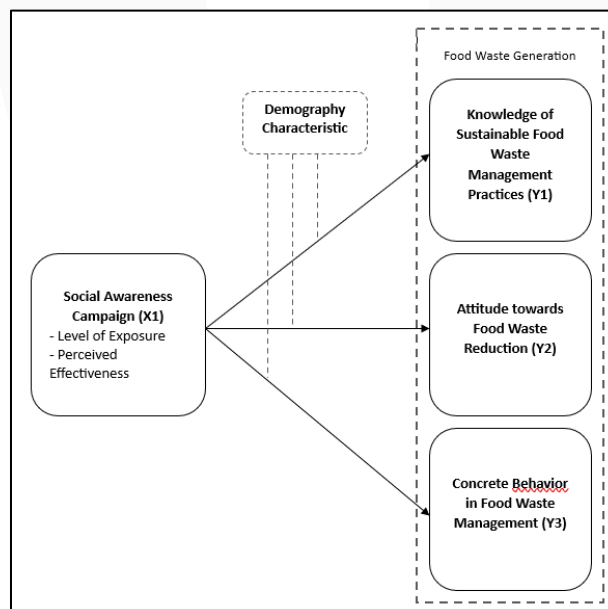


Figure 2. 1 Research Framework

Source: Data Processed by Researchers (2023)

G. Hypothesis

1. Hypothesis 1: There is a positive relationship between the level of exposure to the social awareness campaign and participants' increased knowledge on sustainable food waste management.
2. Hypothesis 2: There is a positive relationship between the perceived effectiveness of the social awareness campaign and participants' attitude towards food waste reduction at the Jakarta Culinary Center.
3. Hypothesis 3: There is a positive relationship between the level of exposure to social awareness campaigns and participants' concrete behavior in sustainable food waste management.

III. METODOLOGI PENELITIAN

Based on the type of research objectives, the type of research used by this research is descriptive research. Sugiyono, (2019) explains that causal research is a type of research that explores and understands the causal relationship between variables with the aim of testing how much influence the independent variable has on the dependent variable.

Based on the involvement of researchers, the involvement of researchers in this study was carried out without or as minimal as possible the intervention of researchers. According to Sugiyono, (2018) the attachment must be independent by maintaining the involvement between the researcher and the researched. The research was conducted individually by researchers on culinary students, professionals, and stakeholders at the Jakarta Culinary Center.

Table 3. 1 Research Characteristics

Research Characteristics	Type
Research method	Quantitative
Research paradigm	Positivism
Research objectives	Causal Descriptive
Research strategy	Survey
Researcher involvement	Minimum
Unit of analysis	Individual
Implementation time	Cross-Section

Source: Data Processed by Researchers (2023)

IV. HASIL DAN PEMBAHASAN

A. Characteristics of Respondents

1. Gender

The characteristics of respondents based on gender in this study are as follows:

Table 4. 1 Gender of Respondent

		Gender			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	66	45,5	45,5	45,5
	Female	79	54,5	54,5	100
	Total	145	100	100	

Source: Data Processed by Researchers (2023)

Based on the data in table 4.1 above, it can be seen that 66 (45,5%) respondents came from the male group, and for women as many as 79 (54,5%) respondents from a total of 145 respondents. It can be concluded that the results of distributing questionnaires show that female respondents are more dominant than men as stakeholders of the Jakarta Culinary Center. Gender diversity can bring different perspectives, experiences, and ideas to the table when it comes to tackling such challenges. The nearly equal distribution also signifies that both men and women have an active interest in participating in initiatives related to food waste reduction, highlighting the importance of gender-neutral approaches in awareness campaigns and sustainable practices. In conclusion, these findings emphasize the need to continue promoting gender equality and inclusivity in the Jakarta Culinary Center efforts to minimize food waste and encourage environmentally responsible behaviors among its stakeholders.

