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(IJIREV)**www.gaexcellence.com/ijirev**GLOBALIZATION AND LOCAL RESPONSIBILITY:
OPERATIONAL EFFICIENCY AND FOOD WASTE
REDUCTION IN MALAYSIA'S QUICK SERVICE SECTOR**

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Abstract:

The problem of food waste is a major operational, environmental, and economic challenge for the foodservice industry, especially for Quick Service Restaurants (QSRs), where speed, standardization, and high-volume production are key to daily operations. Previous studies, however, have mainly investigated operational practices and attitudes to food waste separately, and the mediating effect of employee attitude between operational practices and food waste behavior has been under-researched. In this study, the effect of food waste reduction strategies (conceptualized as a composite construct including staff training, portion control, and Standard Operating Procedures (SOPs) as key operational capabilities required for food waste reduction) on QSR food waste reduction behavior was examined, and attitude toward food waste was explored as a mediator. The study was based on the Resource-Based

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View (RBV) and the Theory of Planned Behavior (TPB) to show how operational capabilities (RBV) and employee psychological readiness (TPB) are interrelated. The quantitative approach was used, and the data were obtained from the employees of selected outlets of McDonald's and Marrybrown in the Klang Valley based on a purposive sampling method with a total of 336 employees. The findings revealed that food waste reduction strategies directly predicted both QSR food waste reduction behavior ($\beta = .875$, $R^2 = .766$, $p < .001$) and employee attitude toward food waste ($\beta = .975$, $R^2 = .951$, $p < .001$), while attitude significantly predicted waste reduction behavior ($\beta = .866$, $R^2 = .750$, $p < .001$). Mediation analysis confirmed that attitude toward food waste partially mediated this relationship, exhibiting a statistically significant indirect effect ($\text{Effect} = .2337$, 95% Boot CI [.0184, .4646]). Theoretically, the study demonstrates that internal operational capabilities (RBV) require psychological alignment through employee attitude (TPB) to achieve consistent food waste reduction behavior in QSR operations. Practically, QSR operators should strengthen staff training, portion control, SOP implementation, and employee attitude-building efforts to reduce avoidable food waste.

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Keywords:

Food Waste Reduction; Globalization; Local Responsibility; Operational Efficiency; Portion Control; Quick Service Restaurants; Staff Training; Standard Operating Procedures.



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Introduction

Food waste forms a significant problem for sustainability in the foodservice industry worldwide. When food is wasted in restaurants, it not only poses an environmental challenge but also creates business inefficiency and waste. Quick Service Restaurants (QSRs) are particularly prone to generating food waste because of their fast service, standardization, mass production, and continuous product supply. Food wastage may arise from excessive food preparation, poor estimation, strict holding times, portion-size variations, poor inventory control, and consumer plate waste.

In Malaysia, food waste has become more significant due to rapid urbanization, increased demand for food services, and a growing number of food facilities in urban areas. The most important region is the Klang Valley because of its dense concentration of commercial foodservice facilities, workforce, students, shopping centres, and delivery-based consumption. In this area, QSRs like McDonald's and Marrybrown face tremendous challenges of providing quick service while avoiding food waste and managing their operations.

While the food waste issues have been studied in the context of consumers, households, and the general hospitality industry, limited studies have focused on the internal operational aspects

of food waste reduction in QSRs. There are also studies that have looked at operational issues like staff training, portion control, and Standard Operating Procedures (SOPs), and employee attitudes towards food waste, but these have tended to be studied in isolation. As a result, there has been a lack of empirical focus on the potential role employee attitudes towards food waste play in the relationship between operational strategies to reduce food waste and employee food waste reduction behaviour in QSR operations. Focusing on this gap is crucial as operational strategies can set the stage for food waste reduction, while the attitudes of employees can influence the extent to which these strategies are put into practice. For this reason, food waste reduction strategies considered in this study include staff training, portion control, and SOPs. However, operational strategies may not fully account for food waste reduction behaviour since employees' attitudes towards food waste could also influence the implementation of food waste reduction practices. Food waste reduction behaviour is more prone to occur when employees feel responsible for the reduction of food waste, feel distressed when seeing food waste, and think their actions make a contribution to sustainability. This is why attitude towards food waste serves as a mediating variable between food waste reduction strategies and the food waste reduction behaviour of QSR employees.

