Original Research Article

Bangkok Street Food Vendors (SME) Business Continuity During Covid-19 Pandemic

ABSTRACT

Aims: This study aimed at capturing the perceptions of Bangkok street food vendors related to the business continuity of SMEs during the covid-19 pandemic.
Study design: The study design followed the 7 Ps of the service marketing model: product, price, place, promotion, process, physical evidence, and people related to street food.
Place and Duration of Study: The study took place in Bangkok, Thailand from Summer 2021 until Fall of 2021.
Methodology: We included 200 participants (66 men, 124 women; age range 18-80 years) who were SME street food vendors, 40% of them were under 40 years old with 59% having no university education and 35% with a bachelor degree. Two-thirds of the vendors (86%) earned less than 500 USD a month.
Results: In terms of product the vendors stuck to the favorites (mean 4.34 and SD 0.97) trying to maintain quality and quantity while keeping prices constant as much as possible (mean 4.35 and SD 0.89). The most effective promotion was the 50/50 government food substitute co-payment (mean 4.69 and SD 0.99). Place changed from sit-down restaurants to take-away (mean of 4.77 and SD 0.96) and home delivery via food delivery apps (FDA). Process changes due to social distancing included screens and fewer tables (mean of 4.51 and SD 0.65) The number one physical evidence was wearing face masks and sanitization (mean 4.03 and SD 0.82). People changed in terms of customer mix with fewer foreigners and local tourists (mean of 4.77 and SD 0.75) as well as fewer migrant workers and more government agents taking a closer look at street food hawkers.

Conclusion: Street food hawkers adjusted all 7Ps of the marketing mix to assure business continuity during the covid-19 pandemic as discussed above. Moving to food delivery along with face masks and social distancing were the biggest changes. These predictors, however, would benefit from further work to validate reliability in Thailand, ASEAN, and worldwide.

Keywords: business continuity, covid-19, entrepreneurship, food services, food delivery app (FDA), hawkers, hospitality industry, SME, street food vendors.

1. INTRODUCTION

The coronavirus that spread from in Wuhan China in December 2019, was declared a worldwide pandemic by the World Health Organization (WHO) on March 11, 2020, by then there were more than 118,000 cases in 114 countries, and 4,291 people have lost their lives. In comparison at that time in Thailand 59 infections, 34 cured, 24 patients remain in hospitals, and only one fatality (https://www.tatnews.org/2020/03/infographic-coronavirus-disease-2019-covid-19-situation-in-thailand-as-of-11-march-2020-11-00-hrs). We compare this to June 27, 2021, total cases 244,447, recovered 26,873, deaths 1,912 and worldwide total cases 181 million, deaths 3.92 million. In comparison, some 60 million people died in WWII about 20 million military personnel and 40 million civilians in Russia alone 27 million people lost their lives. Covid-19 infections in Thailand, since the start of the third wave of the pandemic in Thailand on April 1st, 2021, have reached 203,784 cases, with 4,108 additional infections on June 24, 2021 (Thai PBS; https://www.thaipbsworld.com/tag/covid-19) Only 0.31 persons per 100 population received one dose of vaccine, as of June 24, 2021, 8.98 million doses were administrated mostly of Chinese variants of the covid-19 vaccine such as 1.8 million doses of AstraZeneca produced by Siam Bio and 10.5 million doses of Sinovac received from China (https://ourworldindata.org/coronavirus/country/thailand). While other countries allow asymptomatic COVID-19 patients to quarantine at home these patients without symptoms and treatment had to stay in hospitals for two weeks and after that another two weeks at home to generate revenue for hospitals that were empty due to cancellation of ellective surgeries. As hospitals eventually filled up in June 2021 asymptotic patients then were asked to do home isolation while they are waiting for hospital beds during the current crisis. This shows how the situation has escalated and with it the situation for street food vendors. One also has to mention that the country virtually has been closed for foreign tourists for over a year since March 2020, and a series of lock-downs have happened since then and various social distancing measures that affected food service establishments such as limiting operating hours, closing early by 9 PM, in some red zones total lockdowns, then since June 28 only take-out food has been allowed, and guests could not dine in. This also applied to street food stalls that no longer could serve their customers sitting down on the sidewalk. We explored the business continuity approaches of street food vendors as small medium-size enterprises (SME) on various dimensions following the 7Ps of service marketing including:

- Product
- Price
- Promotion
- Place
- Process
- Physical Evidence
- People

Fig. 1. Street Food Stalls in Bangkok during the Covid-19 pandemic

2. LITERATURE REVIEW

The body of literature that deals with street food can be subdivided into the following broad categories which include food safety, tourism and hospitality, innovation management and entrepreneurship, SME and general business aspects, socio-economic as well as political aspects and government regulations, and covid-19 regulations and sustainability in the new normal. We also looked at the existing literature on Thai street food and street food in Bangkok in particular.

