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**Assessing the Regularity of Food Donation Operations During Covid-19**

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**Abstract**

This paper examines how the Covid-19 pandemic has impacted food donation efforts. Due to closures and economic hardships, more people rely on food banks for assistance. Various industries have stepped up to support food recovery and combat food insecurity. The study involved in-depth interviews with eight food donors to assess the prevalence of food donation activities. Through the interviews, the study identified the regularity of food donation activities that considered activities conducted with food banks. The findings suggest that food donors should partner with appropriate charities to improve their food redistribution systems and benefit the community and the environment.

**Keywords:** food donation; food bank; food waste; covid-19

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**1.0 Introduction**

The Covid-19 pandemic has caused major economic disruptions and supply chain issues, leading to widespread job losses and a significant increase in food insecurity. The United Nations World Food Programme in 2020 predicted that the number of people facing severe hunger has doubled in the last two years due to the pandemic. Unfortunately, this food insecurity has hit vulnerable groups like low-income households, marginalised communities, and homeless individuals the hardest. The food donation program has become crucial in response to the increasing problem of food insecurity during the Covid-19 pandemic. These programs involve individuals, community organisations, community kitchens, and food banks playing a significant role in collecting, redistributing, and ensuring the appropriate handling of donated food items (Feeding America, 2021). Food donations during Covid-19 significantly influenced vulnerable groups and overall community resilience. The impact of food donation has provided immediate assistance by ensuring that individuals and families have access to nutritional meals, decreasing the negative health implications of hunger. In addition, food donation programmes have helped to minimise food waste by channelling leftover food from businesses and households to those in need. Finally, these efforts have developed a sense of community solidarity, encouraging individuals and organisations to work together to help those in need.

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Previous studies have been conducted on the operation of food banks during the outbreak of Covid-19. These studies have emphasised the food banks' adaptability, flexibility, adoption of innovative practices and resilience to cope with the disruptions of the crises (Blessley & Mudambi, 2022; Penco et al., 2022). However, limited studies investigate the prevalence of food donation activities conducted by food donors. This paper aims to investigate the regularity of food donation activities and determine the factors contributing to the outcomes of those activities during Covid-19.

## 2.0 Literature Review

After the World Health Organization (WHO) declared COVID-19 a pandemic, numerous countries enforced lockdowns and quarantines to curb the spread of the virus. The Malaysian government imposed the Movement Control Order starting on 18 March 2020 (MCO) to curb the spread of COVID-19. Restrictions on movement during MCO led to the breakdown of food supply chains and the loss of perishable produce, causing occasional food shortages in certain locations (Bhavani & Gopinath, 2020; FAO, 2020). Recent studies show that the COVID-19 pandemic affects global food security through transportation restrictions, labour shortages, and restaurant closures (Bhavani & Gopinath, 2020; FAO, 2020; Hobbs, 2020; Kim et al., 2020). These factors also impact food prices, availability, and household income, particularly for vulnerable and marginalised communities.

In response to food insecurity, households may reduce food intake, resulting in hunger (Mutiah & Istiqomah, 2017). Thus, donating food is essential in combating food insecurity during Covid-19. Knowing how often food donors contribute is crucial to ensure a steady and dependable supply of donated food for those in need. Food donors include retailers, food manufacturers, food stores (grocery, supermarket), and food service (restaurants, institutional food) partnered with emergency food (food pantries, food banks) to reduce the shortage of food in the organisation through food donation activities. This section uses relevant research and studies to examine the frequency of food donations among donors during the pandemic. The literature discussed information related to the factors and patterns influencing the frequency of food donations. Multiple factors influence the prevalence or frequency of people who donate food, and one of them is the donor's motivation. According to the study done by Bekkers and Wiepking (2011b) and Hamik et al. (2022), reviewed that food donors who prioritise Sustainable Development Goals (SDG) and are concerned with food security are more likely to donate surplus food to food banks. Individuals motivated by altruism are more consistent in their food donation practices, while occasional donors tend to be less consistent (Hamik et al., 2022).