Thus, this research aims to examine the influence of food waste reduction strategies on QSR food waste reduction behaviour through the mediation of attitude towards food waste. In particular, the study explores selected McDonald's and Marrybrown restaurants in the Klang Valley. The contributions of this study to the existing literature are twofold, considering both operational and behavioral aspects of food waste reduction behaviour.

Literature Review

Globalization, Local Responsibility, and Food Waste in QSR Operations

The title of this study, Globalization and Local Responsibility: Operational Efficiency and Food Waste Reduction in Malaysia's Quick Service Sector, highlights the relationship between global standardization and local sustainability responsibilities. QSRs operate in a foodservice landscape that is all about speed, standardization, convenience, and product consistency. Standardized recipes, procedures, an efficient supply chain, and quick service are all typical features of the global QSR system. Meanwhile, the implementation of the globalized approach in the local markets, such as Malaysia, should involve local concerns, including food waste minimization, landfill problems, employees' behaviour, and consumers' consumption and national sustainability.

Given the importance of the issues of food waste on the environment, efficiency, and business viability of the foodservice industry, food waste is one of the crucial problems of the foodservice industry. According to the UN Environment Program (2024), the foodservice industry remains a significant contributor to the global challenge of food waste. Hence, the significance of this sector lies in meeting the objective of minimizing food waste. Food waste can occur during food procurement, storage, preparation, production, service, as well as post-consumption. Therefore, food waste minimization requires both control and behaviour change. Globalization in Malaysia's QSR sector is defined by the presence of international brands such as McDonald's that operate in a standardized manner and uphold global service standards. On the other hand, local QSR brands like Marrybrown represent the local foodservice culture, where local tastes, halal products, rice meals, and Malaysian consumers play a key role in defining their operations. This provides an important research context in which both global and

local QSRs share the responsibility of minimizing food waste while maintaining operational efficiency.

Recent empirical studies suggest that minimizing food waste in foodservice organizations requires more than just general environmental awareness. Cordova-Buiza et al. (2022) discovered that restaurants and other foodservice organizations implement operational preventive measures (such as staff training, portion control, on-demand cooking, and menu management) to manage organic waste. It confirms the hypothesis that food waste reduction in QSRs needs to be integrated into operational systems. In addition, Munir (2025) argued that restaurant food waste should be considered using a practice-based approach, as it results from operational practices, routines, and systems rather than from individual activities.

Training plays an important role in foodservice organizations as employees handle food preparation, portioning, storage, serving, and food waste. Montesdeoca-Calderón et al. (2024) demonstrated that training in sustainable practices, alongside food waste management, influenced service innovation and brands in the area of restaurant sustainability. Similarly, Way et al. (2025) reported that food waste training in restaurants is primarily based on practical techniques such as verbal communication, mentoring, and coaching, while the major barriers include time constraints, inconsistent procedures, and a lack of standardized training programs. Overall, training serves as an environmental program and as an operational tool.

For QSRs, training helps workers understand how global operational standards should be applied, taking local food waste conditions into account. Lu and Ko (2023) discovered that kitchen workers' sustainable preparation behaviour is influenced by their competence, attitude, self-efficacy, and food waste prevention skills. The results have some relevance to QSRs, since kitchen workers prepare ingredients, portion food, and control food waste. As a result, it can be suggested that training would help minimize food waste by improving employees' resource management skills.

Portion control is an essential tool, as improper or inadequate portioning leads to both production and customer plate waste. As noted by WRAP (2023), portion size is one of the main factors contributing to plate waste in restaurant settings, indicating that portion control is directly linked to food waste in foodservice establishments. According to Orr and Goossens (2024), it is possible to reduce food waste through concrete measures, such as improved staff awareness, smaller portions, and the reuse of surplus produced in corporate canteens. Although this research was carried out in the context of canteens, it is relevant to the fast-service sector, as portion size, overproduction, and staff awareness emerge as major factors in food waste there.

From the standpoint of the Malaysian QSR environment, the issue of portion control is tied to local responsibility, as menu items and customer expectations may differ between a burger-based global QSR system and rice-based local establishments. In the context of the global QSR chain, standardized portioning is used to achieve consistency. However, local eating habits may require flexible portion control to avoid plate waste. Portion control is not just a technical aspect but also the adaptation of global standards to the local context.