Abdussalam, M. and Käferstein Fritz back in 1993 researched the safety of street food which took on a different meaning during the covid-19 pandemic. Azanza, M.P.V., Gatchalian, C.F. and Ortega, M.P. (2000) looked at food safety knowledge and practices of street food vendors in the Philippines. Liu, Z., Zhang, G., and Zhang, X. (2014) studied risk mitigation practices for urban street foods in China. Street food consumption in terms of food safety and health was also the focus of the study of Sezgin, A.C. and Sanlier, N. (2016). Poojara, Rashmi H. (2020) street foods safety concerns in light of the covid-19 crisis taking a food supply chain farm to fork approach. Hossain, M. (2021), explored the effect of the Covid-19 on sharing economy activities. Tan, Eunice (2020) looked at the digitalization of hawker (street) food and food delivery during the covid-19 crisis. Mazumder, M. Amin, A. Paul, R.K. and Riyad, R.H. (2020) conducted a study on the livelihood of the mongers and cognition of street food safety under the Covid-19 pandemic situation in Dhaka city. Zeb, Shumaila Shahwar Hussain Syed, and Javed, Asma (2021). COVID-19 and a way forward for restaurants and street food vendors.

Many modern street food vendors find their roots in tourism as tourism and street food go hand in hand. Tourism developed street food and street food became an attraction for tourists. Cetin, G. and Bilgihan, A. (2016) saw street food as components of the cultural tourism experience and so did Gupta, V., Sajnani, M. and Gupta, R.K. (2019) when they looked at street food and the contemporary preference of tourists and the role of street food as a destination attraction.

Street food hawkers are entrepreneurs. Alfiero, Simona Lo Giudice, A. Bonadonna, Alessandro (2017) explored street food and innovation from an entrepreneurial perspective. While Arcese, G., Flammini, S., Lucchetti, M.C., and Martucci, O. (2015) looked at the evidence and experience of open sustainability innovation practices in the food sector. Steyn, N.P. and Labadarios, D. (2011) compared street foods and fast-food industries. Hawkers are business people who both cook and sell. The longest lines are a good indication of quality. Hearty meals, comfort food from their home countries, carrying baskets

on poles balanced on their shoulders or pushing carts equipped with stoves, the hawkers peddled hot meals around town, stopping at various immigrant settlements.

The social aspect of street food includes not only the cultural but also economic impact over time. Adjrah, Y., Soncy, K., Anani, K., Blewussi, K., Karou, D.S., Ameyapoh, Y., de Souza, C. and Gbeassor, M. (2013) tried to determine the socio-economic profile of street food vendors along with the study of Alves da Silva, S., Cardoso, R.D.C.V., Góes, J.T.W., Santos, J.N., Ramos, F.P., Bispo de Jesus, R., Sabá do Vale, R., and Teles da Silva, P.S. (2014). Basinski, S. (2014), who focused on immigrant street food vendors in New York City. Tigari, Harish, and Shalini, S. (2020) further dwelled on the socio-economic conditions of urban street food vendors. De Cassia Vieira Cardoso, R., Dos Santos, S.M.C. and Silva, E.O. (2014) saw street food as an intervention with strategies and proposals for the development of the world. Yahiro, K., Toi, S., and Nagashima, Y. (2013) studied the impact of street food stalls on the local economy and conditions for their sustainable management.

McGee, T.G. (1973) Hawkers in Hong Kong: A study of planning and policy in a Third World city is a landmark paper on how governments deal with street food vendors who are not always welcome as informal forms of employment and business. Kusakabe, K. (2006) researched the policy issues in street vending and offered an overview of studies in Thailand, Cambodia, and Mongolia. Williams, C.C. and Horodnic, I.A. (2017) discussed regulating the sharing economy to prevent the growth of this informal sector in the hospitality industry which is often seen as a thorn in the eyes of the governments of emerging countries as it is not only a reminder of its roots but debrides the government of tax revenue.