A report by the EAT-Lancet Commission (2019) suggests that addressing food loss and waste is crucial for a sustainable food system. The COVID-19 pandemic has caused disruptions in food systems, resulting in delays in harvesting and transportation and increased wastage of perishable foods. This new norm may negatively impact sustainable production and consumption in the food industry. In reducing waste, the industry sector was the prominent donor to the food bank and tended to donate surplus food. Thus, food banks and industries handle surplus food and distribute it to needy people. The outbreak has prompted food banks to expand their operations. Studies have explored the benefits of food banks to the food system, such as eliminating waste and assisting in redistributing food to the needy (Michelini et al., 2018). Food banks are community-based warehouses that gather food from local producers, retail food sources, federal commodity distribution programs, and the food industry and then distribute it to charitable organisations (Bazerghi et al., 2016). Everyone benefits from this setup, including the private food sector (which can reduce waste management and disposal costs) (Baglioni et al., 2017; Michelini et al., 2018; Principato et al., 2020; Tarasuk et al., 2014), charity organisations (who can achieve social goals), and governments (who can achieve environmental goals) (Midgley, 2014). In the pandemic, food banks must adapt quickly by expanding their business models, improving their capacity to utilise food waste, improving their processes, and ensuring the safety of their employees, volunteers, and those working with their network of charities and institutions (FAO, 2020).

The prevalence of food waste and the impact of Covid-19 on food donation activities have yet to be thoroughly studied in the existing literature. Understanding the impact of Covid-19 on human psychology is crucial for facing current and future challenges (Zhang et al., 2020). Additionally, it is necessary to extend the study on food waste reduction via food donation due to the increasing prevalence of sustainable consumption.

## 3.0 Methodology

The study aims to investigate the prevalence of food donation activities and determine the factors contributing to the outcomes of those activities among donors in Malaysia during Covid-19. Exploratory research was used since more information is needed and this method helps to gain a comprehensive understanding of a phenomenon. Since this study focuses on the perspectives and experiences of the actors in their lifeworld, a qualitative approach is appropriate. Therefore, the study used a qualitative research approach based on the exploratory research design by Bitsch (2005), as this study aims to investigate how everyday food donation activities were conducted and the factors affecting those activities among food donors. Key informants from different industries, such as retailers, hoteliers, food manufacturers, and restaurants, were interviewed to gather insights into their experiences with food banks. This method helps to provide essential data and various responses. The choices were made to obtain a sample representing diverse perspectives while avoiding potential biases or trends. The study was conducted between February and August 2022 using snowballing techniques and purposive sampling, and information on eight food donors is presented in Table 1. The food donors were contacted directly via phone and email. They were informed about the research objective and invited to participate in interviews. Once the donors agreed to participate, the interviews were conducted while maintaining necessary confidentiality protocols and obtaining authorisation for recording. To maintain anonymity, participants in this study were given the pseudonyms R1, R2, R3, R4, FM1, FM2, H1, and RS1. The data was collected through semi-structured, in-depth interviews and conducted using an interview protocol as a guide. The interviews were conducted in a

casual conversation style and lasted between 30 to 90 minutes. Key informants were selected from various industries since the food bank received donations of all sorts of food and groceries, regardless of cooked and uncooked food. The criteria of the informant's selection are the key person responsible for the sustainability plan of food donation programmes in their organisation. The selection of the various industries is based on two considerations: a) they have their sustainability initiatives to reduce food waste through food donation, and b) they are associated and connected with food banks as regular donors. Subsequently, interviews were conducted and recorded. After the interviews, transcription was performed, followed by data analysis using NVivo software, and themes were derived as the significant findings. It was considered that the theoretical saturation was reached with the completion of the interviews. NVivo is a CAQDAS program. Qualitative researchers use CAQDAS programs to collect, organise, analyse, visualise, and report data. NVivo helps the researcher efficiently manage and analyse data using coding, classification, and mapping tools for data organisation. The following section mentions the key findings of this study.

Table 1: Interviews with key informants according to different industries

Key Informant	Number of key informants
Retailer	4
Hotelier	1
Restaurant	1
Food Manufacturer	2
<b>Total</b>	<b>8</b>

#### 4.0 Findings

From the analysis of data, the findings show that food donors selected for this study have managed food donation activities with food banks to reduce food waste and achieve the environmental goals outlined in the SDGs. Table 2 summarises the food donors' regularity of food donation activities and factors contributing to the outcome of the activities.