Finally, SOPs are critical in minimizing food waste. Within QSRs, SOPs establish standards for food preparation, inventory control, First In, First Out (FIFO) storage, batch preparation, waste disposal, and other practices. Filimonau et al. (2023) reported that restaurant food waste

in developing countries is dependent upon operational practices, overproduction, portion size, and management control. Reardon et al. (2024) added that restaurant waste practices are based on daily decisions made by chefs, such as tracking, repurposing, menu planning, and donating. Recent research has emphasized the significant role of SOPs in strategies aimed at minimizing food waste within the circular hospitality industry. According to research by Cardenas et al. (2024), implementing circular practices within the hospitality industry can help minimize food waste. In the QSR industry, the use of SOPs can assist in the implementation of these circular practices. Food waste reduction practices may require the use of SOPs.

Taken together, staff training, portion control, and SOPs constitute complementary operational dimensions of food waste reduction strategies, as they address distinct yet interconnected aspects of food waste prevention. Staff training helps to build employees' knowledge and skills in practice. Portion control is a direct way to control the amount of food that is prepared and served, and SOPs help to establish a procedure and standard of operation. Together, the three dimensions provide a description of the operational system that QSRs can use to prevent and control food waste as a part of their day-to-day activities. It is therefore appropriate to treat them as a composite construct, as effective food waste reduction requires employees to have the competencies, operational controls to be put in place, and procedures to be followed on a regular basis. This holistic perspective aligns with earlier research, which finds that training, portion control, operational practices, and management control are all interconnected factors of restaurant food waste prevention (Cordova-Buiza et al., 2022; Filimonau et al., 2023; Cardenas et al., 2024).

Food waste reduction behaviour is also shaped by the attitude that food waste employees have towards reducing food waste. Studies by Abidin et al. (2022) discovered that while food waste employees in a Malaysian restaurant had knowledge of the food waste issues in the country, their practices for handling food were still poor. Therefore, food waste reduction behaviour in the Malaysian food waste sector will require the utilization of attitudes towards food waste.

Research examining employees' involvement in food waste reduction initiatives has highlighted the impact that these individuals have on food waste. According to Pearson et al. (2025), employees in the hospitality industry influence food waste reduction strategies in their workplaces. In another study, Lu and Ko (2023) determined a relationship between employee attitudes towards food waste as well as food preparation practices. Food waste reduction strategies in the Malaysian food waste industry should therefore use attitudes towards food waste as one of the behavioral indicators for their strategies.

Studies on behaviour demonstrate that individuals' perceptions of food waste can impact how they act. For example, a study in Shanghai established that individuals' attitudes towards food waste significantly impacted their behaviour towards it (Li et al., 2024). Another study examined that people's attitudes were significantly associated with restaurants ordering excessive amounts of food, consequently contributing to food waste (Zheng et al., 2023). While these studies looked at consumers of fast-food restaurants rather than their employees, they are still an excellent example of how people's attitudes towards an issue impact their behavior surrounding it. Similarly, fast-food restaurant employees who have positive attitudes towards food waste may be more likely to follow procedures to avoid it and to waste fewer ingredients when preparing food for customers.

Based on these studies and others in the literature, the study proposes that minimizing food waste in fast-food restaurants in Malaysia is best approached through both operational efficiency and local responsibility. Operational efficiency refers to the ability of fast-food restaurants to reduce waste through staff training, food portions, and SOPs. Local responsibility refers to the need for fast-food restaurants in Malaysia to adapt their globalized food-preparation systems to the challenges of food waste in the country and its society, as well as to the habits and expectations of these restaurants' Malaysian consumers. Thus, the work establishes a framework that integrates strategies used to minimize food waste, attitudes towards food waste, and fast-food restaurant employees' behaviors towards reducing food waste. It describes how global fast-food restaurant practices can be localized and implemented effectively in Malaysia through responsible employee and operational practices.

Underpinning Theories and Conceptual Framework

This study is supported by the Theory of Planned Behaviour (TPB) as well as the Resource-Based View (RBV). RBV proposes that internal organizational resources and capabilities can contribute to organizational performance when they are valuable, effectively managed, and difficult to imitate (Barney, 1991). Within the scope of this research, staff training, portion control, and SOPs are considered internal operational capabilities that may support food waste-reduction behaviour. This view is consistent with recent foodservice studies, which suggest that reducing food waste relies on restaurant capabilities such as employee training, operational control, waste monitoring, and sustainable service practices (Cardenas et al., 2024; Montesdeoca-Calderón et al., 2024).

