ASSESSING THE CAUSE OF FOOD WASTE BEHAVIOR OF CONSUMERS AT FOOD COURTS IN BANYUMAS, INDONESIA: INTENTION TO REDUCE FOOD WASTE AS A MEDIATOR

Zulham Rahman, Fauzan Romadlon*

Industrial Engineering, Telkom University, Purwokerto Campus, Indonesia

Abstract

Food waste is a global hindrance to sustainable food systems. In Indonesia, a lot of food suitable for consumption is wasted annually. In 2023, Banyumas Regency was dominated by the most significant portion of food waste, with a daily volume of 541.80 tons. Food waste comes from hotels, restaurants, and trade sectors, such as food court areas. Therefore, this study aims to analyze factors influencing consumers' food waste behavior at food courts in Banyumas Regency. The method used was quantitative, with 410 respondents, and this research employed structural equation modeling-partial least squares (SEM-PLS). The factors influencing food waste generation include food choice, food literacy, social influence and normative behavior, food ordering routine, intention to reduce food waste, and food waste behavior. The results show that food choice and food literacy have a significant relationship with intention to reduce food waste (IR), and IR has a significant relationship with food waste behavior (FWB). The result also shows that IR mediates the relationship between Food choice (FC) and FWB, and IR mediates the relationship between food literacy (FL) and FWB. Food choice and literacy play a significant role in shaping the intention to reduce food waste. This contributes to the literature on avoiding food waste behavior by emphasizing the importance of cognitive (food knowledge) and affective (food preferences) influences on changing more sustainable consumption behavior. The food court manager can develop visual campaigns in the area, train consumers, and provide flexible food portions that suit customer needs to minimize food waste.

Keywords: *Consumer Behavior, Food Choice, Food Court, Food Literacy, Food Waste*

Introduction

The food waste issue spans a global problem and hinders sustainable food systems. Sustainable Development Goals (SDGs) emphasize food loss reduction and food waste by 2030 (Lestari & Halimatussadiah, 2022). In Indonesia, the large amount of food suitable for consumption ends up as waste annually (Aloysius et al., 2025). Indonesia produces 300 kg of food waste per capita yearly (Farahdiba et al., 2023). Over-purchasing and improper waste management lead to food waste and disposal, negatively impacting the environment and the economy (Yong et al., 2024).

Ministry of Environment and Forestry (KLHK), food waste reaches 40% of the total waste produced by people in 199 districts/cities (Aprilia, 2022). This results in various detrimental outcomes, like environmental degradation, waste of natural resources, and economic losses (Dafa et al., 2024). One of Indonesia's high food waste regencies is the Banyumas Regency.

*)Corresponding Author:
E-mail: fauzanro@telkomuniversity.ac.id

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In 2023, Banyumas Regency was dominated by the most significant portion of food waste, with a percentage of 36% (Ibtiyah et al., 2023). According to the National Waste Management Information System (SIPSN), the amount of waste arising in 2023 was 197,758.42 tons, with a daily volume of 541.80 tons (SIPSN, 2023). This amount increased by 0.92% from 2022. Therefore, the government and community of Banyumas Regency must synergize and participate in preventing food waste. Food waste comes from the household, hotel, restaurant, and trade sectors, such as food court areas.

A food court is a place that sells various types of food, consisting of many food vendors or food court stalls. Food courts are currently one of the places that are crowded with people to buy food, drinks, or snacks, as well as in Banyumas Regency (Divito et al., 2022). In addition to natural attractions, culinary tourism is a part that is often visited and is in great demand by the public (Arifianto & Nofrizaldi, 2020). This is supported by the average expenditure per capita in Banyumas Regency in 2022, per month of IDR 1,029,591, while in 2023, there was an increase in the amount of consumption of IDR 1,263,702, with food expenditure being greater than non-food expenditure (Handayani, 2023). Many food trading activities in the food court area create the potential for food waste. Suboptimal food consumption often occurs in public places such as food stalls, restaurants, canteens, and food courts. This habit causes food waste because of oversized portions, prompting consumers to leave some behind, and the second is the inability of consumers to get used to bringing home the food they did not consume (Ningsih et al., 2023).

Therefore, this study aims to analyze the factors influencing consumers' food waste behavior at food court areas in Banyumas Regency. Many food court consumers in Banyumas Regency are unaware of how much food waste they generate when they eat in the food court area. In addition, business owners in the food court are unaware of the potential scale of wasted food. Thus, the study can provide strategies for food waste reduction at food court stalls, and it is expected to minimize food waste generation that affects social, economic, and environmental conditions in Banyumas Regency.

Research Methodology

Literature review and hypothesis development

Food choice (FC) is choosing the type of food consumers will purchase or consume, which is influenced by various factors (Teng et al., 2022). Food choices in each person can change. One of the things that influences food choices is social media trends. Social media trends influence the types of food among teenagers, and the price factor also influences food choices among teenagers (Pua & Renyoet, 2022). This concrete influence is proven through how and when food will be consumed, and focuses on food waste reduction (Simpson et al., 2024). Therefore, the hypothesis is set below.

H1: FC has a relationship with the intention to reduce food waste (IR) at the food court.

