



# STAKEHOLDER PERCEPTIONS OF MOBILE FAST FOOD TRUCK VENDING IN A DEVELOPING COUNTRY

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## Keywords

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## ABSTRACT

This study aimed to examine the stakeholder views on introducing a mobile fast food vending business model in Harare, Zimbabwe. A quantitative study was conducted using two different pre-developed questionnaires for quantitative analysis. Samples were drawn from two main stakeholders mainly: registered fast food operators, and fast food consumers. The quantitative data was analysed using SPSS 20 through descriptive statistics. The result shows that the city is socially and economically ready for a mobile fast food vending model but lacks a legal and regulatory framework to operationalise mobile fast food vending without causing health concerns. This study contributes to knowledge on perceptions of mobile fast food vending in a developing country context and adds to the theory on the mobile fast foods truck vending business model. The study gives suggestions for researchers, policymakers and management necessary before introducing this innovation within fast food businesses.

## INTRODUCTION

Street food vending used to be commonplace in the past four decades around cities globally (Balkaran, [1]). However, sanitary concerns regarding street food and complaints from established brick-and-mortar restaurants caused its popularity to slowly fade out in major cities' streets and roads Gold, [2], Rane, [3]. However, with vast technological advancements over the years, the perceived sanitary problems related to street food vending have been addressed, and its cultural and economic importance to street activities and public life has once again been severally acknowledged (Bouafou, Beugré, & Amani, [4]).

In the 1980s, city street vending success has been witnessed for ice cream, hot dogs, bread carts and milk businesses globally (Wanjek, [5]). Consequently, street food vending has remained a common business model for informal and small business traders with also some large corporates tapping into this business segment to drive significant sales in Africa (Holy & Makhoane, [6]; Knox et al., [7]; Skinner, [8]). Present-day markets characterised by high unemployment and high operational costs have witnessed a rising adoption of vending business model as a survival strategy (Bouafou et al., [4]). Vending products now include products such as yoghurts, pies, drinks, and biltong amongst others in Zimbabwe (Skinner, [8]). According to the National Employment Council (NEC) food and allied industry report ([9], p.37), at least 10 000 people are employed countrywide as full-time employees or agencies in food product vending operations.

Beresky ([10]), argue from a planning perspective that mobile food trucks contribute many important social, cultural as well as economic functions to the well-being of citizens in cities. In developed countries, the growth in demand and popularity of food trucks is rising suggesting a broader trend towards mobile truck-based commerce to solve the current growth needs of fast food businesses (Alfiero, Giudice & Bonadonna, [11]). Additionally, entrepreneurs in a wide range of products such as clothing, personal services, and banking, are recognising the economic advantages of the mobile truck stores concept as compared to traditional physical brick-and-mortar stores (Chukuezi, [12]). Yet, in developing countries such as Zimbabwe, mobile food vending is not providing much revenue contribution to the food industry. Despite the popularity of street vending, little has been researched on its impact on large corporates' growth initiatives. Instead, several researchers (Bhila & Chiwenga; [13]; Chukuezi, [12]; Njaya, [14]) have been focusing on street vending and the informal sector, with none-to-little attention on the impact of food vending on formal establishments.

The fast food industry is faced with stiff competition and a suppressed economy that is impacting revenues and operational challenges. According to the food industry NEC ([9], p.33), sales volumes are continuing to drop in fixed fast food outlets, forcing shop closures totalling 869 since 2009. Additionally, registered fast food operators have decreased from 319 in 2009 to 285 in 2014 due to rising business failures and closures (NEC, [9], p.35). The mobile food trucks can provide sales within the streets that fixed, traditional, brick-and-mortar stores are unable to tap into because of their fixed location. Fast food trucks are mobile and can move to areas where there is demand and escape situations of stagnant or low business.

It is against this background that this study aims to examine the stakeholder perceptions on the fast food industry adoption of mobile food truck vending within a developing country context such as Zimbabwe.

## Business Concept of Mobile Fast Food Vending Trucks

A mobile fast food truck is a vehicle that allows the cooking and selling of food inside of it (Yoon & Chung [15], p.1). According to Young [16], technological advancement has led to the manufacturing of trucks fitted with a complete set of equipment normally found in a physical restaurant such as inbuilt cooking stoves, fridges, sinks, and fryers. This development has allowed food to be prepared within a clean environment with the necessary amenities such as portable movable toilets, trash bins, generators, water tanks and gas tanks (Alfiero et al., [11]). Reznar Brennecke, Eathorne and Gittelsohn's ([17]) view of mobile food trucks have been a formal optional model for physical restaurants that permits and organises mobile fast food vending rationally and logically which can sustain the well-being of individuals, groups and cities. These mobile fast food trucks can be positioned alongside busy streets or at sites where there is more human traffic and prospective fast food consumers. These mobile fast food trucks are common in the United States and some of the parts of European countries and are commonly known as "gourmet taco trucks" or "mobile food trucks" (Strand, [18]).

## Health and Safety Issues of Mobile Fast Food Truck Vending

According to Pietersen ([19]), mobile food trucks can create public health issues when their products are exposed to environmental elements such as the sun, air pollution and passerby contamination. That is why, in developed countries such as the United States of America (USA), regulated and licenced mobile food trucks are required to have running hot and cold water, refrigerators and proper waste disposal (Beresky, [10]). However, in developing countries, food storage and handling are commonly problematic when street food vendors illegally prepare and store food (Habib, [20]).

