Determinant Factor of the Intention to Reduce Food Waste

Elang Kusumo[1], Cindy Claudia Halim[2], Johanes Octovianus[3]

[1,2,3] Universitas Pelita Harapan

ABSTRACT: This research has its background in the fact that Indonesia is the second largest producer of food waste, with each person throwing away around 300 kg of food waste per year. This makes food waste a significant global issue that affects food security, as well as the environment and economy. This research aims to analyze the effect of individual attitudes and awareness towards the intention to reduce food waste. The primary data was collected through an online questionnaire which was completed by 150 respondents who were selected using convenience sampling technique. The data were then analyzed using SmartPLS 4.0 software to test the effect of individual attitudes and awareness on the intention to reduce food waste, and ensure the validity and reliability of the research results. The outcome of this research shows that individual awareness has a dominant influence on the intention to reduce food waste, while the influence of individual attitude on the intention is not significant. It highlighted the importance of raising public awareness to effectively reduce food waste in Indonesia. Thus, it can be suggested that educational institutions should actively participate in addressing the issue of food waste by raising individual awareness through seminars, workshops and campaigns. This is expected to contribute significantly to reducing food waste in Indonesia and improving food security, as well as protecting the environment and economy more broadly.

KEYWORDS: Food Waste, Individual Attitude, Individual Awareness, Intention to Reduce Food Waste, Food Security

1. INTRODUCTION

Throughout the world, food is everything that is needed for human well-being and life. The definition of food is not only limited to the foodstuff itself, but also includes the entire process involved in food supply, from production, distribution, to consumption. An American food writer, Fisher (2004), emphasized in his work with the phrase "First we eat, then we do everything else.", reflecting the understanding that food is the core of all aspects of human life. In fact, food is a primary need that is required for each and every individual, where without food, people will not be able to survive. But in reality, there are still many people across the world who experience food shortages. Based on data from the Food and Agriculture Organizations of the United Nations (2019), 17.2 percent of the world's population, or 1.3 billion people, have moderate levels of food insecurity. However, when moderate and extreme food insecurity are combined, this number rises to 2 billion people, or 26.4 percent of the world's population.

As Sitanggang (2023) emphasizes, one of the main causes of food shortages is food waste. According to The Food and Land Use Coalition (2023), Food Waste is defined as food and beverages that are still edible for human consumption but are instead discarded, regardless of the reason for their disposal. In other words, food waste includes any kind of food that is supposed to be edible, but ends up being discarded, whether for reasonable reasons or not.

Table 1 Composition of Food Waste in Indonesia by Type

Percentage								
Period	Food Leftovers	Wood Twigs	Paper/ Carton	Plastic	Metal	Fabric	Rubber/ Leather	Glass	Others
2023	40.99%	12.13%	10.41%	18.71%	3.25%	2.77%	2.32%	2.64%	6.78%

Source: Sistem Informasi Pengelolaan Sampah Nasional (2023)

By the year 2023, 132 regencies and cities in Indonesia have submitted their data on waste management performance achievements into SIPSN. Data from table 1 shows that the composition of waste in Indonesia is dominated by food waste, which accounts for 40.99% of the total waste generated. This percentage indicates that more than a third of all waste consists of food

Determinant Factor of the Intention to Reduce Food Waste

waste, making it the largest contributor to the total volume of waste in Indonesia. Based on data obtained from the UNEP (2021) report on Food Waste Index 2021, it is revealed that Indonesia ranks quite high in the production of food waste in the Southeast Asia region. It is estimated that every year, Indonesia produces around 20.93 million tons of food waste.

Table 2 Average Monthly Per Capita Expenditure in Food and Non-Food Categories in Indonesia

Year	Expenditure per capita on food	Expenditure per capita on non-food
2020	46,049	53,951
2021	45,806	54,194
2022	46,544	53,456
2023	45,471	54,529

Source: Badan Pusat Statistik (2023)