Boland, Ramond (2019) concentrated his research on street food in Bangkok which has been very helpful for our study at hand. Cifci I, Atsiz, O Gupta, V. (2021) also explored the street food experience of Bangkok in more recent days. While Jeaheng, Y. and Han, H. (2020) looked at Thai street food in the once fast-growing global food tourism industry before covid-19 and the preferences and behaviors of food tourists. Lertputtarak, S. (2012) explored the relationship between destination image, food image, and revisiting as in the case of the beach resort town of Pattaya, Thailand, which now has been dead for almost two years. Lunchaprasith, T. and Macleod, D. (2018) discussed food tourism and the use of authenticity in Thailand. Nualkhair, Chawadee (2015) in his book discussed Thailand's best street food offers on less than two hundred pages the complete guide to streetside dining in Bangkok, Chiang Mai, Phuket, and other areas of Thailand. One has to question how complete it is? Chavarría, Luis Torres and Phakdee-Auksorn, Panuwat (2017) attempted to understand international tourists' attitudes towards street food in Phuket, Southern Thailand. The leading author on Thai street food may be David Thompson, (2010) with his book Thai street food. In which he explains how the satay man, usually Malay, would bring his skewers and peanut sauce to Chinese communities, just as the Chinese noodle man would appear in Indian-dominant neighborhoods. In Bangkok, this resulted in eighteen Micheline star street food vendors offering everything from extra crispy pork to fish soup, fried oyster omelets, fish balls, pig innards, roasted noodles, many using the same recipe for over 50 years. These family-run old-school street stall restaurants serve local customers from teenagers to adults along with tourists before covid-19. This literature review provided us with the theoretical underpinnings for our study of street food vendors in Bangkok and how they cope with the covid-19 situation and business continuity as entrepreneurial SMEs.

Fig. 2. Street Food Vendor selling packaged food during the Covid-19 pandemic

3. METHODOLOGY

We conducted a study of street food vendors in Bangkok, Thailand that tried to capture their approach to business continuity during the covid-19 pandemic. Following the 7 Ps of the service marketing model research focus of Matteucci, X. and Gnoth, J. (2017). The research instrument developed by the primary investigator (PI) is a quantitative measurement. A paper-based survey instrument was developed by the PI and pretested following ontologies, epistemologies, and methodologies as described by Decrop, A. in 2004. The owners and operators of street food stalls were interviewed by the researcher and the results were captured with a pilot study pretested questionnaire as recommended by the research guidelines of Gursoy, D. (2018).

3.1 Population

This study focused on the local phenomena of street food vendors in the capital city of Bangkok Thailand. However, as street food vending throughout Thailand is pretty much the same in terms of layout, organization, and operations it is hoped that generalizations can be made from this study. Street food vendors in other Asian countries and the world have many commonalities in terms of the entrepreneurial nature of these SMEs, operations, customers, and covid-19 coping mechanisms while the food items and tastes are localized.

3.2 Sample

The study was conducted in various parts of metropolitan Bangkok, the capital of Thailand. We surveyed food vendors and their customers both on weekdays and weekends throughout the day from breakfast to lunch and dinner. The money and time spent varied with the meal-type and with covid-19 the social gathering effect was greatly restricted if not even eliminated by food delivery. The majority of the participating vendors were female (67.00%) and 40% of them were under 40 years old with 59% having no university education or in 35% of the cases with an undergraduate university education. Only 5.5 percent had master degrees these were usually owners/operators one of the owners even had a doctorate. Two-thirds of the vendors (86%) earned less than 500 USD a month while the minimum wage for a college graduate in Thailand is 500 USD a month. Only nine percent made more than 1,000 USD a month, one also has to state that these like everything are

self-reported numbers, which may be on the low side, for various reasons. Also, these numbers are before tax and for most of them are the same after-tax as they may only pay very little if any sales and income tax and only in the case the business is registered. While the vendors may make $200 or even less a month, they may pay relatively high rents starting as thirty dollars and more a month to the owners of the land they sell on or for the sidewalks in front of the houses they set up their restaurants in the evening. In most cases, the rent also includes electricity and water provided by the landlord for the vendors. About two-thirds of the participants were less than three years in the business. For some street food vending is a way to make a living while being between jobs during the covid-19 crisis, some may even have worked for five-star hotels before, but with the country being closed for foreign tourists and lockdown many hotels closed their doors forever due to the pandemic. This may also explain why only eight percent have been in business for over eight years. The sample included 200 Thai participants from Bangkok. The sample size was found sufficient based on sample size calculations outlined in the research methodology literature with a confidence level of 95% and a margin of error of 6.5%. The sample was a random convenience sample and the sample demographics represent the demographics of the street food vendor population in Bangkok.