Therefore, in most cities in the USA, mobile food trucks are subjected to rigorous inspections. In studies by (Gould et al., [21]; Rane, [3]), on cases of mobile fast food poisoning origins, it was found that mobile food trucks had the same sanitary level as brick-and-mortar fast food stores. The study further concluded that health and safety risks were the same for mobile fast food trucks and fixed physical fast food stores. However, in a study of 95 food trucks, it was found that the food worker handling practices most closely associated with critical risk factors that contribute to foodborne illness: improper temperatures, poor personal hygiene, and unsani-

tary food handling practices (Gould et al., [21]). Yet, within other communities such as the Asian communities, street fast food vendors appreciate regular health inspections as a necessary measure that guarantees cleanliness and freshness that normally put off some consumers from buying and eating street fast foods (Winarno, [22]).

Within developing countries, the safety of street fast food is still being reported as a major issue for public health resulting in governments and scientists promoting public awareness to minimise the risk of disease outbreaks (Alimi, [23]). In African countries such as Ouagadougou, Burkina Faso, street fast food operators were reported not to be concerned about hygienic practices but rather about making money and providing affordable meals (Fosiul et al., [24]). Similar, issues were also reported in Accra, Ghana where old mobile food trucks without modern facilities were found to be spreading diarrhoea pathogens from their fast foods prepared at street vending sites (Food and Agriculture Organisation (FAO), [25]).

This shows that mobile fast food trucks remain a health concern in Africa because of the use of ordinary facilities whilst in developed countries cities, mobile truck vending is thriving with safe and healthy fast foods prepared on the streets. Furthermore, in developed countries, strict food handling and storage techniques are occasionally sanctioned on mobile fast food trucks to protect fast food consumers (Gould et al., [21]). In this way, all the people involved in fast food truck vending are made aware of the regulations of mobile fast food facilities on safe practices, personal hygiene, utensils and equipment cleaning, layouts, and food storage temperatures (Wiatrowski, Czarniecka-Skubina, Trafiałek & Rosiak, [26]).

General awareness is further achieved by Health code requirements, such as, in America, Section 113947.3 which stipulates that at least one employee on each truck must possess a food handler's certificate obtained by passing a test accredited by the American National Standards Institute valid for three years (Albala, [27]). In the United Kingdom (UK), the Food Standards Agency offers comprehensive rules on mobile trucks' fast food safety (Food Standards Agency (FSA), [28]). In Mumbai, India, the Food Safety Act of 2011, requires all food hawkers such as vegetable, fruit, and fast food hawkers to stick to basic hygienic rules such as apron-wearing, gloves wearing, use of clean utensils and use of portable clean water (Sun, Cheng & Wang, [29]). However, in developing nations' cities such as Harare, cooked street foods vending is illegal and only processed foods such as ice cream, drinks, milk products, and meat products are allowed on the streets (Harare City Municipality Hawkers and Street Vendors By-laws, [30]).

According to Ehrenfeucht's [31] arguments, mobile fast food trucks contribute to vehicular and pedestrian congestion when food trucks concentrate in a few locations in the Central Business Area (CBD). Frommer and Gall [32] also contend that mobile fast-food trucks obstruct traffic, distract drivers, trigger accidents, and increased vehicular air pollution and parking conflicts. However, there are few empirical studies to test the claim that fast-food trucks trigger street congestion. In a study in Washington DC by Ehrenfeucht [31] to assess the pedestrian traffic and car congestion in areas that operate food trucks, it was found that the presence of fast food trucks did not severely cause an increase in congestion across seven different days.

In most developing countries cities, pedestrian and car congestion is a critical issue. This means City Authorities have ongoing CBD zoning processes to manage road and pedestrian congestion within the CBD. According to the AG [33], the Harare City Council is spending at least 20% of its budget to decongest the CBD. Street vending is considered illegal within the CBD (Hove, Ndawana & Ndemera, [34]). Furthermore, a usual phenomenon whereby mobile fast food trucks are vending in action is when consumers temporarily form a single file line along the street sidewalk (Frommer and Gall, [32]). Contrary to this Yoon and Chung [15] argue that mobile food trucks may reduce road congestion by providing an eating-out option near consumer locations instead of forcing consumers to travel to where physical fast food stores are located.

Boonjubun, [35]; Loomis, [36]; Kettles, [37] argues that mobile food trucks impact a city's appearance and aesthetics, and because they do not pay directly to utilise street space, they have no reason to maintain such used space. City Authorities occasionally raise the concern about the negative environmental effects of having fast foods on the streets (Flores, [38]). Additionally, Martin [39] contends that fast food trucks are sometimes considered unpleasant as they generate unwanted noise and litter. This is a common practice in African cities when consumers of ice cream or bottled drinks cause street litter, and ice cream bells used to attract buyers become a form of noise pollution in quiet neighbourhoods (Amegah & Jaakkola, [40]). However, there is no empirical evidence to support that fast food truck customers are more likely to litter the streets than fixed fast food takeaway customers or individuals consuming their food. Studies in Makkah City, Kingdom of Saudi Arabia (KSA) have shown that fast food truck consumers are aware of the need to keep fast food trucks location and remove garbage after consuming their food (Ahmed, Attalah & Assaggaf, [41]).