Enclosed in table 2, Badan Pusat Statistik (2023) also published that in the period 2020-2023, the average per capita expenditure on food in Indonesia reached around 48.6%-49.5% of total per capita expenditure. This shows that most of the income of the Indonesian people is used to buy food. The high per capita expenditure on food could be one of the contributing factors to the high amount of food waste in Indonesia. This is due to the tendency of Indonesians to buy food in quantities that exceed their daily needs, which causes some of the food to be wasted (Lutviyani et al. 2022). The Economist (2021) has also noted that Indonesia is the country with the second highest food waste production after Saudi Arabia, where Indonesians are estimated to throw away around 300 kg of waste every year. This led to Indonesia's 24th position as the country with the lowest performance in reducing food loss and food waste. Based on a study by Kompas (2022) using SIPSN 2021 data, the amount of food waste in the DKI Jakarta area reached 440,595 tons per day, or equivalent to a volume of 514 cubic meters. This number exceeds the height of Monas, even higher than the 285.5-meter-high Gama Tower building, which is the tallest building in Indonesia. Furthermore, food waste also contributes to economic losses, amounting to 213-551 trillion per year.

A few causes of food waste in Indonesia, according to Ramadhan (2021), are also contributed by individuals. This is influenced by several personal factors, such as age, gender, and education level (Saputro & Santoso, 2021). Chaerul & Zatadini (2020) highlighted that individual attitudes towards food waste are among the factors that influence the causes of food waste. In addition, lack of knowledge, limited skills, and poor behavior in food planning can also trigger an increase in the amount of food waste (Van der Werf et al. 2019). According to Chaerul & Zatadini (2020), the main attention to food waste management in Indonesia is still insufficient. Even so, there is still significant potential to reduce the amount of food waste, which can be realized through improved waste management by involving Individual Awareness and changes in community behavior (Rizky & Gunawan, 2022). Intention to reduce waste is considered a major factor in reducing the level of food waste (Angel, 2022). The research conducted by Zhang et al. (2021) showed a positive relationship between Intention to Reduce Food Waste and actual food waste levels. The researchers agree that the approach of increasing Intention to reduce food waste will be beneficial in controlling the amount of food waste. Hence, there is a need to increase Individual Awareness of the negative impacts caused by food waste in order to form a positive attitude and strengthen Intention to reduce food waste.

Given the introduction that has been provided, particularly related to the low public awareness of the importance of food as well as the impact of food waste, as reflected in the high production of food waste in Indonesia, to the extent of around 300 kg per individual per year, impacting the economic losses incurred at a significant scale. Therefore, this research is intended to analyze the influence of individual attitudes and awareness on the intention to reduce food waste.

2. LITERATURE REVIEW

2.1. Food Waste

Food waste, according to the Food and Agriculture Organization (2019), is food that is reduced in quantity or quality as a result of decisions and actions taken by food supply chain actors, namely retailers, food service providers, and consumers. It also defines the term food waste as food that is not fit for human consumption, either because it is spoiled or past its expiration date. A similar definition is given by The Food and Land Use Coalition (2023), where food waste is defined as food that is discarded along the food supply chain, from production, post-harvest, processing, distribution, to consumption. This includes food that could have been utilized but instead was wasted at one of the stages of the food supply chain. The Food and Land Use Coalition (2023) also defines food waste as food and beverages that are fit for human consumption but are thrown away, regardless of the reason for the disposal. This includes food scraps, leftovers, and food that has passed its expiration date, even though it could still be made into something usable. The National Geographic Society (2023) points out that food waste is a serious problem that needs to be addressed. According to data released by the National Geographic Society (2023), it is estimated that around 1.3 billion tons of

Determinant Factor of the Intention to Reduce Food Waste

food is thrown away each year. This is equivalent to one-third of the total food production worldwide. If this food was not wasted, there would be enough food supply to meet the needs of around 2 billion individuals. This fact illustrates a significant problem in food waste management around the world that requires substantial attention.

2.2. Intention to Reduce Food Waste

The intention of individuals plays an important role in reducing food wastage as a global issue that negatively affects the environment, economy and the well-being. According to Ajzen (1991) theory, intention is the most accurate determinant of behavior. Attitude, subjective norms and the ability to regulate behavior influence intention to reduce food wastage. Coşkun & Yetkin Özbük (2020) study shows attitudes towards food wastage positively affect the intention. If the waste is judged inappropriate, there will be a strong Intention to minimize the wastage in the first place. By contrast, a positive attitude will lead to a stronger intention to take positive action. This is corroborated by Huang & Ge (2019) research, which concluded that intention predicts actual food waste reduction. The importance of intention has implications for community waste management, as stated by Abadi et al. (2021). Thus, improving Intentions is necessary for significant change, as in a study by Deliberador et al. (2023), intention was shown to be a stronger predictor of behavior than demographics or attitude.

