Journal of Tourism, Hospitality and Environment Management
JTHEM
EISSN: 0128-178X
Volume 11 Issue 45 (September 2026) PP. 389-400

JOURNAL OF TOURISM, HOSPITALITY AND ENVIRONMENT MANAGEMENT (JTHEM)
www.gaexcellence.com/jthem

FROM PLATE TO WASTE: AN EMPIRICAL STUDY OF DETERMINANTS ON HOUSEHOLD FOOD WASTE BEHAVIOR IN PASIR GUDANG, JOHOR

Nur Shafiqah Umairah Mohd Noh[1], Razman Rahman[2], Nik Mohamad Zulfadli Nik Mohd Fahmi[3], Muhammad Muzhaffar Mohd Aris[4]*, Harnizam Zahari[5]

[1]Faculty of Hotel and Tourism Management, Universiti Teknologi MARA Terengganu, Malaysia
2023444756@student.uitm.edu.my https://orcid.org/0009-0003-1784-7187
[2]Faculty of Hotel and Tourism Management, Universiti Teknologi MARA Terengganu, Malaysia
razman77@uitm.edu.my https://orcid.org/0000-0003-2995-5508
[3]Faculty of Hotel and Tourism Management, Universiti Teknologi MARA Terengganu, Malaysia
nikmohamad@uitm.edu.my https://orcid.org/0009-0004-3969-115X
[4]Faculty of Hotel and Tourism Management, Universiti Teknologi MARA Terengganu, Malaysia
muzhaffar@uitm.edu.my https://orcid.org/0009-0007-8577-0731
[5]Faculty of Hotel and Tourism Management, Universiti Teknologi MARA Terengganu, Malaysia
harnizamz@uitm.edu.my https://orcid.org/0009-0004-3405-7803
*Corresponding Author

Article Info:

Article history:
Received date: 27.07.2026
Revised date: 13.08.2026
Accepted date: 30.08.2026
Published date: 17.09.2026

To cite this document:

Noh, S. N. U. M., Rahman, R., Fahmi, N. M. Z. N. M, Mohd Aris, M. M., & Zahari, H. (2026). From Plate to Waste: An Empirical Study of Determinants on Household Food Waste Behavior In Pasir Gudang, Johor. *Journal of Tourism Hospitality*

Abstract:

Focusing on the urban-industrial township of Pasir Gudang, Johor, this quantitative study explores why local adults wate food at home. The research aligns directly with Malaysia's RMK13 national agenda and the targets of Sustainable Development Goal 12. Utilising the Theory of Planned Behaviour as a framework, data were collected from 89 respondents via a dual-mode snowball sampling approach and analysed using multiple linear regression. The findings reveal that residents' attitudes and community culture are significant predictors, collectively explaining 44.3% of the variance in food waste behaviour. Attitude emerged as the most dominant influence, indicating that internal moral evaluations of waste as ethically wrong are primary drivers for reduction, nevertheless, community culture highlights the role of social pressures and communal over-preparation in shaping waste habits. Despite limitations in sample size and generalizability, the research provides a methodologically sound foundation for localised interventions, suggesting that policymakers prioritise fostering anti-waste community norms and ethical commitment to mitigate Malaysia's annual household food waste of over 3 million tonnes.

Journal of Tourism, Hospitality and Environment Management
JTHEM
EISSN: 0128-178X
Volume 11 Issue 45 (September 2026) PP. 389-400

and Environment Management, 11 (45), 389-400.

DOI:10.35631/JTHEM.1145023 **Keyword:**

Community Culture, Food Waste, Food Waste Behaviour.

Introduction

Kumar et al. (2022) concurred that Global frameworks like the Sustainable Development Goals (SDGs) remain critical for challenging the systematic poverty, widening inequality, and environmental decline. Then, through its Rancangan Malaysia Ketiga Belas (RMK13), Malaysia directly implants SDGs into its national strategy, strengthening its dedication to the 2030 Agenda. Supported by Veselá et al. (2025), on SDG 12 specifically focuses on responsible consumption and production, treating food waste minimization as a core ecological objective.