Knowledge and understanding of food is an activity that involves understanding, analyzing, and acting on individual behavior towards food. Everyone's knowledge of food use and proper utilization can help minimize food waste. (Lisciani et al., 2024). Implementing the purpose of food waste reduction requires an understanding of the food that will be selected and consumed, which is necessary to minimize the generation of food waste (Qornaeni et al., 2024). Therefore, the hypothesis is set below.

H2: Food literacy (FL) has a relationship with the IR at the food court.

Norms are defined as a person's beliefs about doing something. Throwing away food is one of the beliefs influenced by the social environment. Therefore, this is the main predictor of food left over and becoming waste for each individual (Iriyadi et al., 2023). Consumers tend to assume that the behavior of leaving leftover food is

acceptable, appreciated, and considered normal by the surrounding social environment. In some cases, the surrounding social influence encourages individuals to order food in large quantities (Talwar et al., 2023). Therefore, the hypothesis is set below.

H3: Social influence and subjective norms (SN) have a relationship with IR at the food court.

The theory of planned behavior states that a person's activity is based on intentions and is controlled by desired feelings. The behavior carried out by a person in doing something starts from the intention and perception of control that has been thought about. This is because the behavior that arises is very closely related to intention and becomes the thing that most influences a person's behavior (Ajzen, 1991). When consumers receive food that unmeet their expectations, they are more likely to throw it away (Li et al., 2024). Therefore, the hypothesis is set below.

H4: Food ordering (FO) routine has a relationship with IR.

Consumer attitudes based on the intention to avoid food waste can mediate the habit of throwing away food waste. Individual intentions influenced by social pressure cannot be avoided in food-throwing behavior. Individual initiatives in throwing away food can affect whether or not to prevent throwing away leftover food (Coşkun & Özbük, 2020). However, intention does not always align with real behavior due to situational factors and habits, and intention to avoid food waste behavior, meaning that high intention will result in low food waste behavior (FWB) (Graham-Rowe et al., 2014). Therefore, the hypothesis is set below.

H5: IR waste has a relationship with food waste behavior (FWB).

Knowing the consequences and impacts that will occur indirectly makes each individual able to make decisions. Along with control over intentions, it can significantly impact or influence the performance that will be carried out (Janmaimool et al., 2024). Increasing knowledge alone is not enough; the success of the intervention depends significantly on how the program can form a firm intention to act, such as making a shopping list, storing food properly, and reorganizing leftovers into new dishes (Werf et al., 2019). Although consumers know the importance of food waste reduction, not all this awareness has become a real action. Consumers who follow the reflective path are more likely to have planning behaviors such as estimating portions, paying attention to labels, and considering consumption times, all of which contribute to forming an IR (Stancu et al., 2016). Therefore, the hypothesis is set below.

H6: IR mediates the relationship between FC and FWB.

IR can mediate the relationship between FO and FWB. The greater the intention to reduce food waste, the smaller the routine of ordering food (Jia et al., 2022). Intervention will change and regulate the behavior by providing information and normative encouragement. Information and normative encouragement can have an impact on the awareness that needs to be raised (Cozzio et al., 2024). When consumers do not have a clear plan or expectation when ordering food, their perceived behavioral control towards food waste becomes low, and the intention to avoid waste also decreases (Li et al., 2024). Unplanned habits heavily influence younger generations who frequently order food online, and intentions are only formed when consumers are reflectively aware of their consumption patterns (Jia et al., 2022). Therefore, the hypothesis is set below.

H7: IR mediates the relationship between FO and FWB.

The SN refers to the social pressure felt when throwing away food. The stronger the pressure, the greater the intention of a person in food waste reduction (Siaputra et al., 2022). The intention and influence of each individual's social environment in controlling their lifestyle habits will influence the good and bad behavior

that they will carry out, one of which is the habit of throwing away food waste (Rizkiawan et al., 2024). The existence of social pressure or norms in the surrounding environment, such as the habit of throwing away food being considered normal, does not automatically encourage someone to form a firm intention to avoid wasteful behavior (Setiawan & Puspitasari, 2023). Therefore, the hypothesis is set below.

H8: IR mediates the relationship between SN and FWB

The IR is influenced by three main factors: attitudes, norms, and behavioral control. In addition, knowledge, motivation, and habits also influence food waste behavior (Timoty & Yuliati, 2022). Without these factors, people are more likely to continue throwing away food even when they intend to reduce it (van der Werf et al., 2021). Consumers with good levels of FL tend to have higher control in choosing food, making meal plans, and managing leftovers, all of which strengthen the IR (Filimonau et al., 2019). Therefore, the hypothesis is set below, and the whole framework can be seen in Figure 1.