2.3. Domain of Learning

Domain of Learning is a concept used to categorize learning objectives based on certain characteristics, also known as taxonomy. This taxonomy is an important foundation in education to systematically plan and implement learning and guide students towards achieving clear and measurable educational goals. Learning taxonomy divides learning objectives into several domains, such as cognitive, affective, and psychomotor domains (Magdalena et al., 2020). The cognitive domain, well known through Bloom's Taxonomy framework, is the main focus in education. This framework describes the developmental stages of learners' thinking ranging from simple to complex, from the level of knowledge to the level of creation. Bloom (1956) described six levels of thinking: knowledge, comprehension, application, analysis, evaluation and creation. It has since been revised by Anderson & Krathwohl (2001) to reflect more accurate levels of difficulty and add new dimensions such as understanding, analysis, evaluation, and creation, reflecting modern educational practices that emphasize creativity and problem solving and providing educators with more flexible tools.

2.4. Attitude towards Food Waste

Individual attitudes are part of their personality which is reflected in their actions towards something. According to the definition of attitude put forward by Ajzen (1991), attitude is a tendency to respond in a favorable or unfavorable manner to an object, item, institution, or event. Festinger (1962) reveals that attitude is a person's tendency or predisposition to respond to something in a certain way. Attitudes can reflect a person's feelings or views towards something, but are not always followed by real action. According to this theory, when a person has an attitude (perception or feeling) that conflicts with their behavior, it causes cognitive dissonance or psychological tension. For example, someone who realizes that wasting food is bad for the environment (attitude), but they still often throw away food that is not used up (behavior). A person may have a positive attitude towards reducing food waste, but it is not always followed by concrete actions due to other factors that influence their behavior, such as habit, social pressure, or discomfort in changing routines.

Furthermore, according to Aronson et al. (2022), attitude is an evaluation of people, objects, or ideas, including beliefs about the characteristics of these objects. Attitudes are also influenced by feelings, values, and observations of other people's behavior. Research by Huang & Tseng (2020) and Purwanto et al. (2023) show that a positive attitude towards food wastage affects individual intentions and behavior to reduce it. Habib et al. (2023) added that hedonic value and a sense of belonging to a community also influence consumer attitudes towards reducing food wastage. Thus, a positive attitude supported by both values can strengthen an individual's intention to reduce food wastage.

2.5. Awareness towards Food Waste

Indrianti (2023) states that individual awareness is the ability to focus on oneself, understand alignment with internal standards, and reflect and introspect. This awareness affects the way individuals think, feel and act. According to Bloom (1956), learning involves three domains: cognitive, affective, and psychomotor, which gradually develop the individual's Self-Awareness. The study by Iqbal et al. (2019) shows that understanding influences Awareness, which is built through knowledge from various learning domains. High Awareness increases the intention, as according to Iqbal et al. (2019) study, with the social environment enhancing the intention.

Other studies by Mganga et al. (2021) and Garbo & Karina (2023) have shown a significant correlation between self-awareness and food wastage behavior, where high awareness reduces the behavior.

Determinant Factor of the Intention to Reduce Food Waste

3. METHODS

This research uses quantitative methods with both hypothesis testing and multivariate analysis. Data was obtained through the use of an online questionnaire which was prepared by the researcher and completed by the respondents. The questionnaire consisted of 13 statements, where respondents were asked to provide open-ended responses and measure the level of agreement using a six-point Likert scale. The scale is where 1 indicates disagreement or a very low frequency, while 6 indicates a very high level of agreement or frequency. In data analysis, researchers used SmartPLS version 4.0 software as the main tool. The sampling method used was convenience sampling with a minimum number of 100 respondents. However, after the questionnaire was distributed, the data collected was 150 respondents. Thus, it is hoped that this research can provide a better understanding of the factors that influence individual behavior related to food waste reduction.

4. RESULT

According to the data that has been gathered, most of the sample respondents are female, reaching 55.3% with the highest age range of 17-25 years, which is 80%. Most respondents reside in Jabodetabek city with a percentage of 83.3%. Meanwhile, the highest level of education is high school with a percentage of 45.3%. The occupation of students is the majority with a percentage of 68.7%. On average spending on food, 36% of respondents spend in the range of Rp1,000,000-Rp2,000,000 per month.