## **Legal and Regulatory Issues of Mobile Fast Food Trucks**

For any innovation to operate effectively and efficiently there must be a legal and regulatory framework in existence (Kern Public Health, [42]). According to Miller [43], inappropriate regulations raise the cost of doing business, and growth and can distort the market. Thus, Boonjubun [35] contends that municipal planners must balance the competing interests of fixed fast food stores and mobile fast food truck vending as an alternative formal business model. The mobile fast food trucks model is underpinned by the central place theory (CPT) which stipulates the concept of a minimum number of clients (threshold) and the maximum distance travelled by clients (range) as key elements (Choy, [44]). The structure of a CBD of modern cities is based on the CPT where city planners must ensure consumers are provided with sufficient amenities they require to minimize their travel (Planning Advisory Service (PAS), [45]). This theory assumes rational consumer behaviour and growth of economic landscapes, which can prompt entrepreneurs within the metropolitan provinces to compete for low-order goods offering that consumers are not willing to travel for long distances such as a search for fast foods (Balkaran, [1]). In other words, fast food consumers can enjoy convenience when city by-laws permit mobile fast foods within the CBD.

There is a need for appropriate policies and by-laws to govern how fast foods can be allowed to operate. According to Cormier [46], policies are tools for setting standards in the provision of public goods and services. These policies help to protect consumers, investors and the general public. The by-laws are enablers of control mechanisms to ensure the urban districts are safe and clean areas (Emergent, [47]). Within food vending by-laws operating in developed countries, standards are set in the provision of public goods and services provided by fast food trucks and the manner of such operations (McNeil & Young, [48]). Such by-laws give the City Authorities rights to collect revenue for the management of the street vending sites and services provided such as refuse collection, water connection points or electricity connection points.

However, though modern food trucks have safe and clean operations, most developing country cities use restrictive policies, by-laws and regulations meant to control and regulate the growth of vending businesses (Moreo, [49]). These regulations make fast food truck vending illegal in principle and place responsibility on mobile fast food operators for making city streets unclean, blocking traffic and a public nuisance (Fremlin, [50]). These policies make mobile fast foods business within the CBDs operate without a regulatory provision. In Harare, the Harare Licenced Premises Act [51] sale of cooked food within the streets is forbidden.

The Harare City Hawkers By-Law [30] permits mobile vending of processed foods such as ice creams, drinks, and water. This regulation on mobile vending includes standard requirements about food safety, permits and fees, vendor location, and traffic safety (Harare City Hawkers by-laws, [30]). This means that mobile vending is regulated at a local city level and this typical regulation is normally found in municipal codes to regulate mobile food vending ranging from being restrictive to being permissive (Flores, [38]). However, in other cities, municipal codes are delegated to agencies to regulate mobile vending within a limited context. Examples of American cities with delegated regulations include Kansas City, Missouri, San Francisco and California, where the parks and recreation departments regulate mobile vending in parks around the CBD (City of Kansas, [52]). The municipality codes that regulate mobile vending must comply with applicable state laws. According to Auad, Ginani, Dos Santos Leandro, Nunes, Domingues Junior and Zandonadi [53], developed states with successful mobile vending in CBDs regulate the health and safety of mobile fast food vending under the food codes and state retail food codes. Compliance to state retail codes ensures there is the protection of the public from food-borne illness with the inclusion of provisions designed to prevent food contamination and promote hygiene (FAO, [54]). In developing countries such as Zimbabwe, these codes are equivalent to the Public Health legislation which is administered by the Ministry of Health and Child Welfare with delegated authority to the Harare City Health Department to oversee the requirements of the Act.

To promote uniform food safety regulations within the cities with functioning fast food trucks, a model food code model was developed, under which mobile fast food vending facilities are regarded as a form of fast food restaurant establishment that is subject to the code's health and safety provisions (Tester, Stevens, Yen & Laraia, [55]). This means for a fast food truck to operate, a certificate that shows compliance with the model food code, the state retail codes or the municipal codes must be obtained. This is similar to the issuance of a Health Certificate in compliance with the Public Health Act for one to vend in a designated area in Harare which prompts the issuance of a Hawkers Licence (Harare City Hawkers By-law, [30]). An annual fee is required on the application for a Health Permit and Trading Licence whereby the application process includes the submission of an operating procedure statement that enlists a complete menu of fast food offered, details on how food is to be handled, cooked, stored and served; and how kitchen utensils and equipment is to be cleaned and sanitised (Harare City Licensed Premises By-laws, [51]). This law can be applied to mobile fast foods, although it currently applies to fixed fast food stores only and makes no mention of mobile fast food operations.

Such laws specific to mobile fast food trucks were found in American cities, where valid food handler certificates are issued to one employee per mobile food truck unit as an indication of successful examination of food safety and nutritional standards (Hernandez-Lopez, [56]). In addition, the City Authorities subject the truck to thorough inspection before issuing an operating licence by checking the operational status of sinks, tanks, air vents, refrigerators, stoves, floor space, counter space, and ceiling height (Berensky, [10]). This means a health permit can be cancelled if an inspector carrying out an unscheduled visit finds the minimum required standards not adhered to that may result in health hazards such as inadequate food storage temperatures. Inspectors are required to inspect and issue an inspection report of a mobile fast food at least twice a year and whenever a public complaint is received (Esparza, Walker & Rossman, [57]). However, most cities limit the total number of fast food vendors operating in the CBD to prevent over-saturation, for example, New York City limits mobile fast foods to 3100 general permits (Choy, [44]).

