

Remodelling Traditional Food Bank Supply Chain to a Virtual Supply Chain in Sri Lankan Context

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Introduction

“Food insecurity” is a global issue, affecting 3.9 million individuals in Sri Lanka (SL) with severe consequences (FAO and WFP, 2023). Food Banks are a non-profit initiative focused on reducing food insecurity, with a supply chain that can be outlined as follows, donors - supermarkets providing surplus food (Reusken, Cruijssen, and Fleuren, 2023) and individuals donating funds; food banks - organizations that distribute food at free of charge; and beneficiaries - individuals and families receiving assistance from food banks (Rivera, Smith and Ruiz, 2023).

Multiple difficulties are faced by parties involved in food bank supply chains. Individual donors lack personalized feedback on the impact of their donation, and struggle to find and give to preferred causes leading to lack of motivation to continue donations (Rivera, Smith and Ruiz, 2023). Food banks face challenges due to inappropriate fundraising strategies, high cost, a lack of regular donations, volunteer dependence, a lack of organizational capacity, managing demand and distribution and perishable inventory (Stötzer and Kaltenbrunner, 2023). Beneficiaries struggle with unsuitable, unusable or low-nutrition food, that is spoiled or not meeting beneficiary’s nutritional requirements (Stein, 2022). The study proposes a virtual food bank concept to reduce supply chain costs, increase donations, and enhance beneficiary experience. There is no research conducted on food banks such as ‘Kadamandiya’ food bank in SL, and related culture.

Objectives

This study aims to examine the feasibility of changing main donors of food banks from supermarkets to individuals and donation type from food to cash. Further, to provide recommendations to redesign food bank supply chain by introducing a mobile application for donations; removing inventory and managing distribution; and reducing human resource requirement through partnerships and technology.

Methodology

This study employed both secondary and primary data: namely literature review and an online questionnaire shared on social media using sample of 35 participants. Data on mediating (food bank supply chain, mobile app), moderating (supply chain partnerships – supermarkets, restaurants, food delivery apps), and dependant (beneficiary expectations) variables were collected using literature review whereas data on independent (donor expectations, behaviour, preferences) and confounding (culture, technology) variables were collected and confirmed using questionnaire. The data were analysed using thematic analysis method.

Results and Discussions

Majority of participants were females, aged 25-35, and 90% of them donating occasionally between Rs.1,000 and Rs.250,000 in cash and other means annually. Out of total respondents, 85% expressed concern about the food quality for beneficiaries. Also, 85% preferred routine cash donations ranging from Rs.500 – Rs.10,000 per month if a mobile app is introduced. It was revealed that 70% of participants are likely to donate to food banks despite only 45% being familiar with the concept.

Futher, 48% of donors are driven by beneficiary happiness, 29% by religious impact, 3% by personal satisfaction, and 3% by societal recognition. Demotivators for donations were 28% because of the misuse of donations by beneficiaries and charitable organizations such as Elders' homes due to; 8% waste of donations, 8% insufficient income, 4% high priced donation tickets, 4% misleading of donors, 4% charities operating for fame, 4% habitual collection by beneficiaries, 4% unsatisfied beneficiaries, 4% donors not being appreciated.

All participants indicated that moderate to high familiarity in using mobile phones, where 80% were highly familiar with online payment. 90% preferred mobile apps for donations due convenience, timesaving, and reminder setting capabilities.

Table 1: Summary of Survey Results

Main motivator	48% Beneficiary happiness	
Main demotivator	28% Misuse of donations	
Familiarity of food banks	45% Highly familiar	
Likeliness to donate food banks	70% Extremely likely	
Familiarity using smartphones	80% Highly familiar	
Familiarity with online payment		
Preference to donate via an app	90%	
	Currently	If app was available
Donation frequency	10% Routinely	85% Routinely
Donation amount	1,000 - 250,000 (Annually)	500 – 10,000 (Monthly)

Conclusion and Recommendations

Donor concern on food quality can be addressed by volunteers choosing the nearest good-quality restaurant/ supermarket/ grocery store based on health information, food preferences, dependants, and ability to prepare food by beneficiary and displaying the selected menu to donors on app. The findings on familiarity with food banks in SL emphasize the significance of popularizing food banks to attract donations in SL. In response to motivators and demotivators to donate, a mobile application can be introduced that would send delivery confirmation to donor, once food pack is delivered to beneficiary, display donation history, provide periodic updates on situation and developments of beneficiaries, collect personal details and motivators to donate from donors when registering to prompt donations and offer annual, monthly, and weekly subscriptions for food cards priced at one day worth of cooked food or groceries with delivery charges and operational costs. Further, recommendations for concept implementation include naming the application as ‘Dansala’ and functioning in Sinhala, Tamil, and English to match Sri Lankan culture and promoting food cards of beneficiaries receiving least donations.

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