Referring to table 3, there are three main construct variables that were tested, specifically Individual Attitude, Individual Awareness, and Intention. These variables are measured based on several indicators. After the analysis was conducted, it was found that the factor loading value of all indicators exceeded 0.75 so that it could be concluded that each indicator was valid in measuring its variable. Furthermore, the Average Variance Extracted (AVE) value of the three variables is greater than 0.6, indicating that the variance explained by the construct is more dominant. The composite reliability and Cronbach's alpha values also exceed the 0.7 standard, indicating that the three variables are reliable.

Table 3 Results of reliability and validity

Constructs Variable	Item	Factor Loadings	AVE	Composite Reliability	Cronbach's Alpha
Individual Attitude	X1.1	0.759	0.636	0.820	0.808
	X1.2	0.841			
	X1.3	0.740			
	X1.4	0.844			
Individual Awareness	X2.1	0.864	0.669	0.840	0.835
	X2.2	0.813			
	X2.3	0.808			
	X2.4	0.783			
Intention	Y.1	0.797	0.672	0.878	0.878
	Y.2	0.837			
	Y.3	0.828			
	Y.4	0.790			
	Y.5	0.844			

Source: Processed Data (2024)

Through this analysis, it can be concluded that Individual Attitudes and Individual Awareness are able to explain variations in Intention by 55.5%. This is reflected in the R-square determination value of 0.555. The research model also has a good fit with an NFI value of 0.795. Based on the measure from Hair et al. (2019), the R-square and NFI values obtained are in the moderate to strong category.

Table 4 Results of the Effect Test Analysis

Hypothesis		Original Sample	T Statistic	P Values	Results
Individual Attitude > Intention to reduce food waste	**H1**	0.125	1.223	0.222	H1 is not supported

Determinant Factor of the Intention to Reduce Food Waste

Individual Awareness > Intention to reduce food waste	**H2**	0.646	6.329	0.000	H2 is supported

Source: Processed Data (2024)

The effect test analysis was then conducted, with the results listed in table 4. It can be explained that the first independent variable, which is Individual Attitude (X1), has an influence coefficient of 0.125 with a significance level of 1.223 and P Values of 0.222. P Values greater than 0.05 indicate that variable X1 does not significantly affect the dependent variable Y, that is the intention to reduce food waste. However, the results of the X1 influence test are in line with the results of Isnanda & Nurmala (2022) research which states that Individual Attitudes have no significant effect on Intention. Similar research conducted by Wiwoho & Riptiono (2022) and Khaulia (2021) also concluded that Individual Attitudes do not always have a direct influence on Intention. Thus, the first hypothesis (H1) which states that there is an influence between Individual Attitude and Intention is not supported.

Meanwhile, the second independent variable, Individual Awareness (X2), has a coefficient of 0.646 with a significance level of 6.329 and a P Values value below 0.05. This means that X2 has a significant effect on the dependent variable Y. On the basis of the results of this analysis, the second hypothesis (H2) which states that there is an influence between Individual Awareness and Intention is accepted. This is consistent with previous research conducted by Garbo & Karina (2023), Lang et al. (2020), and Salleh et al. (2020) which show that food wastage behavior is closely related to Individual Awareness. Therefore, it can be concluded that from this study, only the Individual Awareness variable has an effect on the Intention to Reduce Food Waste, while Individual Attitude is not proven to have an influence.

5. DISCUSSION

This research uses quantitative methods to analyze the influence of Individual Attitudes and Individual Awareness on Intention to reduce food waste. The data was obtained from 150 respondents through an online questionnaire. The characteristics of respondents are generally female aged 17-25 years old, domiciled in Jabodetabek, are students with high school and undergraduate education backgrounds. From the analysis, it was found that all three variables were in the neutral range which tends to be positive. Furthermore, the results of hypothesis testing state that Individual Awareness has a positive and significant effect on Intention, while Individual Attitude has a positive but insignificant effect, this is in line with previous research conducted by Isnanda & Nurmala (2022), Wiwoho & Riptiono (2022), and Khaulia (2021) which show that Individual Attitude does not have a significant effect or does not always have a direct influence on Intention. The results of this study indicate that Individual Awareness is more dominant in influencing Intention than Individual Attitude, which then the results are also in line with previous research conducted by Garbo & Karina (2023), Lang et al. (2020), and Salleh et al. (2020) which showed that food wastage behavior is closely related to Individual Awareness, meaning that Individual Awareness has a significant influence on Intention to Reduce Food Waste. Therefore, it is concluded that only Individual Awareness has an effect on the Intention to reduce food waste.