### **Socio-cultural Issues of Mobile Fast Food Truck Vending**

According to Choy ([44]), one possible reason to explain why fast food trucks have become so strongly associated with ethnocultural cuisines is that food is an essential element of both individual and cultural identity formation. Although it is common knowledge that food cuisine is culturally related, anthropological studies affirm that food choices are shaped by individual, cultural, historical, social and economic influences (Chukuezi, [12]). However, cultural or personal identity is not fixed, because culture is the embodied set of realities in which people create and recreate identities, meanings and values (Agyeman, Caitlin & Hannah, [58]). Therefore, fast food choices are not insignificant because cultural identity is fluid rather than fixed. Cultural identity influences people's daily choices in how they construct themselves about others (Chen & Lin, [59]). Such cultural dynamics are present in Zimbabwe with changes in taste for Chinese foods increasing in recent years amongst the middle and high class.

Food is an important opportunity for daily choices that marginalised groups use to navigate and negotiate their cultural identity. Thus, Slocum [60] argues that eating ethnically cannot be completely written off as a liberal pretence because culinary connections have the potential to show people the stakes involved in eating. Similarly, Nemeth, Rudnák, Ymeri and Fogarassy [61] argue that cultural values are reflected in food practices such as how food is eaten, sold, prepared, cultivated and produced. This means food is

not just a matter of biology or personal taste but the food is part of and a representation of communal identity as mobile food trucks operate in front of nightclubs, universities, stadiums, and young adult neighbourhoods (Hernandez-Lopez, [56]).

Ibrahim [62] contends that the mobile food truck model is becoming a social vitality that is growing and developing social interactions. Wessel [63] also argue that mobile food trucks promote street food culture and urban social life. The location of fast food trucks on empty parking lots and sidewalks attracts pedestrian activity and use of public space, leading to more public space and street vibrancy (Beresky, [10]). Street food trucks reflect mosaic cultures in cities such as Smazeny in the Czech Republic, Choripan in Argentina, and Borek in Turkey (Kukic, [64]). However, in some cities such as Toronto, Canada, the food variety does not reflect cultural makeup serving mostly hot dogs, pretzels and chestnuts (Albala, [27]). Thus, Newman and Burnett [65] associate mobile fast food trucks with innovative menus that bring out a city's unique culture and the vibrancy they create in urban spaces. Food trucks add variety, displaying a community's culinary and cultural diversity as they provide new options for consumers not willing to travel long distances (Annenberg & Kung, [66]). This can be a tourist and resident attraction by servicing a niche market with specialised ethnic or unique food menus that may not be carried in fixed fast foods.

Mehta [67] argues that the mobile fast food truck model is a post-modernism concept that views street vending as a healthy reaction to restrictive planning by modernists to achieve greater social justice. Harvey [68] a proponent of postmodernism postulate that social justice is achieved by blending and de-centring of authority and traditional sources of knowledge. In this way, city planners of recent times view street vending as a material activity with formal recognition as an important contributor to social and economic development through the creation of frameworks that incorporate vending in new city layouts (Molefe, [69]). Contrarily to this, the modernist approach to urban planning is premised on the notion of towns and cities being constituted by formal sector activities only, and considering all vending activities as informal sector activities (Joseph, [70]). This approach brings a very rigid and restrictive planning and development control system to street vending that makes it an illegal activity. Yet, the post-modernism perspective is concerned with an individual attempt to regain control over their own lives by introducing mobile food truck vending that is part of their rebelliousness, messiness and informal imagery (Flores, [38]). Thus, the appropriation of streets and parking lots as places of doing business or cultural navigation and negotiation challenges the modernists' modes of governance and urban planning that call for orderliness and authoritative zoning (Kim, [71]).

### **Economic Issues of Mobile Fast Foods Vending Trucks**

Lederman [72] view mobile food truck business as a free enterprise for entrepreneurs and skilful chefs, able to bring economic vitality with relatively low start-up costs as compared to brick-and-mortar fixed fast food restaurants. In addition, mobile fast food trucks offer a testing ground for new recipes to entrepreneurs at a low cost by presenting new products and experiences to contribute to the culture and authenticity of a city (Pietersen, [19]). According to a study by PAS [45], mobile fast food trucks require approximately one-tenth of the start-up costs as compared to brick-and-mortar establishments. In addition, these trucks can be a place for experiments with new recipes and ideas without engaging in huge financial commitments (Sulaimani et al., [73]). As a result, mobile food trucks are thriving in developed cities with original and unique food menus from diverse cultures with cuisine quality moving into areas with higher demand (Lederman, [72]). Mobile food trucks can be a response to economic and operational challenges currently faced by restaurants coming out of the global crisis. Studies conducted by the PAS [45] reel that mobile fast food trucks are the fastest-growing component of the restaurant industry in 70 different segments of American states. Holmes et al. [74] described the mobile fast food trucks model as a long-term trend with traditional fixed restaurants beginning to move into mobile fast foods. According to Sulaimani et al. [74] there is a growing interest among the big fast-food chains to enter the food trucks market with their menus and brands. The fixed restaurants and mobile food trucks simply reflect different business models and food trucks forgo the higher costs of operating a restaurant by foregoing the advantages that owning a storefront establishment provides (Holmes et al., [74]).

Mobile fast food truck vending is a mobile enterprise that can create efficient use of space and time when unrestricted by laws and regulations (PAS, [45]). Kapell [75] argues that when mobile fast-food operators are located in a vacant parking lot, they are creating an efficient use of space that could have stayed empty. Furthermore, mobile fast food trucks can move between areas with low demand to areas with high demand (Reznar et al., [17]). This solves fixed fast food stores' challenge of unevenly balanced demand throughout the day such as busy lunch or dinner hours and not-so-busy hours between these periods (Kapell, [75]). In this way, mobile food trucks contribute through tactical urbanism and private investment for urban revitalisation that allows business activities and vibrancy in underutilised city spaces (Caramaschi, [76]). Tactical urbanism views incremental, small-scale improvements as a way to stage more substantial investments by municipal authorities (Elrahman, [77]).