2. Age

The characteristics of respondents based on age in this study are as follows:

Table 4. 2 Age of Respondent					
Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	< 20 years old	1	0,7	0,7	0,7
	20 – 30 years old	79	54,5	54,5	55,2
	31 – 40 years old	19	13,1	13,1	68,3
	41 – 50 years old	18	12,4	12,4	80,7
	> 50 years old	28	19,3	19,3	100
	Total	145	100	100	

Source: Data Processed by Researchers (2023)

The analysis of respondent characteristics based on age reveals interesting insights into the demographic composition of the Jakarta Culinary Center's community. The majority of respondents, constituting 54.5%, fall within the age group of 20 to 30 years, which suggests a significant presence of young adults and possibly students at the Jakarta Culinary Center. This demographic is often associated with higher levels of receptivity to environmental issues and sustainability concerns. Additionally, it is noteworthy that 19.3% of respondents are above the age of 50, indicating a diverse range of ages among the Jakarta Culinary Center stakeholders. This diversity in age groups could potentially offer a broad spectrum of perspectives and experiences when it comes to sustainable food waste management practices. The relatively small proportion of respondents under 20 years (0.7%) might suggest a limited representation of the younger generation, which could be explored further in future research. Overall, these findings highlight the importance of tailoring awareness campaigns and initiatives on food waste reduction to suit the varying demographics within the Jakarta Culinary Center community, ultimately contributing to a more effective and inclusive approach to sustainable food management practices.

3. Last Education Level

The characteristics of respondents based on last education level in this study are as follows:

Table 4. 3 Last Education Level of Respondent					
Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Junior high school or lower	2	1,4	1,4	1,4
	Senior high school or equivalent	12	8,3	8,3	9,7

Associate degree	8	5,5	5,5	15,2
Bachelor's degree	122	84,1	84,1	99,3
Master's degree or higher	1	0,7	0,7	100
Total	145	100	100	

Source: Data Processed by Researchers (2023)

The analysis of respondent characteristics based on their last education level provides valuable insights into the educational diversity within the Jakarta Culinary Center's community. It is evident that a significant majority of respondents, accounting for 84.1% of the total, have attained Bachelor's degrees, indicating a substantial representation of individuals with higher education qualifications. This diverse educational background is beneficial in fostering a multifaceted approach to addressing issues related to sustainable food waste management, as individuals with higher education often possess a deeper understanding of environmental sustainability. However, it's noteworthy that there is also a presence of respondents with varying educational backgrounds, including those with Senior high school or equivalent, Associate degrees, Junior high school or lower, and even individuals with Master's Degrees or higher. This diversity underscores the importance of implementing education and awareness initiatives that cater to the varying levels of knowledge and expertise among stakeholders. In conclusion, the Jakarta Culinary Center should harness the educational diversity among its stakeholders to develop comprehensive and inclusive strategies for sustainable food waste reduction, taking into account the specific needs and preferences of individuals from different educational backgrounds.

B. Discussion of Research Results

Based on the processed data results that have been attached to the previous sub-chapters, it can be concluded that "Measuring The Influence of Social Awareness Campaign on Achieving Sustainable Development Goal 11.6 Waste Management: A Quality Study on Food Waste at Jakarta Culinary Center" independent variables affect each dependent variable.

This research was conducted by collecting 145 respondents according to the total population at the Jakarta Culinary Center so that researchers used the Total Sampling technique. With the characteristics of female respondents reaching 54.5% while men are only 45.5%. In the age characteristics of the majority of respondents, namely 20-30 years and according to experts, this age is included in productive age. The last educational characteristic of the majority of respondents is Bachelor's degree reaching 84.1%. The majority of respondents were followed by students from the Jakarta Culinary Center which reached 69%.

1. Effect of Social Awareness Campaign

Based on the results of descriptive analysis on the social awareness campaign variable (X1), the overall percentage value of 98,82% is in the good category according to the continuum line calculation. The percentage value of the three questions on this variable is highest in the question regarding " I am regularly involved in composting food waste. " of 99,5%. The value is calculated from the data processing of respondents per question item regarding the Social Awareness Campaign. This shows that the Jakarta Culinary Center has succeeded in instilling food waste awareness in the social awareness campaign that is run, so that participants realize the importance of embedding SDG principles in food waste management.

In testing the H1 hypothesis that has been formulated, the Social Awareness Campaign has an effect on Knowledge of Sustainable Food Waste Management Practices, showing that t count is greater than t table, with a t value of 8.760 > t table 2.352. It can be concluded that the hypothesis is accepted with the information that the Social Awareness Campaign has an effect on Knowledge of Sustainable Food Waste Management Practices.