6. CONCLUSIONS AND SUGGESTIONS

Conclusions

According to the results of the analysis and discussion in the research on Determinant Factor of The Intention to Reduce Food Waste, it can be concluded that the average scores of individual attitude variables, individual awareness, and respondents' intentions regarding food waste reduction show that the scores are all above five, which indicates that in most instances, respondents tend to agree with the statements.

The results of this research indicate a dominant influence of individual awareness on the intention to reduce food waste. This situation is caused by awareness that can increase individual understanding and knowledge, thus encouraging the intention to act in accordance with this understanding. Iqbal et al. (2019) in their study explained that there is an indirect effect on intention mediated by awareness. Furthermore, their findings also indicate that awareness of the consequences of food waste plays an important role in an individual's intention to avoid or reduce food waste. Lack of awareness can demotivate individuals to reduce or avoid food waste.

Moreover, it was also found that individual attitudes do not significantly influence the intention to reduce food waste. However, this is mainly because individual attitude is not the only factor that influences action. According to Notoatmodjo (2023), attitudes have levels based on intensity from the lowest to the highest, where the deeper the level of one's attitude towards a behavior, the more likely it is to bring about the expected behavior. In fact, although the influence of attitudes can be measured, it is not uncommon for the results of attitude measurements to be inconsistent with the results of behavioral measurements. This is in

line with the research conducted, where although the results of measuring respondents' attitudes in the intention to reduce food waste showed positive results, these attitudes did not have a significant effect on the intention to reduce food waste.

SUGGESTIONS

Given the results of the research on the Influence of Individual Attitudes and Individual Awareness on Intentions to reduce food waste, it is recommended to improve communication and awareness among social groups, provide practical workshops on managing food nearing its expiry date, and develop shopping guides. Educational institutions and the government in particular can take a part in conducting educational activities and seminars to raise public awareness of the importance of reducing food wastage, with the aim of creating a new culture that values efficiency and sustainability in managing food. For future research, it is recommended to increase the sample size to more than 150 respondents for more accurate representation, focus on specific regions, add socio-economic, psychosocial, and lifestyle variables, and use mixed quantitative-qualitative research methods.

REFERENCES

1) Abadi, B., Mahdavian, S., & Fattahi, F. (2021). The waste management of fruit and vegetable in wholesale markets: Intention and behavior analysis using path analysis. *Journal of Cleaner Production*, *279*, 123802. https://doi.org/10.1016/j.jclepro.2020.123802

2) Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

3) Anderson, L. W., & Krathwohl, D. R. (2001). *Taxonomy For Learning, Teaching, And Assessing: A Revision Of Bloom's Taxonomy Of Education Objectives* (Complete Ed.). Longman.

4) Angel, T. P. (2022). *Analisis Multi Generasi pada Perilaku Pengurangan Food Waste saat Pandemi Covid-19 dengan Structural Equation Modeling*. Universitas Indonesia.

5) Aronson, E., Wilson, T. D., Akert, R. M., Sommers, S. R., Page-Gould, E., & Jr, N. L. (2022). *Social Psychology* (11th Ed.). Pearson.

6) Badan Pusat Statistik. (2023). *Persentase Rata-Rata Pengeluaran per Kapita Sebulan Untuk Makanan dan Bukan Makanan di Daerah Perkotaan Menurut Provinsi, 2007-2023*. Badan Pusat Statistik. https://www.bps.go.id/id/statistics-table/1/OTQwIzE=/persentase-ratarata-pengeluaran-per-kapita-sebulan-untuk-makanan-dan-bukan-makanan-di-daerah-perkotaan-menurut-provinsi--2007-2023.html

7) Bloom, B. S. (1956). *Taxonomy of educational objectives, handbook I: The cognitive domain.* . David McKay Co Inc.