Table 2: Summary of the prevalence of food donation activities and factors that influenced the outcome of these activities during Covid-19

Key Informant	Number of key informants	Prevalence of Food Donation	Outcome			
			Increase food donation activities	Partnered with charity	Participate individual donations	Reduce surplus food
Retailer	R1	Distribute everyday	/	/		
	R2	Not really into a donation			/	/
	R3	Distribute every month	/		/	
	R4	Distribute twice a week	/		/	/
Food Manufacturer	FM1	Distribute once every two months	/	/		
	FM2	Distribute two times a month	/	/		
Hotelier	H1	Distribute packet everyday	/	/		
Restaurant	RS1	Distribute once a week / once every two weeks	/	/	/	

Table 2 shows the prevalence of food donation activities and the factors that influence the outcome of food donation activities during Covid-19. The prevalence or frequency of food donation activities varies among donors. Most of them distributed food frequently. R1 and H1 distribute daily during Covid-19, and R1 continues daily distribution or donation activities even after the pandemic. However, H1 usually distributed the packet daily during Covid-19, but the practice was not done daily after the pandemic. Food donors (R4) distributed the surplus food twice a week. In contrast, food donors (RS1) distributed once a week or once every two weeks since the lockdown era was unpredictable and depended on the government announcement on the movement control. As for R3, food donation activities happen every month; for FM1, food donors distribute surplus food once every two months; for FM2, redistribution activities happen twice a month.

Surprisingly, R2 revealed that they were not interested in food donations and that they did not participate in food donations at all. They decided not to partner with any charity organisations and to continue with individual donations as part of their corporate social responsibility (CSR). The prevalence of food donation activities has contributed to several outcome factors, and the study found four outcomes that contributed to the change in food donation activities. Partnering with charities, increasing food donation activities, participating in individual donations, and reducing surplus food affected food donation activities during Covid-19. The findings of this study were validated with peer review by two academics from the Faculty of Administrative Science and Policy Study and the Institute for Environment and Development (LESTARI), UKM. They help to refine and expand the themes that have been identified. The outcomes factors of food donation activities during Covid-19 were discussed as follows.

#### 4.1 Increase Food Donations Activities

Food donation activities have changed tremendously for the food donors affected by Covid-19. The food donation activities increased, as reported by the key informants R1, R3, R4, FM1, FM2, H1, and RS1. They have demonstrated a visible commitment to reducing food surplus and establishing social commitment through food donation. For H1 and RS1, the food donation activities increased due to the operation's closure and more supplies during the lockdown for hotels and restaurants that offered cooked food donations. However, the scenarios were different for retailers and food manufacturers (R1, R3, R4, as there was no shortage of surplus; even though demand for food increased due to panic buying that created an incomparable sense of uncertainty, their donation activities were managed well and increased as the production facilities stayed open. Retailers continued to find other ways to encourage customers who bought groceries at their stores to donate some amount of goods (depending on the generosity of the customers) and add those donations from customers to their organisation's regular donation. This action helped the millions of needy by increasing donations to charity organisations dedicated to helping the community.

#### 4.2 Partnered with Charity

During interviews, it was discovered that many food donors (including informant R1, FM1, FM2, H1, and RS1) collaborate with non-governmental organisations (NGOs) or charity partners to distribute their surplus food. These donors often have mutual agreements with NGOs such as the Food Aid Foundation, Kechara Soup Kitchen, Food Bank Malaysia, and The Lost Food Project, which can efficiently help distribute food to needy people. The collaboration will help to ensure that the food donations reach the intended recipients. Food banks and charity partners ensure the food is in good condition before distributing it to assisting communities that need help.

#### 4.3 Participate as an Individual Donator

Other than partnering with food banks, key informants from retailers R2, R3, and R4 participated as individual donors, who prepared, packed, and delivered the food to front liners around their premises (within a 5km radius). They managed the surplus food alone as part of their corporate social responsibility (CSR) program. As a retail (R2) that manages all surplus food by itself, usually, this donor will reach the dedicated poor and homeless.

#### 4.4 Reduce Surplus Food

During the first Malaysian Movement Control Order (MCO), which began on 18 March 2020, there was a shortage of surplus food due to the high demand and low supply. MCO was caused by panic buying, which resulted in high demand for groceries, and people purchased more supplies from grocery stores. As a result, key informants of R2 and R4 also experienced this shortage as the citizens involved in impulsive purchases caused food shortages left in the store to be donated to the food banks or as part of corporate social responsibility (CSR).