H9: IR mediates the relationship between FL and FWB

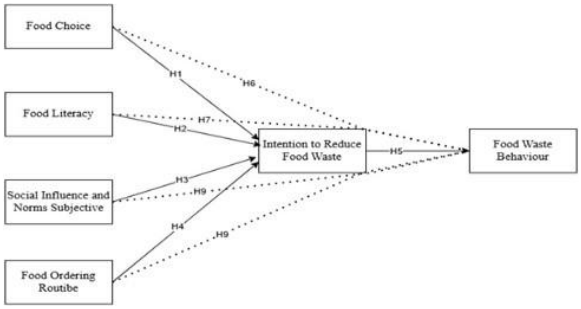


Figure 1. Research Framework

Data Collection

The quantitative method employed 410 respondents who bought food at a food court in Banyumas Regency. Data collection used a questionnaire with a Likert scale from one to five, from strongly disagree to strongly agree. The research questionnaire consisted of respondents' demographics (gender, occupation, education, and intensity) and variables of food waste behavior, including FC, FL, SN, FO, IR, and FWB. The attribute of each variable can be seen in Table 1.

Table 1. Research Variables and Indicators

Var.	Code	Indicator
FC (Salins & Aithal, 2023)	X1	Buy food that tastes good
	X2	Buy food that is often bought
	X3	Choose an attractive appearance
	X4	Choose a large portion
	X5	Choose an economical price
	X6	Choose healthy food
	X7	Choose good and safe packaging
FL (West et al., 2020)	Y1	Buy nutritious food
	Y2	Buy food with a long shelf life
	Y3	Think about food storage time
	Y4	Reduce buying fast food
	Y5	Buy food that is certain of its contents
SN (Aydin & Yildrin., 2021)	V1	The environment influences food leftovers
	V2	Typical behavior of wasting food
	V3	Media trends influence habits
	V4	Follow current trends
FO (Talwar et al., 2021);(Akta et al., 2018)	B1	Buy a lot because more menu choices
	B2	Do not make a menu plan
	B3	Buy much food
	B4	Menu variations affect
	B5	Buy more due to uncertainty
	B6	Buy much food
	B7	Buy food from many outlets
IR (Aktas et al., 2018); (Talwar et al., 2021).	Z1	Willing to finish the food
	Z2	Ability to finish food
	Z3	Try not to leave food
	Z4	Intend not to leave food
FWB (Talwar et al., 2021)	A1	Finish the food you buy
	A2	Leave food to eat again later
	A3	Eating previously stored food
	A4	Finish food as much as possible.
	A5	Throwing away food

Data analysis

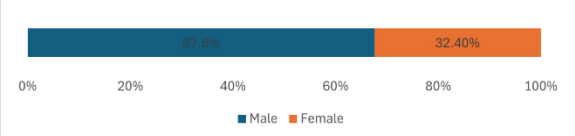
This research employed structural equation modeling-partial least squares (SEM-PLS) approach to find the relationship among variables. The approach consisted of two parts: model evaluation and structural model assessment. Model evaluation consisted of reliability and validity measurement using composite reliability, convergent validity

(AVE), and discriminant validity using Fornell-Lacker Criterion. The structural model assessment used R^2 and f^2 effect size. R^2 is used to assess the contribution of independent variables to the dependent variable, with categories greater than or equal to 0.75 considered strong, around 0.50 moderate, and less than 0.25 weak, which reflects the extent to which the model can explain data variance (Risdiyanto et al., 2024). The f^2 test assessed the magnitude of the independent variables' effect on the dependent variable. An f^2 value greater than 0.35 indicates a significant effect, less than or equal to 0.15 is moderate, less than or equal to 0.02 is small, and less than 0.02 is considered insignificant (Hair et al., 2020).

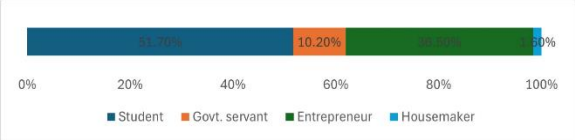
Results and Discussion

Respondent Demographics

Respondent demographics include identities such as gender, occupation, education, and frequency of visits to food courts in Banyumas Regency as shown in Figure 2. This data is considered in the analysis, with 410 respondents from various backgrounds; most respondents are female at 67.6%, while men are 32.4% (Figure 2(a)). Most respondents were students (51.7%), followed by entrepreneurs (36.5%), government servants (10.20%), and homemakers (1.6%) (Figure 2(b)). The respondents' education is primarily a bachelor's degree with 60.20%, followed by high school (38.6%) and diploma (1.2%) (Figure 2(c)). Regarding the intensity of visits to the food court, most respondents very often visit the food court (51.2%), followed by 21.2% who often visit, and 27.6% who rarely visit (Figure 2(d)).



(a)



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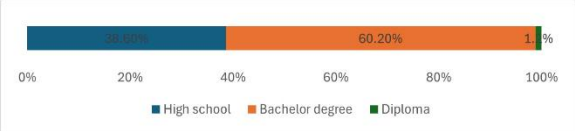

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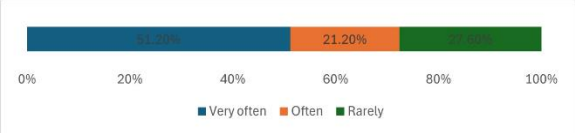

(d)

Figure 2. Respondents' demographic: Gender (a), Occupation (b), Education (c), and Intensity (d)

Model evaluation of SEM-PLS

The initial stage of the SEM-PLS test is convergent validity, which is determined by the outer loading value. An indicator is valid if the value is greater than 0.7, but according to Nusrang et al. (2023), a value greater than 0.5 is still acceptable. Therefore, this study uses a minimum limit of outer loadings greater than 0.5.