TPB explains that attitude is an important psychological factor influencing behaviour (Ajzen, 1991). In the scope of this research, employees' attitudes toward food waste may influence whether they consistently apply food waste reduction practices during daily QSR operations. Recent studies on food waste also support the role of attitude in influencing food waste-related behaviour. For example, Lu and Ko (2023) discovered that kitchen staff's sustainable preparation behaviour was related to professional attitude and food waste prevention skills, while Pearson et al. (2025) highlighted the importance of how hospitality employees receive and act upon food waste messages in the workplace.

Staff training, portion control, and SOPs are complementary operational dimensions of food waste reduction strategies, as they focus on different but related aspects of food waste prevention. Staff training helps to build employees' knowledge and skills in practice. Portion control is a direct way to manage the amount of food prepared and served, and SOPs help establish procedures and standards of operation. Theoretically, it is critical to consider them as a combination of capabilities, as an RBV perspective is needed to reduce food waste effectively. This is achieved by implementing them together rather than separately. In addition, these operational capabilities (RBV) provide the basis for waste prevention. However, according to the TPB, individual behaviour is determined by psychological evaluations. Hence, attitude towards food waste is the key mediator linking operational capacities to consistent employee behaviors.

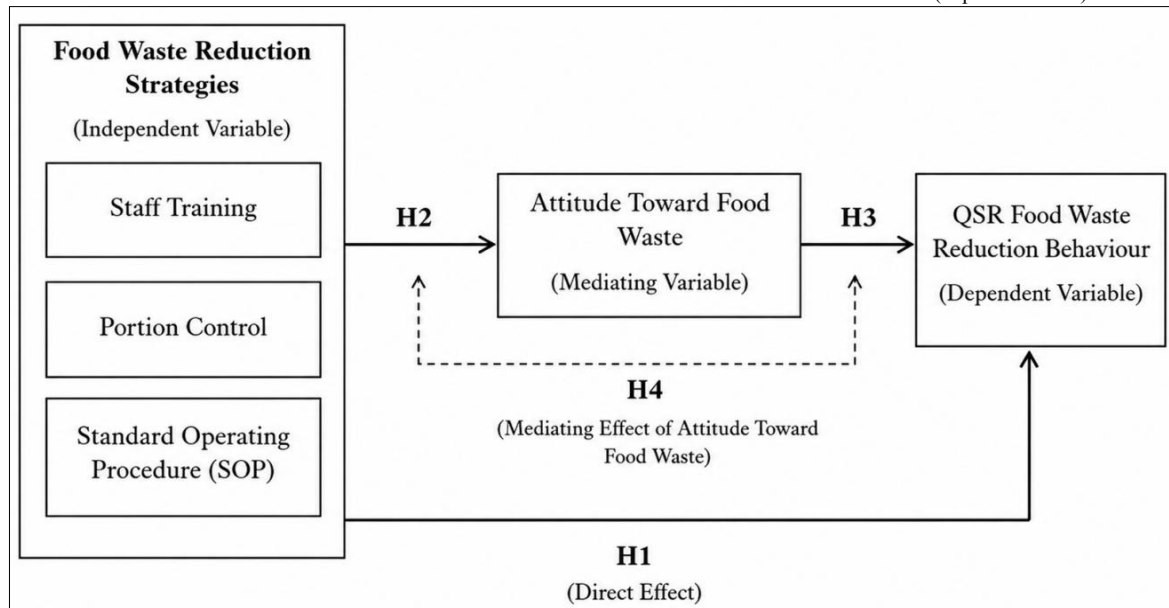


Figure 1: Conceptual Framework

Source: Bashir (2023)

Hypotheses Development

Based on the conceptual framework, four hypotheses were developed:

- H1: Food waste reduction strategies positively influence QSR food waste reduction behaviour.
- H2: Food waste reduction strategies positively influence attitude toward food waste.
- H3: Attitude toward food waste positively influences QSR food waste reduction behaviour.
- H4: Attitude toward food waste mediates the relationship between food waste reduction strategies and QSR food waste reduction behaviour.