Meanwhiles, Santos et al. (2022) suggested that eventually, food waste is a complex behavioural issue woven straight into household routines and daily choices. Neglecting this waste leads to unchecked greenhouse gas emissions, including ammonia, methane, and nitrous oxide which heavily strain regional waste systems and accelerate climate issues (Hwang et al., 2020). Today, the average Malaysian generates roughly 1.38 kg of waste daily, and residential food waste alone surpasses 3 million tonnes each year (Nazibudin et al., 2025; Ariffin et al., 2023). These situations make local, and domestic investigations are important in this matter. Eventually, to design effective interventions that align with RMK13 and SDG 12, researchers must map behavioural factors like personal attitudes and community cultural norms. Thus, this study focuses on household food waste dynamics among adults in Pasir Gudang, Johor, an urban zone where rapid industrial expansion and population spikes have intensified local sustainability pressures. Moreover, this study offers direct empirical study into these daily habits, actively supporting broader efforts to encourage responsible living, lower ecological footprints, and support sustainable consumption.

Journal of Tourism, Hospitality and Environment Management
JTHEM
EISSN: 0128-178X
Volume 11 Issue 45 (September 2026) PP. 389-400

Literature Review

Attitude Toward Food Wasting

Bosnjak et al. (2020) claimed in their study that attitude can be defined as individuals' overall evaluations of behaviour based on anticipated outcomes, significantly influencing food waste reduction in urban contexts. Plus, positive attitudes such as viewing food waste as ethically wrong, may promote commitment to mindful consumption. For now, based on their research, normalised wasteful behaviours reinforce unsustainable patterns (Novitasari et al., 2025; Boulet et al., 2023). But then, moral, religious, and community norms further strengthen anti-waste actions (Elhoushy & Jang, 2020; Lamarque et al., 2023). Establish by Elkhwesky et al., (2024) and Flanagan and Priyadarshini, (2021), environmental awareness alone is insufficient to drive change, strong anti-waste beliefs reduce waste generation and enhance ethical intentions. Moreover, educational and community interventions are thus essential to foster positive attitudes and behavioural change.

Community Culture in Food Wasting

Hagger and Hamilton (2025) highlighted, social norms a central component of the TPB, refer to perceived social pressures from family members, peers, and community groups to perform or refrain from certain behaviours. These norms strongly influence food practices in urban households. Not only, communal gatherings and social interactions often encourage over-preparation of food, which can result in increased waste (Ramli et al., 2022). But also, Apolonia and Lacaza (2022) agreed that efforts to maintain social harmony or adhere to cultural expectations may perpetuate wasteful practices. Alternatively, communities that promote sustainability can positively shape individual food behaviours (Labib et al., 2023). Strong neighbourhood networks and cohesive social environments are associated with shared norms that encourage resource conservation (Cheng et al., 2024). Socioeconomic factors also interact with community norms: higher educational attainment is often linked to greater motivation to reduce waste, whereas larger households may struggle with food planning but can distribute food consumption more efficiently (Lima et al., 2024; Agovino et al., 2021). Despite these findings, there remains limited research on how specific cultural and social structures influence urban food waste behaviours in Malaysia.

Food Waste Behaviour in Urban Households

Food waste behaviour normally incorporates decisions related to acquiring, storing, preparing, consuming, and disposing of food. As remarked by Simões et al., (2022) in their study, a mix of psychological triggers, immediate situations, and broader contextual factors constantly shapes these actions. According to Ananda et al. (2023), repetitive habit of everyday routines such as buying the same groceries out of habit, fixed cooking styles, or neglecting leftovers, are frequently run on automatic, which lead to increased food waste. Next, several barriers hinder the adoption of sustainable practices, including insufficient time for meal preparation, limited knowledge of proper food storage, and misconceptions regarding composting (Allison et al., 2022). Equally, as mentioned by Llagas et al. (2025), when people have better understanding on expiration labels, portion control, and storage techniques, the household waste can be avoidable. Next, Srijuntrapun et al., (2025) suggests that household characteristics also shape waste behaviour such as families with children frequently over-prepare meals, whereas households with financial constraints tend to maximise food utilisation. Taken

Journal of Tourism, Hospitality and Environment Management
JTHEM
EISSN: 0128-178X
Volume 11 Issue 45 (September 2026) PP. 389-400
together, these patterns show on how elaborate domestic food waste truly is. Thus, designing interventions that actually work in urban spaces requires merging psychological incentives with highly practical, everyday solutions.