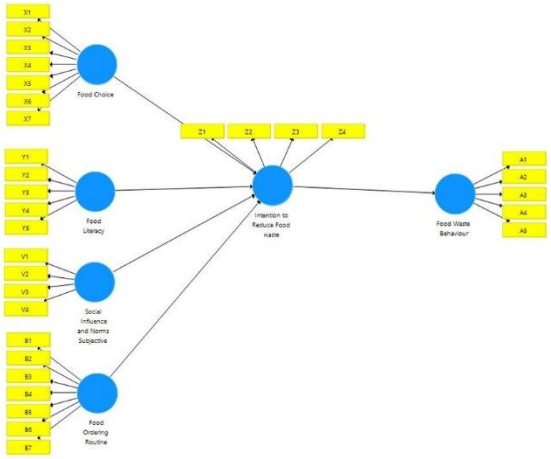

Figure 3. Initial construct model

The initial stage of the construct model test used six variables and 32 indicators, including FC, FL, FO, SN, mediated by IR, and directed to FWB. After the model was compiled, a running process was carried out to obtain results (Figure 3). The final results of the construct test were

obtained by eliminating several variables that unmet the reliability and validity values.

Table 2. Final outer loading.

Code	IR	SN	FL	FC	FO	FWB
A1						0.803
A4						0.838
B1					0.847	
B3					0.857	
B4					0.734	
B5					0.821	
B6					0.936	
V1		0.876				
V2		0.854				
V3		0.909				
V4		0.818				
X5				0.789		
X6				0.749		
Y1			0.716			
Y2			0.754			
Y3			0.743			
Y4			0.709			
Z1	0.631					
Z2	0.768					
Z3	0.733					
Z4	0.723					

The final test showed that 21 indicators were declared valid and reliable, with outer loading values greater than 0.5. Several indicators were eliminated to meet the standards of composite reliability and AVE. These indicators are X3 and X4 in food choice, B2 and B7 in food ordering routine, and A2 and A5 in food waste behavior. Then, the final model can be seen in Figure 4.

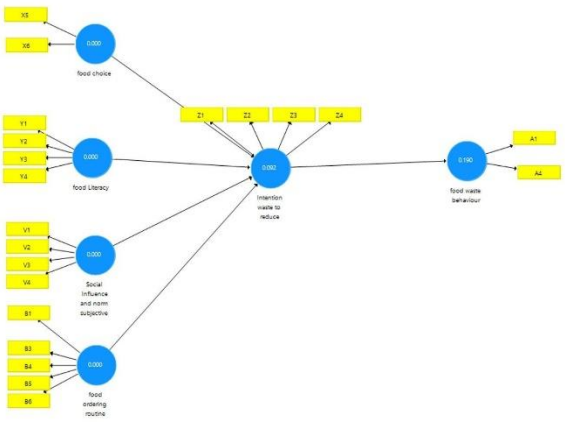

Figure 4. Final construct model

Table 3. Composite reliability and AVE Result

Variable	Composite Reliability	AVE
FC	0.807	0.512
FL	0.922	0.748
SN	0.821	0.534
FO	0.743	0.592
IR	0.923	0.708
FWB	0.804	0673

The analysis results show that all constructs in the model have good reliability and convergent validity, with the composite reliability value indicating that the indicators used can measure the constructs consistently and validly. The R^2 value shows that the model can describe 19.9% of the variance in IR and 28.9% in FWB. Although the model's clear power is moderate, these results are still relevant in understanding the factors influencing FWB in food courts.

Discriminant validity test used the Fornell-Larcker Criterion to ensure that a construct is more significantly connected to its indicators than others. Construct validity is achieved if the square root of the AVE is higher than the construct's correlations with others. The results show that all variables meet this criterion, with the following AVE root values: IR (0.716), SN (0.865), FL (0.731), FC (0.769), FO (0.842), and FWB (0.820) as shown in Table 4. Therefore, the discriminant validity is accepted.

Table 4. Fornell-Lacker Criterion Test Result

Var.	IR	SN	FL	FC	FO	FWB
IR	0.716					
SN	-0.070	0.865				
FL	0.290	0.386	0.731			
FC	0.344	0.048	0.250	0.769		
FO	-0.069	0.805	0.389	0.033	0.842	
FWB	0.537	-0.166	0.096	0.283	-0.113	0.820

Structural model assessment of SEM-PLS

The structural model assessment used R^2 and f^2, as shown in Table 5. The intention to reduce food waste (IR) has the strongest and most significant relationship with FWB, with a correlation value 0.406. This confirms that the higher a person's intention, the more likely they are to reduce food waste. In contrast, social

influence and subjective norms (SN), food literacy (FL), food choices (FC), and food ordering routines (FO) have very weak relationships to intention, with correlation values of only below 0.1 each. This finding suggests that although these factors may influence the structural model, the strength of their relationship to the formation of intention tends to be low. The R^2 test is used to assess the contribution of independent variables to the dependent variable, and the R^2 result shows moderate (0.289).