Methodology

The quantitative research method was used to analyze the correlation between food waste reduction strategies, attitude towards food waste, and QSR food waste reduction behaviour in this paper. The study was conducted on the employees of the selected outlets, namely McDonald's and Marrybrown outlets within the Klang Valley. The two brands of QSR were chosen because they are two different organizational contexts, one is an international fast-food chain with standardized processes and systems (McDonald's), and the other is a Malaysian local QSR brand (Marrybrown).

The sampling technique used was purposive sampling to select the respondents who have relevant operational knowledge. Respondents had to be actively involved in the day-to-day operations of the QSR and in handling food waste, which included restaurant managers, assistant managers, kitchen staff, crew, and front-of-house employees. Note that 336 valid responses were obtained.

The operationalization of food waste reduction strategies was done as a composite construct of three complementary dimensions: staff training, portion control, and SOP implementation. These three dimensions were merged into one composite dimension, as, from an RBV perspective, they are all necessary components of the comprehensive internal operating system that is necessary for effective waste prevention. Staff training enhances employee skills, portion control offers immediate operational control over the amount of production, and the SOPs help standardize procedures for each shift.

Before conducting the main analysis, item screening and reliability analysis were conducted to only include items that were internally consistent. The six items of staff training, seven items of portion control, seven items of SOPs, five items of attitude towards food waste, and seven items of QSR food waste reduction behaviour were retained. Food waste reduction strategies were operationalized as a composite construct of staff training, portion control, and SOP implementation, which are three complementary dimensions. The dimensions were considered as a whole since they are interrelated mechanisms of operation to prevent and minimize food waste in QSR operations. Staff training represents staff capability, portion control represents control over the amount of food, and the implementation of SOP represents the consistency of the operation. The composite construct thus reflects the general execution of the operational food waste reduction practices as a whole and not just as individual practices.

SPSS software was used to conduct analysis, which encompassed reliability, descriptive statistics, correlation analysis, regression diagnostics, regression analysis, and mediation analysis using the PROCESS Macro.

Findings And Discussions

Overall, all four hypotheses were supported. The results indicate that food waste reduction strategies were associated with QSR food waste reduction behaviour both directly and through attitude toward food waste. Food waste reduction strategies also explained substantial variance in attitudes toward food waste, and attitudes toward food waste were associated with employees' food waste reduction behaviour. The mediation analysis further indicated that attitude toward food waste partially mediated the association between food waste reduction strategies, as well as QSR food waste reduction behaviour.

For H1, food waste reduction strategies significantly predicted QSR food waste reduction behaviour ($\beta = .875$, $p < .001$, $R^2 = .766$), indicating a strong relationship between the implementation of these strategies and employees' food waste reduction behaviour. The model accounted for 76.6% of the variance in QSR food waste reduction behaviour. This suggests that employees may demonstrate stronger food waste reduction behaviour when their outlets provide proper training, effective portion control, and clear SOP implementation.

These findings correspond to those of Cordova-Buiza et al. (2022), who noted that food waste prevention efforts undertaken in restaurants and foodservice establishments were operational, including staff training, portion control, cooking on demand, and menu control. These results support the findings of Orr and Goossens (2024), who demonstrated that awareness building, smaller portions, and reuse of overproduction in canteen operations helped in minimizing food waste. Filimonau et al. (2023) also stated that, in the case of restaurant food waste, there were influences from operational practices, overproduction, portion size, and management control. The current research provides additional insight into the quick-service sector in Malaysia.

In light of the theme of globalization and local responsibility, the H1 finding indicates that the globalization of QSR systems should incorporate additional aspects beyond speed and standardization. As QSR models operate globally based on efficiency, consistency, and fast delivery, globalized QSR systems have to balance their operations with local food-waste responsibilities. Training staff, controlling portion sizes, and developing SOPs thus become crucial tools for adapting global operational standards to local food waste responsibilities.

For H2, food waste reduction strategies significantly predicted attitudes toward food waste ($\beta = .975$, $p < .001$, $R^2 = .951$). The model accounted for 95.1% of the variance in attitude toward food waste, indicating that the operational strategies examined in this study were strongly associated with employees' attitudes toward food waste. This finding suggests that employees' attitudes may be influenced by their personal awareness and experience, as well as by the operational systems established within their workplaces.