Methodology

This quantitative study utilised a cross-sectional research design to map out the socio-behavioural determinants of household behind domestic food waste in Pasir Gudang, Johor, a fast-growing urban-industrial township in Malaysia. The target population comprised adult residents who serve as the primary decision-makers for household food purchasing, preparation, and disposal. Next, Given the absence of a complete sampling frame for this localised population, a non-probability snowball sampling technique was deployed to leverage participant networks and capture diverse socioeconomic profiles (Creswell & Creswell, 2022). For this study, the minimum sample size threshold was established at n = 82 based on Tabachnick and Fidell's (2019) predictive formula ($n > 50 + 8m$ for $m = 4$ independent variables), which was successfully exceeded with a final sample of n = 89. As a result, he final 89 respondents are enough to satisfy the Central Limit Theorem assumptions for statistical validity.

Data was gathered using a structured questionnaire adapted from the validated scale by Zhao and Begho (2024) that used a 5-point likert scale to assess the personal perception, community culture, food waste behavior, attitude and demographics. The validity of the instruments was confirmed with a strict face and content validation process by domain experts, which was designed to ensure the validity of the instrument in the localised context and covers the subdomains of the instrument. A pilot study (N = 22) was conducted before full administration and after omitting one poorly performing item from the food waste behaviour subscale, the instruments had acceptable internal consistency (Cronbach's $\alpha = 0.675$ to 0.876).

While the initial framework measured four independent variables that includes Attitude, Community Culture, Personal Perception and Food Waste Behaviour. Multiple regression screening of the factors prior to this analysis indicated that Personal Perception and Food Waste Behaviour were not statistically significant ($p > .05$) as predictors of the core outcome. Following the initial regression model, Personal Perception and Food Waste Behaviour were removed from the final regression model to maintain the final statistical model to be a relatively simple model of only the actual drivers. Only the two remaining variables (Attitude and Community Culture) significant enough to impact the results of this study.

Statistical analyses were systematically executed using SPSS, initiating with descriptive profiles followed by robust inferential testing to evaluate the hypothesised framework. Multiple linear regression was applied to determine the predictive power of the independent socio-environmental variables on household food waste behaviour. Regarding ethical considerations, the study strictly adhered to the institutional protocols of Universiti Teknologi MARA (UiTM) under the Research Ethics Committee approval reference number 100-UiTMCTKD (PJI.23/4) JPN. Respondents provided explicit written informed consent outlining the study's purpose, operational procedures, potential risks, and benefits prior to participation. Full respondent autonomy, strict anonymity, and data confidentiality were protected throughout the research lifecycle, with secure data repositories restricted exclusively to aggregate academic dissemination.

Journal of Tourism, Hospitality and Environment Management
JTHEM
EISSN: 0128-178X
Volume 11 Issue 45 (September 2026) PP. 389-400

Finding and Results

Descriptive and Normality Analysis

The descriptive and distributional breakdowns of this research variables are explained in tables 1 and 2 respectively. The descriptive evaluation shows that the respondents' score was highest on Attitude (M = 3.38, SD = 0.83) followed by Community Culture (M = 3.34, SD = 0.77). The mean score for the primary outcome construct, Food Waste Behaviour was 3.13 (SD = 0.70). Then, the shape of the distribution was evaluated by skewness and kurtosis in order to determine the statistical eligibility of the data for parametric testing. After that, a slight positive skew was found in all constructs with skewness ranging from 0.155 for the dependent variable to 0.664 for Attitude. The kurtosis values for all questions were negative (-0.391 for Attitude and -0.190 for Food Waste Behaviour), indicating that the distribution for each question has thinner tails than a normal distribution. Finally, the Normal Probability Plot (P-P Plot) and the Detrended Normal P-P Plot of the residuals showed that the data points were close to the diagonal normality reference line and errors were randomly distributed around the horizontal zero-line, with a few minor differences. This verifies that no systematic bias or significant non-linear distortions exist, so that the assumption of a normal distribution was met for multiple linear regression analysis.

Table 1: Descriptive Statistics of Variables

Variables	Mean	Average Mean	Std. Deviation
Attitude	3.3753	4.41	.82782
Community Culture	3.3438	3.86	.76574
Food Waste Behaviour	3.1264	3.89	.69508

Table 2: Summary Normality Analysis

Variables	Mean std. Error	Skewness		Std. Deviation	
		Z-Skewness	Std. Error	Z-kurtosis	Std. Error
Attitude	.08775	.664	.255	-.391	.506
Community Culture	.08117	.618	.255	-.030	.506
Food Waste Behaviour	0.7368	.155	.255	-.190	.506

Multiple Linear Regression

The research findings are structured around three primary statistical assessments: the overall model fit, the significance of the model through analysis of variance, and the specific contributions of each independent variable to household food waste behaviour.