In testing the H2 hypothesis that has been formulated, the Social Awareness Campaign has an effect on Attitude towards Food Waste Reduction, showing that t count is greater than t table, with a t value of 7.942 > t table 2.352. It can be concluded that the hypothesis is accepted with the information that the Social Awareness Campaign has an effect on Attitude towards Food Waste Reduction.

In testing the H3 hypothesis that has been formulated, the Social Awareness Campaign has an effect on Concrete Behavior in Food Waste Management, showing that t count is greater than t table, with a t value of $7.668 > t$ table 2.352 . It can be concluded that the hypothesis is accepted with the information that the Social Awareness Campaign has an effect on Concrete Behavior in Food Waste Management.

2. Effect of Knowledge of Sustainable Food Waste Management Practices

Based on the results of descriptive analysis on the knowledge of sustainable food waste management practices variable (Y1), the overall percentage value of 99,2% is in the good category according to the continuum line calculation. The percentage value of the three questions on this variable is highest in the question regarding "I acquired substantial knowledge of sustainable food waste management." and "I understand the impact of food waste on the environment." With same value 99,3%. The value is calculated from the data processing of respondents per question item regarding the Knowledge of Sustainable Food Waste Management Practices. This shows that the Social Awareness Campaign at the Jakarta Culinary Center has successfully provided knowledge about sustainable food waste management practices.

3. Effect of Attitude towards Food Waste Reduction

Based on the results of descriptive analysis on the attitude towards food waste reduction variable (Y2), the overall percentage value of 99,0% is in the good category according to the continuum line calculation. The percentage value of the three questions on this variable is highest in the question regarding "I develop a positive attitude towards food waste reduction." of 99,3%. The value is calculated from the data processing of respondents per question item regarding the Attitude towards Food Waste Reduction. This shows that the Social Awareness Campaign at the Jakarta Culinary Center has succeeded in instilling understanding and attitudes to students, instructors, and staff in reducing food waste.

4. Effect of Concrete Behavior in Food Waste Management

Based on the results of descriptive analysis on the concrete behavior in food waste management variable (Y3), the overall percentage value of 98,4% is in the good category according to the continuum line calculation. The percentage value of the three questions on this variable is highest in the question regarding "I am regularly involved in composting food waste." of 99,5%. The value is calculated from the data processing of respondents per question item regarding the Concrete Behavior in Food Waste Management. This shows that the Social Awareness Campaign at the Jakarta Culinary Center has successfully instilled and made changes to the concrete behavior of students, instructors, and staff in managing food waste.

V. KESIMPULAN DAN SARAN

Based on the research results of Food Waste Social Awareness Campaign on Achieving SDG 11.6 Waste Management at Jakarta Culinary Center, the conclusion will be drawn to answer some question in this study. The conclusions obtained by the author are as follows:

- A. Our analysis provides strong support for this hypothesis. We have observed a significant positive relationship between the level of exposure to the social awareness campaign and the participants' increased knowledge on sustainable food waste management. It is evident that the campaign has effectively contributed to enhancing awareness and understanding of sustainable food waste practices among our respondents.
- B. The results unequivocally substantiate this hypothesis. There is indeed a positive relationship between the perceived effectiveness of the social awareness campaign and participants' attitudes towards food waste reduction at the Jakarta Culinary Center. The campaign has not only informed but has also succeeded in positively influencing the attitudes of individuals, fostering a more conscientious approach to food waste.
- C. Our findings conclusively affirm Hypothesis 3. We have established a noteworthy positive relationship between the level of exposure to social awareness campaigns and participants' concrete behavior in sustainable food waste management. The campaign has translated awareness and positive attitudes into tangible actions, marking a substantial step toward effective food waste reduction.
- D. The results indicate that demographic characteristics, including age, gender, and education, do indeed moderate the relationship between the social awareness campaign and food waste reduction at the Jakarta Culinary Center. These factors play a nuanced role in shaping how individuals respond to the campaign,

underscoring the importance of tailored strategies that consider the diverse demographics within the culinary center.

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