This result is supported by Montesdeoca-Calderón et al. (2024), who discovered that employee training on sustainable practices, as well as food waste management, contributed to the development of sustainability-oriented restaurant practices. Lu and Ko (2023) established that the kitchen staff's sustainable preparation behavior was affected by competence, attitude, and food waste prevention skills. Thus, these findings explain how employees in the current study developed more positive attitudes through proper training, SOPs, and waste-reduction practices.

Such results also demonstrate the role of local responsibility at work. In Malaysia's QSR industry, employees need to understand that food waste reduction is not just another task or technical requirement, but is related to local issues such as landfill constraints, food cost management, and resource responsibility. That is why employee training, portion control, and SOPs should be developed not only to facilitate employees' tasks but also to enhance their local responsibility for food waste reduction.

For H3, attitude toward food waste significantly predicted QSR food waste reduction behaviour ($\beta = .866$, $p < .001$, $R^2 = .750$). The model accounted for 75.0% of the variance in QSR food waste reduction behaviour, suggesting that employees who hold stronger attitudes towards food waste reduction are more prone to demonstrate food waste reduction behaviour in their daily QSR operations.

This result corresponds with Abidin et al. (2022), who determined that attitude, knowledge, as well as practices were important in understanding food waste management among foodservice operators in Petaling Jaya. However, their study also showed that high knowledge did not always translate into strong food handling practices. The present study extends that discussion by showing that attitude is a key behavioral factor among QSR employees. In other words, employees may need more than knowledge. They also need a positive evaluation of food waste reduction before consistent behaviour can occur.

This can be supported by Li et al. (2024), who revealed that attitudes towards food waste had a significant impact on the food waste behaviour of urban residents in Shanghai. Zheng et al. (2023) also revealed that attitude was a significant factor in relation to restaurant over-ordering behaviour. While these studies were on consumers, not employees, these studies support the

overall behavioral theory that evaluation, responsibility, and willingness to act are all factors that influence food waste-related behaviors.

Within the globalization and local responsibility theme, the H3 result shows that employees serve as the link between standardized QSR systems and local sustainability outcomes. Global QSR brands may provide standard procedures. Nonetheless, those procedures must be carried out by local employees during real service conditions. If employees do not value reducing food waste, the existence of SOPs alone may not be enough. This makes employee attitude an important part of localizing global QSR practices.

For H4, the mediation analysis indicated that attitude toward food waste partially mediated the association between food waste reduction strategies, as well as QSR food waste reduction behaviour. The indirect impact was statistically significant, the bootstrap confidence interval excluded zero (indirect effect = .2337, BootLLCI = .0184, BootULCI = .4646). This indicates that food waste reduction strategies operate on QSR employees' food waste reduction behaviour both directly and indirectly through their attitude toward food waste.

The mediation effect obtained in the research is consistent with the results of Pearson et al. (2025), who revealed the important role of hospitality employees for the interpretation and implementation of food waste messages in the workplace. Lu and Ko (2023) have proven that kitchen employees' behaviour is shaped by professional competence and attitudes towards issues. In general, these results confirm that food waste reduction behaviors cannot be achieved merely through procedures but only when these procedures are understood, accepted, and valued by employees.

Therefore, the mediation effect can help prove the connection between systems and people required for food waste reduction. Training, portion control, and SOPs create the necessary operational system, and attitude towards food waste is the key factor providing the motivation to implement the mentioned measures properly. This is particularly applicable to the Malaysian QSR industry as globalized foodservice systems require the presence of specific local factors (employee turnover, peak hour pressures, local food menus, and local customer eating behaviors).

Overall, all four hypotheses were supported. The results indicate that food waste reduction strategies directly predicted QSR food waste reduction behavior ($\beta = .875$, $p < .001$, $R^2 = .766$) and employee attitude toward food waste ($\beta = .975$, $p < .001$, $R^2 = .951$), while attitude toward food waste significantly predicted QSR food waste reduction behavior ($\beta = .866$, $p < .001$, $R^2 = .750$).

To examine Hypothesis 4, a mediation analysis was performed through PROCESS Macro. The results confirmed that attitude toward food waste partially mediated the association between food waste reduction strategies, as well as QSR food waste reduction behavior. The indirect effect was statistically significant (Effect = .2337, 95% Boot CI [.0184, .4646]). The result of the bootstrap 95% CI was that it did not contain zero, which formally indicated that there was partial mediation.