### 5.0 Discussion

The key findings of this study have concluded that the prevalence of food donations among food donors to the food bank occurs continuously, depending on the availability of surplus food in their organisation and the outcome of food donation activities during Covid-19. The surplus food donated by the donors is still edible for human consumption but has minor defects, such as the customer not buying that food; thus, the food donors will distribute the food to the food banks. The regularity of distribution will be every day, once a week, twice a week, or once every month since this variety of regularity is based on needs. Comparatively, this study has also found that one of the retail informants did not participate in food donation activities as they needed to conduct research and improve the process involved in food donation. Thus, food donations were conducted as corporate social responsibility (CSR) and participated as individual donations.

This study has shown that the social, economic and health restrictions caused by the COVID-19 pandemic have increased food donations by generous donors from the private sector (Baglioni et al., 2017; Michelini et al., 2018; Principato et al., 2020; Tarasuk et al., 2014). Based on the findings, the Covid-19 pandemic event has impacted the food donator operation activities. These can be seen through the increase in their food donation activities. Even though Covid-19 has brought losses to some organisations and the aspect of the economy, the other side has positively impacted how food donors operate. Hence, during the Covid-19 pandemic, they increased their activities by donating food surplus to avoid waste and supporting needy people who rely on the food assistance program conducted by food banks (Dahlander et al., 2021).

It shows a positive development for our society, especially considering the widespread job losses and financial insecurity caused by the lockdown. Redirecting surplus food away from landfills also helps protect the environment. Most importantly, food donations can help those struggling with hunger and food insecurity. According to a study by Gonzalez et al. (2009), social responsibility involves incorporating social and environmental concerns into one's food consumption habits. It has been noted that global food systems are influenced by the idea of "shared responsibility" among consumers, stakeholders, and organisations (Coggins, 2001; Welch et al., 2018) while also being aware of environmental and social impact (Boccia & Sarno, 2019). These discussions effectively combat the issue of food waste; individuals and communities need to demonstrate social responsibility behaviours and actively engage in food donation activities.

That requires a collective effort to reduce the amount of discarded food and ensure that excess food is appropriately distributed to those in need. By adopting these practices, we can work towards a more sustainable and equitable food system. To achieve the Sustainable Development Goals (SDG), food banks require support from various players in the industry in the form of food donations.

These donations are crucial in ensuring that food banks can assist those in need and ultimately work towards eradicating hunger and poverty globally. By collaborating with individuals, businesses, and organisations within the food industry, food banks can significantly impact the fight against food insecurity.

In reducing food waste, the food industry has implemented a strategy to collect surplus food from producers, wholesalers, and retailers, which is then distributed to those in need through various channels, such as groceries or food parcels, either directly to individuals or organisations that specialise in assisting those in need. It helps to reduce waste and address food insecurity and hunger issues in communities worldwide. These groups act as donors and distributors, addressing the problems of both food waste and food insecurity (Hecht & Neff, 2019; Neuwelt-Kearns, 2020). Therefore, the partnership is obligated to support environmental and societal activities.

## 6.0 Conclusion and Recommendations

In conclusion, the food donation activities should be strengthened to encourage more food donors to engage with this program to reduce waste and help the community. In this discussion, food insecurity in Malaysia has been alarming with the immediate lockdown due to the Covid-19 pandemic. More people suffered, losing jobs and income. Therefore, food donation activities tremendously increased nationwide, and surprisingly, surplus food could be reduced. Food banks play a crucial role in connecting donors with recipients who experience food insecurity. By partnering with food banks, donors can contribute to the fight against hunger and food waste without directly distributing the food. This effort enables surplus food to be distributed to those in need more efficiently and effectively.

This study is limited to only food donors, and the findings cannot be generalised. Hence, more studies on food banks' initiatives toward food donation activities are needed. An in-depth comparative analysis may also be conducted to ascertain environmental and sense of community factors to engage with food donation activities.

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## Paper Contribution to Related Field of Study

This paper has identified the prevalence of food donation activities among food donors during Covid-19. The findings help support future research on the significance of food donations and their impact on the environment.

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