Mehta [78] argues that streets, plazas, squares, parks and other urban spaces can support, facilitate and promote public life which is an essential part of private, home and workspaces. Streets are the primary urban public space which people use for many aspects of life which are also known as a third place that is outside of the home or workplace (Mehta & Bosson, [79]). Mehta [67] refers to third places as places of socialisation and vitality with seating, shelter and personalisation such as bars, and restaurants. Hence, when regulations provide for the presence of mobile food trucks in streets, it becomes part of tactical urbanism that provides a third place for people to socialise as they buy and consume street fast foods (Elrahman, [77]).

Most cities operating mobile fast food trucks are rooted in community and producing city revenue through licensing fees and permits, income taxes, whilst promoting job creation, food truck culture, inter-culturalism, entrepreneurship, street vitality and neighbourhood livability (Kapell, [75]). PAS [45] considers mobile food trucks as an effective way to supply seasonal, sporadic and special events food supplies where there could never be a prolonged demand to sustain a permanent business structure. Additionally, mo-

mobile food trucks offer employees considerable flexibility in working hours, consequently providing choices in work locations and childcare obligations or as an extra piece job to supplement income (Flores, [38]). Research by Loh and Hassan [80] showed that mobile food trucks assist in market penetration strategy as they enable customer convenience through customer ease of access to fast food products.

In light of the reviewed literature revealing the best practices in developed countries on mobile fast food truck vending and the health and safety, legal and regulatory, sociocultural, technological and economic issues to consider to implement the model within a developing city, the primary objective of the study was to examine the stakeholder perceptions on mobile food trucks model in fast food businesses in a developing nation city. To address the primary objective, the following secondary objectives guided the study:

- To examine the health and safety perceptions of mobile food trucks in fast food businesses.
- To explore the legal framework perceptions associated with the mobile food trucks model in fast food businesses.
- To explore the sociocultural perceptions of the mobile food trucks model in fast food businesses.
- To examine economic ways in which mobile food trucks as a viable business option for fast food business models.

## **METHODS**

The quantitative method was chosen since a deductive approach was needed to interpret the quantitative data. The target population comprised registered fast food operators and fast food consumers. The NEC [9] records showed a total of 285 registered fast food operators in Harare city and are estimated to serve 2 million fast food consumers. The registered fast food operators were considered legitimate players in the fast food industry with experience and business activities that are traceable, with a reliable voice of understanding the industry dynamics. A consumer sample was drawn from fast food buyers and consumers at randomly selected fast food outlets.

Systematic stratified sampling was used to select fast food operators enlisted on the NEC catering registered operator database. The choice to use stratified sampling was utilised to ensure a spread in the respondents from the population. The sample segment of fast food consumers was selected using random sampling from the restaurants of the selected fast food operators as they come to dine out.

### **Data Collection**

A two-set of questionnaires comprising 5- point Likert scale questions containing a set of predefined values to choose from a fixed scale ranging from 1=strongly disagree to 5=strongly agree was administered using a closed survey method between the operators and the consumers as stakeholders, since the study is cross-sectional. The questions on the two questionnaires were prepared based on the literature review to understand their perceptions of the mobile food trucks model in the Zimbabwean context. A 25-item single scale was used to measure consumer perceptions and a 22-item single scale was used to measure operator perceptions of mobile fast food truck vending. The questions were pilot tested and tested for validity and reliability. Printed questionnaires were distributed in the selected outlets for the Managers and consumers to fill in and return. The researcher ensured the respondents fill in and completed and collected at one instant. In this way, a high response rate was achieved.

### **Data Analysis**

Data analysis was the quantitative analysis using SPSS on the collected numeric data from the two questionnaires with emphasis on descriptive statistics using frequencies, means, standard deviations, tables and graphs. The reliability and validity of the research instruments were measured using Cronbach's tests.

## **RESULTS**

### **Demographic Data**

Out of the 145 questionnaires administered amongst the fast food consumers at the selected fixed restaurants, a total of 117 responses were received implying an 80.7% response rate, and out of the 38 questionnaires administered amongst the selected fast foods operators a total of 31 responses were received implying an 81.6% response rate, both of which are a good response rate (Saunders, Lewis & Thornhill, [81]). The demographic information of the 148 respondents is presented in Table 1 below.

Table 1: Demographic data

Variable	Category	Fast Foods Consumers' (%) N=117
<b>Age</b>	Below 25 years	35%
	25-35 years	41%
	36-45 years	14%
	46-55 years	6%
	Above 55 years	4%
<b>Gender</b>	Male	51%
	Female	49%
<b>Education Level</b>	High school	30%
	Diploma	28%
	First degree	27%
	Post-graduate	15%
	Other	0%
<b>Managerial Level</b>	Junior Management	0%
	Middle Management	0%
	Senior Management	100%
	Other	0%
<b>Annual income</b>	< \$18 000	75%
	\$18 000 - \$26 000	14%
	\$26 001 - \$84 000	9%
	> \$84 000	3%

Source: Author's compilation

It is evident from Table 1 that the majority (41%) of the fast food consumer respondents were aged between 25-35 years. Most of the fast food respondents (30%) had at least a high school qualification, which implies that most respondents were mature and knowledgeable enough to handle the research enquiry. The majority of the fast food consumers were males (51%), and most of them had at least an annual income below \$18 000 (75%). This implies that the respondents as the first group of stakeholders who consume fast foods and hence have an interest in the research subject and can give reliable perceptions on mobile fast food trucks. Table 2 shows the demographics of the fast food operators.