Table 5. R^2 and f^2 Result

Variable	IR	FWB	R^2	R^2 adj.
IR		0.406	0.199	0.190
SN	0.006			
FL	0.091			
FC	0.089			
FO	0.004			
FWB			0.289	0.287

Table 6 shows that there are four accepted hypotheses and four rejected hypotheses. The accepted hypotheses show that food choice has a significant relationship with IR. It means that someone who can choose the type and amount of food consumed will be more motivated to minimize food waste. The right food choice is an essential initial step in forming awareness and motivation not to leave food excessively. It shows that consumers with a high awareness of food choices, who consider aspects of sustainability and appropriate needs, tend to show a stronger IR. Stancu et al. (2016) mentioned that consumers who pay attention to their food choices consciously tend to take actions that lead to reducing food waste, indicating a close relationship between food choice and intention. Therefore, someone who is wiser in choosing food has a higher possibility of making efforts to reduce food waste (Hartini et al., 2023) and it can be considered by a restaurant to adjust their menu choices, menu served, and portions (Liu et al., 2022).

Table 6. Hypothesis Test Result

Hypothesis		P-value	Status
H1	FC → IR	0.000	Accepted
H2	FL → IR	0.000	Accepted
H3	SN-IR	0.200	Rejected
H4	FO → IR	0.317	Rejected
H5	IR → FWB	0.000	Accepted
H6	FC → IR → FWB	0.000	Accepted
H7	FO → IR → FWB	0.326	Rejected
H8	SN → IR → FWB	0.210	Rejected
H9	FL → IR → FWB	0.000	Accepted

Food literacy has a significant relationship with intention to reduce food waste. This means that with good food literacy, consumers have a high intention of minimizing food waste. A good understanding of nutritional value, proper food storage methods, and food waste management techniques allows a person to be more aware of the importance of waste reduction. Filimonau et al. (2019) mentioned that higher levels of food literacy encourage consumers to be more responsible for their consumption, fostering a firm intention to avoid waste. Park et al. (2020) also mentioned the importance of food literacy as one of the main drivers of sustainable and environmentally friendly behavioral change.

IR has a significant relationship with FWB. This means that high intention will result in lower food waste behavior. They believe that throwing away food waste will affect environmental, economic, and social conditions (Ilmi, 2019). Young consumers in developing countries show that the IR is related to FWB (Bhatti et al., 2023). Therefore, the habit of food waste reduction can be controlled by the intention and intensity of lowering food waste (Teoh et al., 2022).

IR mediates the relationship between FC and FWB. Consumers can consider their intention and food choices to reduce food waste behavior. The FWB's food choice is based on efforts to reduce food waste. It shows that the intention is the primary driver that bridges consumer awareness and behavior in the context of

reducing food waste (Teng et al., 2022). Therefore, intention plays a vital role in shaping actual behavior in reducing food waste (Setiawan & Puspitasari, 2023).

IR mediates the relationship between FL and FWB. It means that food literacy, or consumer knowledge of food when buying food, can control habits in food waste generation. It shows that intention becomes an intermediary that connects knowledge with real behavior in managing food waste (Sitompul et al., 2025). Integration between the variables of food literacy and the theory of planned behavior (TPB) reveals that through the IR, food literacy can positively and significantly control food waste when ordering and buying food (Oehman et al., 2024).

These findings emphasize the importance of an educational approach focusing on increasing consumer awareness by strengthening food choice and literacy. This approach aligned with Daniszewski (2016), who mentioned that education and promoting conscious consumption are practical tools for reducing food waste. Efforts in food waste reduction should be focused on forming strong intentions through increasing the ability to choose the right food and increasing knowledge and awareness about food management.

The findings provide an important implication that can be utilized in developing public policies. It is related to food waste reduction at the food court area. Food choice and food literacy play a significant role in shaping the IR. This contributes to the literature on avoiding food waste behavior by emphasizing the importance of cognitive (food knowledge) and affective (food preferences) influences on changing more sustainable consumption behavior (Stancu et al., 2016).

In practice, the results provide a strong basis for food court managers in designing intervention strategies based on consumer behavior. One important implication is the need for education that can be packaged as visual campaigns in the food court area, training for consumers, or providing information through digital media on the food menu. Food court managers can provide flexible food portions that suit customer needs to minimize the risk of leftover food by considering food garnish and topping for their menu by doing benchmark to the other sellers (Vizzoto et al., 2021).

Furthermore, the findings indicate that local governments, educational institutions, and community organizations strategically strengthen public awareness of food waste (Aschemann-Witzel et al., 2015). Local governments can initiate collaborative programs such as “Banyumas Free from Food Waste,” which involves business actors, academics, and the community in educating and forming an anti-food waste culture. The government can provide incentives to culinary business actors who apply the principle of zero food waste, as well as support for circular economy-based business models to accelerate sustainable food systems (Park et al., 2020).

Conclusions

This study examines the factors influencing food waste generation at a food court in Banyumas. The results show that food choice and food literacy have a significant relationship with IR, and IR has a significant relationship with FWB. The result also shows that IR mediates the relationship between FC and FWB, and IR mediates the relationship between FL and FWB.