Journal of Tourism, Hospitality and Environment Management
JTHEM
EISSN: 0128-178X
Volume 11 Issue 45 (September 2026) PP. 389-400

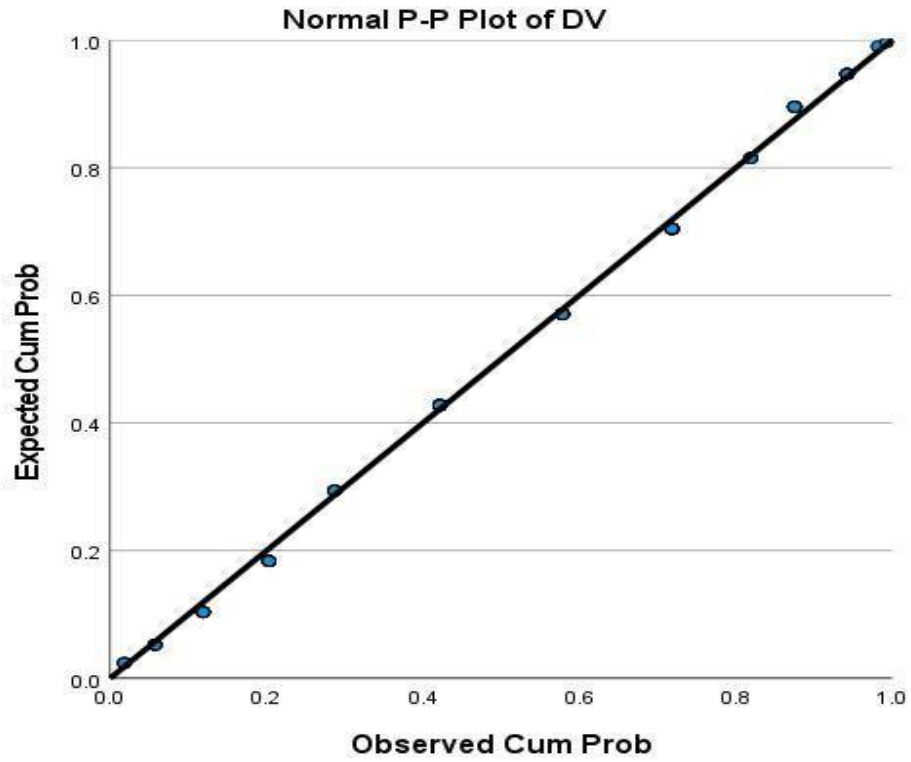
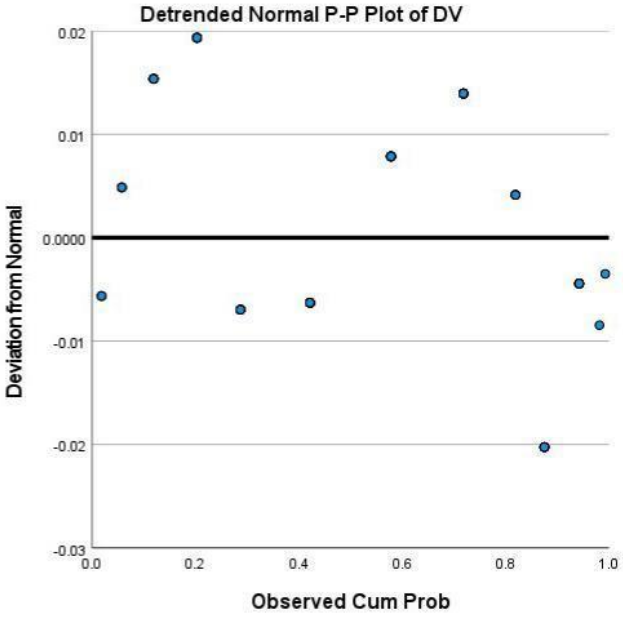


Figure 1: The Normal Probability Plot of Standardized Regression Residual Values

One of the key tools used to assess whether the distribution of the residuals of the study meets the requirement for normality needed for parametric statistical testing is the Normal Probability Plot (P-P Plot). However, in this figure the blue data points of the DV are seen to be close to the diagonal reference line, indicating a very good normal distribution. Cumulative probabilities of the observed data are very close to the expected normal values; therefore, the data is well-distributed. This visual evidence makes Multiple Linear Regression in this study a valid method for analysis because it is evident by the visualization.