Table 2: Fast Foods Operators Demographic Data

Attribute	Description	Fast Foods Operators (%) N=31
<b>Organisation type</b>	Public company	23%
	Private company	61%
	Sole Trader	16%
<b>Hierarchy</b>	Top management	71%
	Middle management	29%
	Low management	0%
<b>Annual Income</b>	< \$50 000	23%
	\$50 000-\$100 000	19%
	\$100 001 - \$500 000	32%
	> \$500 000	26%
<b>Number of employees</b>	1-20 people	55%
	21-40 people	16%
	41-60 people	6%
	> 60 people	23%
<b>Years of operation</b>	< 5 years	29%
	5-10 years	32%
	11-15 years	10%
	> 15 years	29%

Source: Author's Compilation

The majority of the fast foods operators as the second group of stakeholder perception were private companies (61%), 5-10 years in business (32%), with at least 1-20 employees (55%), at least an annual income of \$100 001-\$500 000 (32%). Most of the respondents (71%) were from the top management of the fast food business.

**Reliability Data**

Cronbach Alpha as one of the most-used methods for establishing reliability is reflected in Table 3. The Cronbach's Alpha ranged from 0.746 to 0.939 for the Operators' questionnaire whereas the Cronbach's Alpha ranged from 0.783 to 0.885 for the consumers' measures, implying that both indicators have reliability statistics over the required threshold of .70 (Hair, Ringle & Sarstedt, [82]).

Table 3. Construct Reliability

	Operators' Instrument Cronbach's Alpha
HEA	0.939
ECO	0.782
LEG	0.811

Note: LEG= Legal factors; HEA= Health and safety factors; ECO= Economic factors

	Consumers' Instrument Cronbach's Alpha
SOC	0.783
HEA	0.885

Note: SOC = Social factors; HEA= Health and safety factors;  
 Source: Author's Compilation

**Descriptive Statistics**

*Health and Safety Factors' Perceptions of Mobile Fast Foods Trucks*

This section presents the perceptions of the consumers and operators on the mobile fast food trucks business model. The consumer and operator respondents were asked a series of questions on how they perceive mobile fast food trucks' hygienic level, cleanliness level, food exposure level, nutritional level of food served by trucks, food safety prevention level, pollution level, noise level, and congestion level Table 4 summarises the results from the respondents.



Table 4: Health and Safety Perceptions of Mobile Fast Food Trucks

Operators					Consumers			
	N	M	S.D	Rank	N	M	S.D.	Rank
Perceived hygienic level	31	2.55	0.72	6	117	2.34	0.85	7
Perceived cleanliness level	31	2.71	0.68	5	117	2.54	0.66	5
Perceived food exposure	31	2.83	0.53	1	117	2.83	0.44	1
Perceived nutritional level	31	2.81	0.55	2	117	2.60	0.48	3
Perceived food safety prevention	31	2.80	0.56	3	117	2.55	0.51	4
Perceived pollution	31	1.45	0.94	8	117	1.35	0.99	8
Perceived Noise	31	1.48	0.89	7	117	2.38	0.74	6
Perceived congestion	31	2.74	0.61	4	117	2.67	0.46	2

Source: Author's Compilation

The results in Table 4 demonstrate the frequency distribution of the questionnaire items based on the operators' responses on health and safety factors: Perceived food exposure (M=2.83; S.D=0.53) which had the highest mean value, Perceived nutritional level (M=2.81; S.D=0.55), Perceived food safety (M=2.80; S.D=0.56), Perceived pollution level (M=1.55; S.D=0.94), was the lowest mean. The results show a strong strength mean value score of more than 3 for all the measurement items (Bhana & Bayat, [83]).

The results in Table 4 demonstrate the frequency distribution of the questionnaire items based on the consumer responses on health and safety factors: Perceived food exposure level (M=2.83; S.D=0.44) which had the highest mean value, Perceived congestion level (M=2.67; S.D=0.46), Perceived nutritional level (M=2.60; S.D=0.48), Perceived pollution level (M=1.35; S.D=0.99), was the lowest mean. The results show a strong strength mean value score of more than 3 for all the measurement items (Bhana & Bayat, [83]).

*Legal Factors' Perceptions of Mobile Fast Foods Trucks*

This section presents the perceptions of the operators on the mobile fast food trucks business model based on legal factor items on the questionnaire.

The fast food operators were requested to indicate whether legislation was restrictive or permissive towards mobile food trucks' business model operations in the city. The result is shown in Table 5.

Table 5: Nature of City By-laws and Regulations

Variable	Number	Frequency % (N=31)
Restrictive	22	71%
Permissive	9	29%

Source: Author's Compilation

Table 5 shows that the majority of operators understand the regulations of the city to be restrictive (71%). The city by-laws forbid the operation of mobile food trucks within the city's central business area.

The fast food operators were also requested to rate legal factor items on mobile fast food trucks if the regulations on location, time limits, issuance of permits and licences, health and safety, and inspections were conducive. Table 6 summarises the results from the respondents.