Food choice and literacy play a significant role in shaping the intention to reduce food waste. This contributes to the literature on avoiding food waste behavior by emphasizing the importance of cognitive (food knowledge) and affective (food preferences) influences on changing more sustainable consumption behavior. The food court manager can develop visual campaigns in the food court area, provide

training for consumers, or provide information through digital media on the food menu. Food court managers can provide flexible food portions that suit customer needs to minimize the risk of leftover food.

However, this study has limitations regarding the quantitative approach and the respondents, who only focus on consumers without looking at the seller's side. Future studies can use a mixed methods approach, longitudinal research, or comparative studies across demographics to deepen understanding. Adding emotional responses to food waste and moral obligation can also holistically enrich consumer behavior analysis. Therefore, further study can include environmental concerns, personal norms, self-efficacy, and contextual variables including perceived control over behavior and food pricing. More specific behavioral dimensions, such as leftover reuse behavior and awareness of economic loss, must also be considered to expand the model's scope.

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References

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

Aktas, E., Sahin, H., Topaloglu, Z., Oledinma, A., Huda, A. K. S., Irani, Z., Sharif, A. M., van't Wout, T., & Kamrava, M. (2018). A consumer behavioural approach to food waste. *Journal of Enterprise Information Management*, *31*(5), 658–673. https://doi.org/10.1108/JEIM-03-2018-0051

Aloysius, N., Ananda, J., Mitsis, A., & Pearson, D. (2025). The Last Bite : Exploring behavioural and situational factors influencing leftover food waste in households. *Food Quality and Preference*, *123*(August 2024), 105327. https://doi.org/10.1016/j.foodqual.2024.105327

Aprilia, P. D. (2022). Tinjaun terhadap Food Waste berdasarkan Teori Bioregionalisme Richard Evanoff dan Segitiga Steiner-Evanoff-UKDW. *Integritas: Jurnal Teologi*, *4*(2), 137–149.

Arifianto, P. F., & Nofrizaldi, N. (2020). Komunikasi Visual Kuliner Banyumas sebagai Media Pendukung City Branding "Better Banyumas." *ANDHARUPA: Jurnal Desain Komunikasi Visual & Multimedia*, *6*(1), 63–72. https://doi.org/10.33633/andharupa.v6i1.2733

Aschemann-Witzel, J., de Hooge, I., Amani, P., Bech-Larsen, T., & Oostindjer, M. (2015). Consumer-related food waste: Causes and potential for action. *Sustainability (Switzerland)*, *7*(6), 6457–6477. https://doi.org/10.3390/su7066457

Aydin, A. E., & Yildirim, P. (2021). Understanding food waste behavior: The role of morals, habits and knowledge. *Journal of Cleaner Production*, *280*, 124250. https://doi.org/10.1016/j.jclepro.2020.124250

Bhatti, S. H., Saleem, F., Zakariya, R., & Ahmad, A. (2023). The determinants of food waste behavior in young consumers in a developing country. *British Food Journal*, *125*(6), 1953–1967. https://doi.org/10.1108/BFJ-06-2019-0450

Coşkun, A., & Özbük, R. M. Y. (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

Cozzio, C., Schäufele-Elbers, I., & Maurer, O. (2024). Empowering tomorrow: Nurturing young tourists to lower food waste. *Annals of Tourism Research Empirical Insights*, *5*(2). https://doi.org/10.1016/j.annale.2024.1001

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Dafa, A. M., Surakarta, S. A., & Widiati, S. (2024). Penerapan Metode Design Thinking pada UI / UX Website SaveBite untuk Penjualan Sisa Makanan dalam Mengurangi Food Waste. *Router: Jurnal Teknik Informatika Dan Terapan*, *2*(3).

Daniszewski, K. (2016). *Opinions and behaviours contributing to household level food waste in Langley* [Simon Fraser University]. https://summit.sfu.ca/item/16593

Divito, D. M., Budi, A. S., & Setiawan, E. (2022). Implementasi Finite State Machine pada Sistem Notifikasi Pesanan Food. *Jurnal Pengembangan Teknologi Informasi Dan Ilmu Komputer*, *6*(7), 3247–3253.

Farahdiba, A. U., Warmadewanthi, I. D. A. A., Fransiscus, Y., Rosyidah, E., Hermana, J., & Yuniarto, A. (2023). The present and proposed sustainable food waste treatment technology in Indonesia: A review. *Environmental Technology and Innovation*, *32*, 103256. https://doi.org/10.1016/j.eti.2023.103256

Filimonau, V., Fidan, H., Alexieva, I., Dragoev, S., & Marinova, D. D. (2019). Restaurant food waste and the determinants of its effective management in Bulgaria: An exploratory case study of restaurants in Plovdiv. *Tourism Management Perspectives*, *32*(September). https://doi.org/10.1016/j.tmp.2019.100577

Graham-Rowe, E., Jessop, D. C., & Sparks, P. (2014). Identifying motivations and barriers to minimising household food waste. *Resources, Conservation and Recycling*, *84*, 15–23. https://doi.org/10.1016/j.resconrec.2013.12.005

Hair, J. F., Howard, M. C., & Nitzl, C. (2020). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of Business Research*, *109*, 101–110. https://doi.org/https://doi.org/10.1016/j.jbusres.2019.11.069

Handayani, S. (2023). Kabupaten Banyumas Dalam Angka 2023. In Badan Pusat Statistika Kabupaten Banyumas (Ed.), *BPS Kabupaten Banyumas*. BPS Kabupaten Banyumas.