A Detrended Normal P-P Plot was used to look at the individual deviations of the data points from the normal distribution line to bolster the model. This analysis differs from the standard P-P plot, however, because it is looking at the horizontal line and not the vertical line to determine if there are any patterns that could impact the accuracy of the model that would be present, such as outliers or non-linear trends. Next, the randomness of the scatter of dots on both sides of the zero-line is evidence that there is no systematic error and that errors are independent and identically distributed. This secondary validation is meant to strengthen the overall robustness of the analyses and findings of the research, thereby ensuring that the conclusions drawn on household food waste behaviour are not distorted.

Journal of Tourism, Hospitality and Environment Management
JTHEM
EISSN: 0128-178X
Volume 11 Issue 45 (September 2026) PP. 389-400



ns.

Figure 2: Scatterplot of All Variables

As shown in the Table 4 below, the initial examination of the predictive model indicates that there is a significant relationship between the independent variables (Attitude, Personal perception and Community culture) and the dependent variable (Food waste behaviour). The R value of .666 indicates that there is a strong positive relationship between the predictors and the outcome variable. In addition, the R Square value is .443, indicating that the variation in the households' food waste behaviour in Pasir Gudang is approximately 44.3% due to the residents' cultural environment, perception and attitude. These three factors are important determinants but represent only part of the variation in waste behaviour, other factors not measured also contribute to the variation.

Table 4: Coefficient Value of Model

Model	R	R Square	Adjusted R Square	Std. Error Of The Estimate
1	.666	**.443**	.423	.52783

The results of the ANOVA test also confirm the statistical significance of the regression model. The data showed that the F-statistic is 22.533 with p value less than .001 which indicates that the data is not due to random chance. Then, the regression sum of squares (18.834) is compared to the total sum of squares (42.515) to confirm that the regression model gives a meaningful fit to the observed data. This statistical strength guarantees that the psychological and social constructs found in the study are valid predictors of urban households' food waste management strategies.

Journal of Tourism, Hospitality and Environment Management
JTHEM
EISSN: 0128-178X
Volume 11 Issue 45 (September 2026) PP. 389-400

Table 5: ANOVA Test Result

Model		Sum Of Square	df	Mean Square	F	Sig.
1	Regression	18.834	**3**	6.278	22.533	< .001
	Residual	23.682	85	.279		
	Total	42.515	88			

An analysed of the Coefficients table provides a detailed view of which specific factors most heavily influence behaviour. Both IV1 and IV3 emerged as highly significant predictors, each yielding a significance value of $p < .001$. Attitude exhibited the strongest influence with a standardized Beta of .423, followed by Community Culture with a Beta of .332.

Table 6: Coefficient Of Dependent Variable

Model		Unstandardized	Coefficient	Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	Constant	.878	.363		2.421	.018
	Iv1	.355	.082	.423	4.313	<.001
	Iv2	.302	.087	.332	3.478	<.001

Discussion

This study results indicate that ethical mindsets and immediate social in have the predominant influence on food waste behaviour in the urban area. This was consistent with the fundamental tenets of the Theory of Planned Behaviour, that individual evaluations and social pressures play a significant role in determining behaviour1. The next step is to provide a solid diagnostic underpinning for the findings, using the Normal P-P Plot of dependent variables. In this case, the blue data points are very close to the diagonal line, indicating that the distribution of food waste behaviours is approximately normal. To validate this normality test, the justification was done by parametric linear regression, and the result was that our model explains 44.3% of urban residential food waste variance.

From the results, it can be seen that the beta value of Attitude is 0.423 with a significance value of <0.001 which means that inner moral values are the main defence against food waste in Pasir Gudang. The results are similar to Bosnjak et al. (2020), who theorized that people who see outcomes in an ethical way, such as believing that it is a moral sin to throw away food, are much more committed to conservation practices. Likewise, the strong Community Culture beta = .332, $p < .001$ corroborates the findings of Ramli et al. (2022) and Hagger and Hamilton (2025). These researchers highlighted the importance of domestic food management in urban Malaysia that is largely influenced by external pressure and neighbourhood norm, including the excessive amount of food preparation to conform to the social norm and maintain social harmony.