This partial mediation shows that operational strategies have a direct effect on setting up the appropriate structures for waste reduction, but they also exert an indirect effect by influencing and consolidating positive attitudes of the employees and thus their waste reduction behavior.

Table 1: Summary of Hypothesis Testing

Hypothesis	Relationship	Statistical Result	Decision
H1	Food waste reduction strategies → QSR food waste reduction behaviour.	$\beta = .875, p < .001, R^2 = .766$	Supported
H2	Food waste reduction strategies → attitude toward food waste	$\beta = .975, p < .001, R^2 = .951$	Supported
H3	Attitude toward food waste → QSR food waste reduction behaviour.	$\beta = .866, p < .001, R^2 = .750$	Supported
H4	Food waste reduction strategies → attitude toward food waste → QSR food waste reduction behaviour.	Indirect effect = .2337, BootLLCI = .0184, BootULCI = .4646	Supported

The findings support the use of the RBV and TPB theories to explore the phenomenon of food waste reduction behaviour in QSR. As per the RBV theory, staff training, portion control, and SOP are internal capabilities of QSR that can help them utilize their resources more effectively. TPB theory suggests that attitude is the link between operational capability and the food waste reduction behaviour of QSR employees.

Implications of the Study

Theoretically, this study has three contributions to the knowledge on food waste management. First, it builds on the literature by looking at the three aspects of operational efficiency, employee attitudes, and actual waste reduction behaviour together, as most previous studies have focused on one of these aspects. Secondly, the paper contributes to the discussion on globalization versus sustainability in the QSR industry. The results indicate that globalized QSR models need to be combined with local sustainability responsibilities, while the global standards focus on speed, productivity, and standardization. Operational efficiency, therefore, should be measured not just in terms of speed and output, but also waste avoidance as it relates to the local menu dynamics, employee behaviors, and environmental factors. Lastly, the study combines the RBV and the TPB and integrates them into a single framework. These theories are not mutually exclusive, but the results show that they are complementary and work together: RBV sheds light on the internal ability of food waste prevention, namely staff training, portion control, and SOP implementation, to be structured in daily operations, while TPB gives the psychological mechanism (attitude) by which the staff consistently carry out these capabilities. In conclusion, this suggests that internal capabilities (RBV) need to be complemented by psychological alignment (TPB) to achieve sustainable behaviour in QSR environments.

Empirically, findings provide clear-cut actionable strategies for QSR managers and operators. Outlets should not consider training, portion control, and SOPs as separate initiatives but should create integrated operational systems, where portion guidelines, visual aids, and SOP checklists are incorporated into the ongoing staff training and management inspections. Additionally, since attitude is a partial mediator of waste reduction behaviour (Effect = .2337, 95% Boot CI [.0184, .4646]), there is a need to conduct attitude-building initiatives, which will explain the rationale behind the rules of operation. Providing information about the impact of landfills in the community, the savings in raw materials, and the benefits to the environment in

the pre-shift briefings can help create personal accountability for crew members. Lastly, international food service chains such as McDonald's and local food service chains such as Marrybrown need to take steps to localize global standards, which involves changing efficiency measures to incorporate local sustainability objectives so that food waste reduction becomes a part of the local responsibility of the food service operation.

Conclusion

This study examined the effect of food waste reduction strategies on the food waste reduction behaviour of the employees in the selected McDonald's and Marrybrown outlets in Klang Valley, with the mediation of attitude towards food waste, among the 336 employees. The results of the empirical test confirmed that operational strategies have a direct impact on employee attitude and waste reduction behaviors and that employee attitude is a significant partial mediator (Effect = .2337, 95% Boot CI [.0184, .4646]).

The findings of this study, which combines the RBV with the TPB, highlight the need for not only strong internal operational resources but also a psychological fit among employees to achieve sustainable food waste reduction in globalized QSR settings. QSR operators need to shift their mindset on standardized SOPs, training, and portion control from a mere efficiency to a way of shaping employee attitudes to make these operational standards a reality locally.

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Author Contribution Statement: All authors contributed to conceptualization, literature review, methodology, data collection, data analysis, interpretation of results, and manuscript preparation. The final version of the manuscript was read and accepted for publication.

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