Hartini, D. A., Kusumawati, D. E., Bahja, B., Dewi, N. U., & Aiman, U. (2023). Analisis Faktor yang Mempengaruhi Pemilihan Makanan pada Remaja dengan Status Gizi Normal dan Tidak Normal di Kota Palu. *Ghidza: Jurnal Gizi Dan Kesehatan*, *7*(2), 174–183. https://doi.org/10.22487/ghidza.v7i2.959

Ibtiyah, A. K., Romadlon, F., & Nurisusilawati, I. (2023). Emphasizing Food Expenditure as a Food Waste Mitigation Initiative at Restaurants in Banyumas, Indonesia. *Habitat*, *34*(3), 299–310. https://doi.org/10.21776/ub.habitat.2023.034.3.27

Ilmi, R. A. (2019). Hubungan Terpaan Kampanye Food Waste dan Sikap terhadap Perilaku Mengurangi Pembuangan Makanan dengan Minat Mengurangi Pembuangan Makanan. *Jurnal Interaksi Online*, *7*(4), 202–214.

Iriyadi, Setiawan, B., & Puspitasari, R. (2023). Consumer intentions to reduce food waste in all-you-can-eat restaurants based on personal norm activation. *Heliyon*, *9*(2), e13399. https://doi.org/10.1016/j.heliyon.2023.e13399

Janmaimool, P., Chudech, S., Khajohnmanee, S., & Chontanawat, J. (2024). Communicating norms to increase food delivery customers' sustainable waste management behaviors. *Future Foods*, *9*(September 2023), 100288. https://doi.org/10.1016/j.fufo.2023.100288

Jia, L., Zhang, Y., & Qiao, G. (2022). Consumer-Related Antecedents of Waste Behavior in Online Food Ordering: A Study among Young Adults in China. *Foods*, *11*(19), 1–19. https://doi.org/10.3390/foods11193098

Lestari, S. C., & Halimatussadiah, A. (2022). Kebijakan Pengelolaan Sampah Nasional: Analisis Pendorong Food Waste di Tingkat Rumah Tangga. *Jurnal Good Governance*.

https://doi.org/10.32834/gg.v18i1.457

Li, C., Bremer, P., Jowett, T., Lee, M. S. W., Parker, K., Gaugler, E. C., Mirosa, M., Li, C., Bremer, P., Jowett, T., Lee, M. S. W., & Parker, K. (2024). What influences consumer food waste behaviour when ordering food online ? An application of the extended theory of planned behaviour. *Cogent Food & Agriculture*, *10*(1). https://doi.org/10.1080/23311932.2024.2330728

Lisciani, S., Camilli, E., & Marconi, S. (2024). Enhancing Food and Nutrition Literacy: A Key Strategy for Reducing Food Waste and Improving Diet Quality. *Sustainability (Switzerland)* , *16*(5). https://doi.org/10.3390/su16051726

Liu, H., Gómez-Miñambres, J., & Qi, D. (2022). Menu-dependent food choices and food waste. *Resources, Conservation and Recycling*, *176*. https://doi.org/10.1016/j.resconrec.2021.105919

Ningsih, K., Sustiyana, S., & Mahtumia, M. (2023). Estimasi Nilai Ekonomis Sisa Makanan Melalui Pendekatan Perilaku Konsumen. *JSEP (Journal of Social and Agricultural Economics)*, *16*(1), 81. https://doi.org/10.19184/jsep.v16i1.36412

Oehman, J. M., Babbitt, C. W., & Carli, F. (2024). What predicts and prevents source separation of household food waste? An application of the theory planned behavior. *Https://Www.Sciencedirect.Com/Science/Article/Pii/S0921344922003354*.

Park, J., Bonn, M. A., & Cho, M. (2020). Sustainable and religion food consumer segmentation: Focusing on korean temple food restaurants. *Sustainability (Switzerland)*, *12*(7). https://doi.org/10.3390/su12073035

Pua, A. E., & Renyoet, B. S. (2022). Studi Literature Review: Faktor-Faktor yang Mempengaruhi Food Choice Pada Remaja Pasca Pandemik COVID-19. *Jurnal Kesmas Jambi*, *6*(1), 1–8. https://doi.org/10.22437/jkmj.v6i1.16754

Qornaeni, L., Romadlan, F., & Dwi Winati, F. (2024). Examining Food Literacy and Anti-Food Waste Behaviour to Support Food Smart City Initiative : Household Routine as a Mediator. *2024 International Conference on ICT for Smart Society (ICISS)*, *September*, 1–6. https://doi.org/10.1109/ICISS62896.2024.10751107

Risdiyanto, C. F., Inan, D. I., Wurarah, R. N., & Fenetiruma, O. A. (2024). Analisis Faktor-faktor Pendukung dan Penghambat Beralih Mengadopsi Mobile Banking di Papua Barat Memanfaatkan PLS-SEM dan Perspektif Status Quo Bias. *MALCOM: Indonesian Journal of Machine Learning and Computer Science*, *4*(2), 637–646. https://doi.org/10.57152/malcom.v4i2.1289

Rizkiawan, I. K., Aisah, N., & Utomo, F. H. (2024). Norma subjektif dan sikap dalam mendorong minat beli generasi milenial terhadap organic food. *Journal of Management and Digital Business*, *4*(3), 529–543.