In addition, the Detrended Normal P-P Plot of the residuals shows no patterns, making the results more confident and not influenced by extreme outliers. The findings collectively demonstrate the need for more than teaching people individual cooking or shopping skills to

Journal of Tourism, Hospitality and Environment Management
JTHEM
EISSN: 0128-178X
Volume 11 Issue 45 (September 2026) PP. 389-400
be effective. This, however, is not a quick fix, and requires the development of strong neighbourhood expectations and ethical undertakings that will help prevent waste, as well as the targets of the RMK13 and SDG 12.

A biggest methodological limitation is the use of snowball sampling. This study is non-probability study which naturally cannot make generalizations to a broader level that will extend beyond Pasir Gudang. Moreover, our final number of eight participants (n = 89) is standard adequate for basic minimum of (n = 82) but is not as large as would be desired for making conclusions based on the regression models and may restrict overall statistical power. Finally, the regression model accounts for just 44.3% of the variance (R^2=0.443), in local food waste behaviour. The particular statistical ceiling indicates that other variables, not measured in this study, may play an important role, which needs to be explored in a future research area, for example, grocery shopping habits or economic pressure to use a significant influence.

Conclusion

This study contributes to confirming the applicability of the TPB model in urban Malaysia and demonstrates that personal moral decision and local social network play an active role in influencing pro-environmental behaviours, especially within the context of developing industrial areas. This study attempts to join the dots by looking at the data regarding the behaviour of food waste, particularly in the mindsets of working adults, with the neighbourhood dynamics, which was largely not explored in the previous studies. Finally, the results of this study enabled to generate reliable insights that are directly relevant to SDG 12 and Malaysia's RMK13 green indicator. Moreover, the outcome provides tangible evidence to support developing evidence-based urban waste strategies. The results revealed the practical ways for future study and research. Examples include promoting community food waste awareness through local neighbourhood campaigns, to curb the culture of over cooking during festive seasons and at community events, in Malaysia where 3 million tonnes of food waste is generated by the households annually.

These research's results can be utilized by the government to encourage good ethical conduct by delivering tailored educational campaigns. This method slowly reduces the Green House Gasses (GHG) emissions of uncontrolled landfills while optimising resources in areas with intensive factories, such as Pasir Gudang. Finally, the research's results help those concerned to match psychological and cultural approaches and implement the solution that will bring environmental, economic and social benefits, which are all in line with our national sustainability plan. In conclusion, it is demonstrated in this research that individual attitude and community culture are the main factors in reducing domestic waste, and these factors can be shown to be more specific than one size fits all.

Indeed, a most limitation in this study is researchers' methodology on snowball sampling, which narrows the ability to generalize the results to the wider population. Future academic study needs to test additional dynamics like exact socioeconomic variables to expand this empirical framework, then push closer to responsible consumption and production milestones of SDG 12. Turning these theoretical points into tangible change requires coordinated action of governance. Then, top-tier policymakers must introduce any regulatory rules, such as pay-as-you-throw pricing models, in order to mandate waste at any eateries around urban area. At the same time, local municipal teams need to upgrade city infrastructure by building community organic composting stations and rolling out mandatory waste-separation rules.

Journal of Tourism, Hospitality and Environment Management
JTHEM
EISSN: 0128-178X
Volume 11 Issue 45 (September 2026) PP. 389-400

Finally, assemblyman and domestic NGOs must step up to established cultural habits, and focused public drives to normalize smaller, realistic meal portions.

Acknowledgements: All the authors intend to express their deepest gratitude to Universiti Teknologi MARA (UiTM), Terengganu, for providing the needed resources and supports throughout this study. And special appreciation to colleagues and peers who contributed valuable ideas and constructive feedback, which greatly enhanced for the quality of this paper.