8) Chaerul, M., & Zatadini, S. U. (2020). Perilaku Membuang Sampah Makanan dan Pengelolaan Sampah Makanan di Berbagai Negara: Review. *Jurnal Ilmu Lingkungan*, *18*(3), 455–466. https://doi.org/10.14710/jil.18.3.455-466

9) Coşkun, A., & Yetkin Özbük, R. M. (2020). What influences consumer food waste behavior in restaurants? An application of the extended theory of planned behavior. *Waste Management*, *117*, 170–178. https://doi.org/10.1016/j.wasman.2020.08.011

10) Deliberador, L. R., Santos, A. B., Carrijo, P. R. S., Batalha, M. O., César, A. da S., & Ferreira, L. M. D. F. (2023). How risk perception regarding the COVID-19 pandemic affected household food waste: Evidence from Brazil. *Socio-Economic Planning Sciences*, *87*, 101511. https://doi.org/10.1016/j.seps.2023.101511

11) Festinger, L. (1962). *A Theory of Cognitive Dissonance*. Stanford University Press.

12) Fisher, M. F. K. (2004). *The Art of Eating: 50th Anniversary Edition* (J. Reardon, Ed.; 50th ed.). Harvest.

13) Food and Agriculture Organization. (2019). *The State of Food and Agriculture 2019*. FAO. https://doi.org/10.4060/CA6030EN

14) Food and Agriculture Organizations of the United Nations. (2019). *The State of Food Security and Nutrition in The World*.

15) Garbo, A., & Karina, R. (2023). Determinan Perilaku Food Waste Pada Mahasiswa Muslim di Yogyakarta Selama Pandemi Covid-19 Dalam Perspektif Maqashid Syariah, Moral dan Etika Islam. In *ABHATS: Jurnal Islam Ulil Albab* (Vol. 13, Issue 1).

16) Habib, M. D., Kaur, P., Sharma, V., & Talwar, S. (2023). Analyzing the food waste reduction intentions of UK households. A Value-Attitude-Behavior (VAB) theory perspective. *Journal of Retailing and Consumer Services*, *75*. https://doi.org/10.1016/j.jretconser.2023.103486

17) Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *MULTIVARIATE DATA ANALYSIS EIGHTH EDITION*. www.cengage.com/highered

Determinant Factor of the Intention to Reduce Food Waste

18) Huang, C.-H., & Tseng, H.-Y. (2020). An Exploratory Study of Consumer Food Waste Attitudes, Social Norms, Behavioral Intentions, and Restaurant Plate Waste Behaviors in Taiwan. *Sustainability*, *12*(22), 9784. https://doi.org/10.3390/su12229784

19) Huang, X., & Ge, J. (2019). Electric vehicle development in Beijing: An analysis of consumer purchase intention. *Journal of Cleaner Production*, *216*, 361–372. https://doi.org/10.1016/j.jclepro.2019.01.231

20) Indrianti, Y. (2023, February 9). *Self Awareness*. Learning Based Recognition. https://beedik-edutech.apps.binus.ac.id/article/7aaf151b-1c61-4833-9aa6-ff007a4c8a52

21) Iqbal, M., Nadya, P. S., Saripudin, S., & Hadiyati, P. (2019). Increasing Community Awareness and Intention in Encouraging The Growth of Cash Waqf. *Economica: Jurnal Ekonomi Islam*, *10*(1), 29–56. https://doi.org/10.21580/economica.2019.10.1.3152

22) Isnanda, S. adhi, & Nurmala, I. (2022). INFLUENCE OF ATTITUDE, SUBJECTIVE NORM, PERCEIVED BEHAVIOUR CONTROL TO PERFORM INTENTION IN PREVENTION ACTION OF DIABETES. *The Indonesian Journal of Public Health*, *17*(1), 119–131. https://doi.org/10.20473/ijph.v17i1.2022.119-131

23) Khaulia, S. (2021). The Effect of Attitude, Subjective Norm, and Perceived Behavioral Control on Purchase Intention of Halal Cosmetic Products with Country Of Origin and Brand Equity as Moderating (Survey on Muslim Women in Semarang District). *Social Science Studies*, *1*(3), 145–161. https://doi.org/10.47153/sss13.2352021

24) Kompas. (2022, May 19). *Sampah Makanan Indonesia Mencapai Rp 330 Triliun*. Kompas Jurnalisme Data.

25) Lang, L., Wang, Y., Chen, X., Zhang, Z., Yang, N., Xue, B., & Han, W. (2020). Awareness of food waste recycling in restaurants: evidence from China. *Resources, Conservation and Recycling*, *161*. https://doi.org/10.1016/j.resconrec.2020.104949

26) Lutviyani, A., Firdausi, F. F., & Hanim, H. (2022). *TINJAUAN LIMBAH MAKANAN TERHADAP LINGKUNGAN DALAM PERSPEKTIF ISLAM DAN SAINS* (Vol. 4).