Salins, M., & Aithal, P. S. (2023). Consumers' Intention toward Mitigation of Plate Waste Behaviour in Restaurants – Development of Conceptual Model. *International Journal of Management, Technology, and Social Sciences*, *8*(2), 190–230. https://doi.org/10.47992/ijmts.2581.6012.0279

Setiawan, B., & Puspitasari, R. (2023). Heliyon Consumer intentions to reduce food waste in all-you-can-eat restaurants based on personal norm activation. *Heliyon*, *9*(2), e13399. https://doi.org/10.1016/j.heliyon.2023.e13399

Siaputra, H., Chealsea, N., & Angela, M. (2022). Pengaruh konsumsi makanan generasi Z terhadap niat untuk pengurangan limbah makanan restoran di Surabaya. *Jurnal Manajemen Perhotelan*, *8*(1), 14–25. https://doi.org/10.9744/jmhot.8.1.14

Simpson, B., Mesler, R. M. D., & White, K. (2024). Perceiving less but wasting more: The relationship between perceived resource scarcity and consumer food waste. *Appetite*, *202*. https://doi.org/10.1016/j.appet.2024.107642

SIPSN. (2023). *Sistem Informasi Pengelolaan Sampah Nasional*. SIPSN. https://sipsn.menlhk.go.id/sipsn/

Sitompul, C., Gunawan, T., Mesiranta, N., Närvänen, E., & Octavia, J. R. (2025). Impact of food waste-related course attendance on students' food waste reduction behaviours and knowledge: a case study from Indonesia. *International Journal of Sustainability in Higher Education*, *26*(9), 36–54. https://doi.org/10.1108/IJSHE-04-2024-0244

Stancu, V., Haugaard, P., & Lähteenmäki, L. (2016). Determinants of consumer food waste behaviour: Two routes to food waste. *Appetite*, *96*, 7–17. https://doi.org/10.1016/j.appet.2015.08.025

Talwar, S., Kaur, P., Ahmed, U., Bilgihan, A., & Dhir, A. (2023). The dark side of convenience: how to reduce food waste induced by food delivery apps. *British Food Journal*, *125*(1), 205–225. https://doi.org/10.1108/BFJ-02-2021-0204

Talwar, S., Kaur, P., Yadav, R., Sharma, R., & Dhir, A. (2023). Food waste and out-of-home-dining: antecedents and consequents of the decision to take away leftovers after dining at restaurants. *Journal of Sustainable Tourism*, *31*(1), 47–72. https://doi.org/10.1080/09669582.2021.1953512

Teng, C. C., Wang, Y. C., & Chuang, C. J. (2022). Food choice motives and dining-out leftover prevention behavior: Integrated perspectives of planned behavior and norm activation. *International Journal of Hospitality Management*, *107*(June), 103309. https://doi.org/10.1016/j.ijhm.2022.103309

Teoh, C. W., Koay, K. Y., & Chai, P. S. (2022). The role of social media in food waste prevention behaviour. *British Food Journal*, *124*(5), 1680–1696. https://doi.org/10.1108/BFJ-04-2021-0368

Timoty, N. S., & Yuliati, L. N. (2022). *Peningkatan Kesadaran Masyarakat Dalam Pengurangan Food Waste Untuk Membentuk Cinta Lingkungan* (Vol. 4, Issue 2). https://journal.ipb.ac.id/index.php/agro-maritim/article/view/53684

van der Werf, P., Seabrook, J. A., & Gilliland, J. A. (2019). "Reduce Food Waste, Save Money": Testing a Novel Intervention to Reduce Household Food Waste. *Environment and Behavior*. https://doi.org/10.1177/0013916519875180

Vizzoto, F., Testa, F., & Iraldo, F. (2021). Strategies to reduce food waste in the foodservices sector: A systematic review. *International Journal of Hospitality Management*, *95*(April), 102933. https://doi.org/10.1016/j.ijhm.2021.102933

Werf, P. Van Der, Seabrook, J. A., & Gilliland, J. A. (2019). *" Reduce Food Waste , Save Money ": Testing a Novel Intervention to Reduce Household Food Waste*. https://doi.org/10.1177/0013916519875180

West, E. G., Lindberg, R., Ball, K., & McNaughton, S. A. (2020). The role of a food literacy intervention in promoting food security and food literacy—ozharvest's nest program. *Nutrients*, *12*(8), 1–24. https://doi.org/10.3390/nu12082197

Yong, K., Lee, M., Ling, P., Ling, L., Shen, Y., Huei, G., Chiu, M., & Phang, X. (2024). Food waste separation intention among the residential students : Moderation role of university support. *Cleaner Waste Systems*, *9*(October), 100174. https://doi.org/10.1016/j.clwas.2024.100174