Table 6: Legal Factors' Perceptions of Mobile Fast Food Trucks

FAST FOODS OPERATORS' RESPONSES	N	M	S.D	RANK
Perceptions of location regulations	31	2.80	0.67	2
Perceptions on operations time limit regulation	31	2.53	0.88	4
Perceptions on truck permits and licences regulation	31	2.81	0.66	1
Perceptions of health and safety regulations	31	2.51	0.91	5
Perceptions of inspection regulation	31	2.55	0.74	3

Source: Author's Compilation

The results in Table 6 demonstrate the frequency distribution of the questionnaire items based on the operators' responses on legal factor items: Perceptions on truck permits and licences regulation (M=2.81; S.D=0.66) which had the highest mean value, Perceptions on location regulations (M=2.80; S.D=0.67), Perceptions on inspection regulation (M=2.55; S.D=0.74), Perceptions on operations time limit regulation (M=2.53; S.D=0.88), was the lowest mean. The results show a strong strength mean value score of more than 3 for all the measurement items (Bhana & Bayat, [83]).

*Socio-cultural Factors' Perceptions of Mobile Fast Foods Trucks*

This section presents the perceptions of the consumers on the mobile fast food trucks business model using socio-cultural factors items on the questionnaire. Table 7 summarises the results from the respondents.

Table 7: Socio-cultural Factors Perceptions of Mobile Fast Food Trucks

FAST FOODS CONSUMER RESPONSES	N	M	S.D	RANK
Perceptions of satisfaction derived	117	2.95	0.71	1
Perceptions of social interaction	117	2.45	0.85	4
Perceptions on satisfaction	117	1.43	0.96	5
Perceptions on convenience	117	2.78	0.72	2
Perceptions of social capital	117	2.77	0.73	3

Source: Author's Compilation

The results in Table 7 demonstrate the frequency distribution of the questionnaire items based on the consumer responses on socio-cultural factors items: Perceptions of convenience (M=2.95; S.D=0.71) which had the highest mean value, Perceptions of social interaction (M=2.45; S.D=0.85), Perceptions on social capital (M=2.77; S.D=0.73), Perceptions on satisfaction (M=1.43; S.D=0.96), was the lowest mean. The results show a strong strength mean value score of more than 3 for all the measurement items (Bhana & Bayat, [83]).

*Economic Factors' Perceptions of Mobile Fast Foods Trucks*

This section presents the perceptions of the operators on the mobile fast food trucks business model based on economic factor items on the questionnaire. Table 8 summarises the results from the respondents.

Table 8: Economic Factors' Perceptions of Mobile Fast Food Trucks

FAST FOODS OPERATORS' RESPONSES	N	M	S.D	RANK
Perceptions on the food pricing level	31	2.57	0.77	4
Perceptions of employment creation	31	2.65	0.74	3
Perceptions of market penetration level	31	2.81	0.69	1
Perceptions on viability	31	2.70	0.71	2

Source: Author's Compilation

The results in Table 8 demonstrate the frequency distribution of the questionnaire items based on the operators' responses: Perceptions on market penetration level (M=2.81; S.D=0.69) which had the highest mean value, Perceptions on viability level (M=2.70; S.D=0.71), Perceptions on employment creation level (M=2.65; S.D=0.74), Perceptions on food pricing level (M=2.57; S.D=0.77), was the lowest mean. The results show a strong strength mean value score of more than 3 for all the measurement items (Bhana & Bayat,

[83]).

## DISCUSSION

### Health and Safety Factors' Perceptions of Mobile Fast Foods Trucks

Both the operator and consumer respondents perceive food from fast food trucks as highly exposed. This is because concerns about hygiene, cleanliness and freshness often discourage people from eating street food (Winarno, [22]). The safety of street food has become one of the major concerns of public health and a focus for governments and scientists to raise public awareness (Alimi, [23]). According to Pietersen [19], mobile food vending is often perceived as a public nuisance which results in litter and other social ills. The view of the consumers is that food prepared by food trucks is exposed to the sun, air, passers-by, flies and cross-contamination. Moreover, according to Gould et al. [21], most people regard food prepared in the streets as exposed to bacteria contamination. Pietersen [19] also observed that food trucks may pose health issues through exposure to environmental elements such as sun, air and contamination by a passerby. However, Frommer and Gall [32] concluded that many inspections done in American cities' mobile food trucks found the conditions and food as sanitary as fixed restaurants. Additionally, Steyn, Mchiza, Hill, Davids, Venter, Hinrichsen, Opperman, Rumbelow and Jacobs [84] argue that street food provides a source of affordable nutrients to the majority of people especially low-income groups in developing countries. Barnes, French, Mitchell and Wolfson [85] argue that fast foods now can specialise to give calories and energy components healthy foods. However, PAS [45] also contends that mobile food trucks impede traffic, can cause accidents and create conflicts over parking in the CBD.

### Legal Factors' Perceptions of Mobile Fast Foods Trucks

The descriptive findings show that legislation is restrictive to the operation of mobile food trucks in the city's central business district. The presence of restrictive laws that make it illegal to sell fast foods from trucks, forbids new ways of doing business (Fremlin, [50]). This is because street food is generally seen as an unclean, public nuisance and blocking traffic (Alimi, [23]). According to Wallace [86], inappropriate regulations raise the cost of doing business and distort the market. Hence, a city should put appropriate and less restrictive regulations that permit fast food truck businesses in cities.