Funding Statement: "No Funding"

Conflict of Interest Statement: The authors declare that there is no conflict of interest regarding the publication of this paper. All authors have contributed to this work and approved the final version of the manuscript for submission to the International Journal of Tourism, Hospitality And Environment Management (JTHEM)

Ethics Statement: This study was conducted in accordance with ethical research standards. All procedures involving human participants were reviewed and approved by the Universiti Teknologi MARA's Review Ethics Committee (REC), approval number 100-UiTMCTKD (PJI.23/4) JPN. Informed consent was obtained from all participants before collection. Participation was voluntary, and respondents were assured of confidentiality and anonymity. The data collected were used solely for academic purposes.

Author Contribution Statement: All authors contributed significantly to the development of this manuscript. Nur Shafiqah Umairah Mohd Noh was responsible for the conceptualisation and methodology. Nik Mohamad Zulfadli Nik Mohd Fahmi handled data collection, analysis, and interpretation of results. Muhammad Muzhaffar Mohd Aris contributed to the drafting, critical revision and overall supervision of the study. Razman Rahman contributed to the literature review. Harnizam Zahari handled critical revision of the manuscript. All authors read and approved the final version of the manuscript prior to submission.

Journal of Tourism, Hospitality and Environment Management
JTHEM
EISSN: 0128-178X
Volume 11 Issue 45 (September 2026) PP. 389-400

References

Agovino, M., Annunziata, A., & Mariani, A. (2024). *The role of economies of scale and efficiency in food shopping and management routines in reducing household food waste: The Italian case*. Applied Economics, 56(1–15). https://doi.org/10.1080/00036846.2024.2315096.

Allison, A. L., Lorencatto, F., Michie, S., & Miodownik, M. (2022). *Barriers and enablers to food waste recycling: A mixed methods study amongst UK citizens*. International Journal of Environmental Research and Public Health, 19(5). https://doi.org/10.3390/ijerph19052729.

Ananda, J., Karunasena, G. G., Kansal, M., Mitsis, A., & Pearson, D. (2023). *Quantifying the effects of food management routines on household food waste*. Journal of Cleaner Production, https://doi.org/10.1016/j.jclepro.2023.136230.

Apolonio, R., & Lacaza, R. (2022). *The role of social norms and behavior on household food waste. Net Journal of Social Sciences*, 10(3), 48–56. https://doi.org/10.30918/NJSS.103.22.020.

Ariffin, Z. Z., Anuar, S. N., Mangadi, N. F., Yaakop, A. Y., Sakawi, Z., Jusoh, S., & Ibrahim, M. A. (2023). *Household food waste behaviour in Klang Valley, Malaysia, and its potential in the circular economy*. Sustainability, 15(12). https://doi.org/10.3390/su15129431.

Bosnjak, M., Ajzen, I., & Schmidt, P. (2020). *The theory of planned behaviour: Selected recent advances and applications*. Europe's Journal of Psychology, 16(3), 352–356. https://doi.org/10.5964/ejop.v16i3.3107.

Boulet, M., Stott, A., & Kneebone, S. (2023). *Which behaviours matter? Prioritising food waste reduction behaviours for targeted policy and program approaches*. Journal of Environmental Management, 345. https://doi.org/10.1016/j.jenvman.2023.118668.

Cheng, X., Zhang, J., & Zhang, L. (2024). *How to influence the food waste behaviour of urban residents? The combined effect of network embeddedness and incentive measures. Waste Management and Research*. The Journal for a Sustainable Circular Economy, 42(12), 1155–1167. https://doi.org/10.1177/0734242x231221082.

Creswell, J. W., & Creswell, J. D. (2022). *Research design: Qualitative, quantitative, and mixed methods approaches* (6th ed.). SAGE Publications.

Elhoushy, S., & Jang, S. (2020*). Religiosity and food waste reduction intentions: A conceptual model*. International Journal of Consumer Studies, 45(2), 287–302. https://doi.org/10.1111/ijcs.12624.

Elkhwesky, Z., Castañeda-García, J., Manzani, Y. E., Rehman, S. U., & Hassan, H. (2024). *Hotel employees' intention not to waste food: The role of environmental concern*. Current Psychology, *43*(26), 22593–22610. https://doi.org/10.1007/s12144-024-05952-3.

Flanagan, A., & Priyadarshini, A. (2021). *A study of consumer behaviour towards food-waste in Ireland: Attitudes, quantities and global warming potentials*. Journal of Environmental Management, 284, https://doi.org/10.1016/j.jenvman.2021.112046.