27) Magdalena, I., Fajriyati Islami, N., Rasid, E. A., & Diasty, N. T. (2020). TIGA RANAH TAKSONOMI BLOOM DALAM PENDIDIKAN. In *EDISI : Jurnal Edukasi dan Sains* (Vol. 2, Issue 1). https://ejournal.stitpn.ac.id/index.php/edisi

28) Mganga, P., Syafrudin, S., & Amirudin, A. (2021). A Survey of Students' Awareness on Food Waste Problems and Their Behaviour Towards Food Wastage: a Case Study of Diponegoro University (UNDIP), Indonesia. *E3S Web of Conferences*, *317*, 01071. https://doi.org/10.1051/e3sconf/202131701071

29) National Geographic Society. (2023, October 19). *Food Waste*. National Geographic Education. https://education.nationalgeographic.org/resource/food-waste/

30) Notoatmodjo, S. (2023). *Metodologi Penelitian Kesehatan* (Revisi). Eureka Media Aksara.

31) Purwanto, E., Biasini, N., Yulianto, A., Gunawan, T., & Wati, V. O. (2023). Attitude, intention, and behavior to reduce food waste among generation X. *IOP Conference Series: Earth and Environmental Science*, *1168*(1). https://doi.org/10.1088/1755-1315/1168/1/012056

32) Ramadhan, A. (2021, October 12). *Penelitian ungkap penyebab "Food waste" di Indonesia tinggi*. Antara News. https://www.antaranews.com/berita/2453397/penelitian-ungkap-penyebab-food-waste-di-indonesia-tinggi

33) Rizky, V. A., & Gunawan, A. I. (2022, July 13). Prosiding The 13th Industrial Research Workshop and National Seminar Bandung. *Prosiding The 13th Industrial Research Workshop and National Seminar Bandung*.

34) Salleh, S. M., Azman, N. A. N. N., & Selahudin, N. F. (2020). Factors Contributing to Food Waste Awareness among Malaysian Youth. *Global Business and Management Research: An International Journal*, *12*(4).

35) Saputro, W. A., & Santoso, A. P. A. (2021). Factors Affecting Food Waste Behavior (Case Study Of Surakarta City Community). *AGRITEPA: Jurnal Ilmu Dan Teknologi Pertanian*, *8*(2), 165–174. https://doi.org/10.37676/agritepa.v8i2.1658

36) Sistem Informasi Pengelolaan Sampah Nasional. (2023). *CAPAIAN KINERJA PENGELOLAAN SAMPAH*. Sistem Informasi Pengelolaan Sampah Nasional (SIPSN) – Kementerian Lingkungan Hidup Dan Kehutanan. https://sipsn.menlhk.go.id/sipsn/

37) Sitanggang, D. (2023, November 17). *Food Waste: Masalah dalam Wujud Sisa Makanan*. Wacana (Badan Otonom Pers Mahasiswa). https://wacana.org/food-waste-masalah-dalam-wujud-sisa-makanan/

38) The Economist. (2021). *FIXING FOOD TOWARDS A MORE SUSTAINABLE FOOD SYSTEM*. www.foodsustainability.eiu.com

39) The Food and Land Use Coalition. (2023). *Menurunkan Susut dan Limbah Pangan*. The Food and Land Use Coalition.

40) United Nations Environment Programme. (2021). *FOOD WASTE INDEX REPORT 2021*.

Determinant Factor of the Intention to Reduce Food Waste

41) Van der Werf, P., Seabrook, J. A., & Gilliland, J. A. (2019). Food for naught: Using the theory of planned behaviour to better understand household food wasting behaviour. *Canadian Geographies / Géographies Canadiennes*, *63*(3), 478–493. https://doi.org/10.1111/cag.12519

42) Wiwoho, G., & Riptiono, S. (2022). Effects of Subjective Norm, Attitude and Consumer Desire Toward Intention to Purchase Indonesian Herbal. *Jurnal Manajemen Dan Agribisnis*. https://doi.org/10.17358/jma.19.2.265

43) Zhang, J., Ye, H., Bhatt, S., Jeong, H., Deutsch, J., Ayaz, H., & Suri, R. (2021). Addressing food waste: How to position upcycled foods to different generations. *Journal of Consumer Behaviour*, *20*(2), 242–250. https://doi.org/10.1002/cb.1844