The result also shows that operators regard regulations on licences and permits, location and inspection as conducive and necessary for mobile food truck business model operating in a city. The need for permit and licence regulations is consistent with Flores's [38] argument that appropriate regulations set controls that ensure urban areas are clean and safe whilst allowing city authorities to collect revenue from fast food trucks and street vendors. For instance, in Harare, vending licences and permits are issued for processed food items under the Harare City (Hawkers) By-laws [30]. Similarly, in Kansas, Missouri, San Francisco and California cities, the Park and Recreation Department issues permits and regulates mobile food trucks operating within the CBDs (Hernandez-Lopez, [56]). Likewise, inspection regulations are important for the ongoing enforcement of health and safety regulation compliance (Esparza et al., [57]). According to Beresky [10] inspections regulations before and during licencing eliminate unsafe practices and health hazards to citizens. However, the issuance of permits also acts as a deterrent and control measure to limit mobile trucks on the streets and avoid congestion (Choy, [44]). City authorities tend to limit vending to design vending places and help mobile trucks from direct competition with fixed restaurants (Beresky, [10]). Licencing can also be issued based on the type of nutrition being sold in the food truck (Okumus, Sönmez, Moore, Auvil & Parks, [87]).

### Socio-cultural Factors' Perceptions of Mobile Fast Foods Trucks

The descriptive results show that fast food consumers regard mobile food trucks as convenient and a boost to social interaction. According to Ibrahim [62] mobile fast food trucks bring social vitality to a place by bringing social activity to ideal urban spaces. Similarly, Wessel [63], argues that mobile food trucks promote the mosaic culture and urban social life of a city. The location of food truck vendors on empty parking lots and sidewalks attracts pedestrian activities and use of public space, leading to more public life and street vibrancy (Beresky, [10]). Lederman also argues that mobile food trucks can bring cultures to particular cities through the quality and variety of street food (Lederman, [72]). In addition, cities can use food trucks as a method of displaying a community's culinary and cultural diversity, which can attract tourists and residents (Pietersen, [19]).

### Economic Factors' Perceptions of Mobile Fast Foods Trucks

The result shows that fast food operators regard mobile food trucks as good for market penetration and viability. This is supported by Frommer and Gall's [32] argument that mobile fast-food trucks can achieve greater market concentration if a greater number of units and locations are considered. In other words, fast food mobile trucks act as a form of intensive market distribution (Flores, [38]). Market penetration enables consumer convenience to access fast foods outside of fixed restaurant networks (Holmes et al., [74]). Moreover, mobile trucks are regarded as more viable with one-tenth of start-up costs compared to brick-and-mortar restaurants (Asmoro, Nurlailly & Aini, [88]).

According to Chukuezi [12], increased recognition of street food vending plays an important socio-economic role in terms of employment potential, providing special income and provision of food at affordable costs to lower-income groups in cities. FAO [89] also contended that street food vending employs over 37.8% of the labour force and contributes at least 38% of the GDP in Africa. Thus,

Njaya [14] argued that mobile truck vending is a sustainable business with manageable risks. Mobile trucks have the potential to create an efficient use of space as an otherwise empty lot is suddenly filled by food truck patrons (Moe, [90]). Furthermore, mobile food trucks can migrate to areas with high demand. However, Harare City has restrictive and punitive regulations against mobile food trucks and such viability and market penetration are achievable with unrestrictive laws when mobile food trucks can activate city spaces through private investment and boost the city revenue (Ngo, [91]).

## **CONCLUSION**

The research concludes that mobile food trucks as part of street food vending are perceived as less hygienic by fast food consumers and operators. However, food trucks have become more modernised with equipment and facilities to operate in clean environments and offer safe and healthy foods. The fast food operators in this study regard mobile food trucks as an economically viable business model that can enhance social interactions in the city and provide more market penetration. The existing legislation of the city is old and does not contain regulation of mobile food trucks which are regarded as a modern business concept that the regulators have incorporated into by-laws and statutes.

With rising competition and profitability challenges faced by restaurant businesses in developing countries, the study was necessary to examine the perceptions of mobile fast food trucks as a viable business model. Fast food operators that intend to introduce mobile fast food trucks must ensure they offer hygienic and sanitary service operations. This can be achieved by providing adequate equipment and ensuring the trained staff ensure cleanliness and food safety. Fast food operators must consider social and cultural needs when considering the menus to offer in the food trucks. Moreover, fast food operators can consider the advantage of mobility and lower capital outlay in food trucks than having a fixed restaurant. According to Holmes et al., [74] mobile food trucks bring greater market concentration, more consumer convenience and lower risk to test niche markets.

The study also contributes to government and city management authorities to craft appropriate regulations and policies that accommodate modern business models that are operational in developed countries' megacities. Legislation must permit mobile food trucks in cities with the necessary control of food safety, vehicle and passenger congestion, licensing and permits, time regulation, location regulation, and health and safety regulation.

This study has certain limitations. First, samples were drawn from a few participants based on two main stakeholders namely, fast food consumers and fast food operators. Different samples and different stakeholders using a longitudinal approach would enhance the understanding of cross-level perceptions of mobile stakeholders. Thus, future studies should use bigger samples of consumers, operators, regulators, financiers, investors, and environmental management to reflect their opinion and views on how mobile trucks are relevant in a developing country setting. Moreover, researchers from other developing countries, can expand on this research scope and investigate the social impact of mobile food trucks within their context. This study does not validate the research tool that can be used to measure perceptions within a wider context, future researchers can develop a universal tool to measure stakeholder perceptions of new business models.

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