Hagger, M. S., & Hamilton, K. (2025). *Progress on theory of planned behaviour research: Advances in research synthesis and agenda for future research*. Journal of Behavioural Medicine, 48, 1–15. https://doi.org/10.1007/s10865-024-00545-8.

Hwang, H. Y., Kim, S. H., Shim, J., & Park, S. J. (2020). *Composting process and gas emissions during food waste composting under the effect of different additives*. Sustainability, 12(18). https://doi.org/10.3390/su12187811.

Kumar, D., Choudhuri, S., Shandilya, A. K., Singh, R., Tyagi, P., & Singh, A. K. (2022). *Food waste sustainability through a lens of bibliometric review: A step towards achieving SDG 2030*. In International Conference on Innovations in Science and Technology for Sustainable Development (ICISTSD), 185–192. https://doi.org/10.1109/icistsd55159.2022.10010596.

Labib, O. A., Manaf, L. B. A., Sharaai, A. H. B., Zaid, S. S. B. M., & Khalil, M. S. (2023). *The influence of socio-psychological factors on residents' willingness to practice sustainable waste handling in Dammam City, Saudi Arabia.* Sustainability, 15(18). https://doi.org/10.3390/su151813654.

Lamarque, M., Tomé-Martín, P., & Moro-Gutiérrez, L. (2023). *Personal and community values behind sustainable food consumption: A meta-ethnography*. Frontiers in Sustainable Food Systems, *7*. https://doi.org/10.3389/fsufs.2023.1292887.

Lima, R., Yu, A., Liu, Q., & Liu, J. (2024). *Examining the determinants of food waste behaviour in China at the consumer level*. Food Security, *16*(4), 867–881. https://doi.org/10.1007/s12571-024-01466-9.

Llagas, B. R., Jenkins, E. L., Brennan, L., Parker, L., Schivinski, B., & Lockrey, S. (2025). *Consumer perceptions of date labelling and storage advice and its relationship with food waste: A systematic scoping review of the academic and grey literature*. Future Foods, 11. https://doi.org/10.1016/j.fufo.2025.100577.

Nazibudin, N. A., Sabri, S. A. M., & Manaf, L. A. (2025). *Aligning with Sustainable Development Goals (SDG) 12: A systematic review of food waste generation in Malaysia.* Cleaner Waste Systems, 9. https://doi.org/10.1016/j.clwas.2025.100205.

Novitasari, S., Purwadi, D., & Marseno, D. (2025). *The effect of food waste behaviour among Generation Z on sustainable food security.* Food Research, 9(1), 236–244. https://doi.org/10.26656/fr.2017.9(1).099.

Ramli, N., Majid, H. A. M. A., Nawawi, W. N. W., Ishak, F. A. C., & Maarof, S. (2022). *The antecedents of household acceptance on food waste innovation products in Terengganu*. Proceedings, 82(1), 75. https://doi.org/10.3390/proceedings2022082075.

Santos, J. I. S. D., Da Silveira, D. S., Da Costa, M. F., & Duarte, R. B. (2022). *Consumer behaviour in relation to food waste: A systematic literature review*. British Food Journal, 124(12), 4420–4439. https://doi.org/10.1108/bfj-09-2021-1075.

Simões, J., Carvalho, A., & De Matos, M. G. (2022). How to influence consumer food waste behaviour with interventions? A systematic literature review. *Journal of Cleaner Production*, *373*, 133866. https://doi.org/10.1016/j.jclepro.2022.133866.

Srijuntrapun, P., Ket-Um, P., & Attavanich, W. (2025). *Socio-demographic drivers of household food waste management practices in Thailand*. *PLoS ONE*, *20*(4), e0321054. https://doi.org/10.1371/journal.pone.0321054.

Tabachnick, B. G., & Fidell, L. S. (2019). *Using multivariate statistics (7th ed.)*. Pearson.

Veselá, L., Vršanská, M., Baláková, I., Voběrková, S., Kubíčková, L., & Vaverková, M. D. (2025). *Analysis of the structure and seasonal variability of food waste in urbanized areas: Possible actions for achieve sustainable development*. Sustainable Development. https://doi.org/10.1002/sd.3434.

Zhao, N., & Begho, T. (2024*). Micro-level contributions towards SDG Target 12.3: Identifying the behavioural drivers of household food waste reduction*. Studies in Microeconomics. https://doi.org/10.1177/2321022224127407.