Table 1. Demographics – Street Food Vendors

Participants Street Food Vendors	Respondents Count	Respondents Percentage (%)
Gender		
Male	66	33.00
Female	134	67.00
TOTAL	**200**	**100%**
Age		
< 21 years	10	16.00
21 - 30 years	18	27.0
31 - 40 years	12	27.5
41 - 50 years	18	23.25
51 - 60 years	14	9.00
61 – 70 years	12	6.00
> 70 years	16	8.00
TOTAL	**200**	**100%**
Education Level		
No University Degree	119	59
Bachelor Degree	70	35
Master Degree	11	5.5
Doctor Degree	1	0.5
TOTAL	**200**	**100%**

Table 2. Demographics Continued – Street Food Vendors

Participants	Respondents	Respondents

Street Food Vendors	Count	Percentage (%)
Income (Monthly)		
< 200 USD	70	35.0
201 - 300 USD	67	33.5
301 - 400 USD	27	13.5
401 - 500 USD	8	4
501 – 1,000 USD	12	6
> 1,000 USD	18	9
TOTAL	**200**	**100%**
Years in Business		
< 1 year	49	24.5
1 - 3 years	89	44.5
4 - 5 years	35	17.5
5 - 10 years	12	6.0
> 10 years	15	7.50
TOTAL	**200**	**100%**

4. RESULTS AND DISCUSSION

The research findings can be grouped into the following broad categories following the conceptual research framework outlined by the author following the 7Ps of marketing, as per the research hypotheses and the research instrument developed by the PI. The data was summarized in the following tables and their findings were briefly explained in the research context. The results include both mean and standard deviation (SD) as well as correlation coefficients for the relationship of SME Bangkok street food vendors and business continuity during the Covid-19 pandemic:

4.1 Product
4.2 Price
4.3 Promotion
4.4 Place
4.5 Process
4.6 Physical Evidence
4.7 People

4.1 Product

The respondents strongly agreed that they stick to the existing menu with a mean of 4.34 and an SD of 0.97. They also agreed that offering a dish of the day known as plat du jour (mean 3.79 and SD 0.92) was a good idea as it allowed simplifying the menu. They found that selling an altering weekly special helped to keep the menu interesting and eliminate boredom among customers (mean 3.41 and SD 0.94) and was agreed. They also agreed to change the portioning sizes downward helped with inflation during the crisis (mean 3.63 and SD 0.95). Some of the vendors changed to healthier food, but it was mostly disagreed upon by the majority of vendors (mean 2.88 and SD 0.84). Offering a limited menu was also agreed upon as it required less staff (mean 3.55 and SD 0.88). Focusing on the bestselling item was strongly agreed upon (mean 4.54 and SD0.98). The stalls still wanted to serve their signature dishes which was agreed with a mean of 3.71 and SD of 0.81. The most successful strategies were less labor-intensive (mean 4.27 and SD0.93) and less costly dishes (mean 4.45 and SD 0.95). On average the food vendors agreed that the best

approach in terms of product is to change as little as possible and stick to the favorite menu (mean 3.94 and SD 0.92).

4.2 Price

It was strongly agreed that the best pricing strategy was to keep the price unchanged (mean 4.35 and SD 0.89). Some more charity-minded vendors offered discounts to help their customers through the crisis with a mean of 3.79 and SD 0.78 which was agreed upon. Price increases were found necessary by some vendors but it was not strongly agreed upon with a mean of 3.34 and SD 0.90. The majority disagreed with extra packaging charges for take-away food (mean 2.88 and SD 0.84). The hawkers agreed with the idea of delivery charges collected by the food app providers with a mean of 3.65 and an SD of 0.77. But overall, the participants still agreed with keeping the prices pretty much the same with an overall average of mean 3.58 and SD 0.84.

4.3 Promotion

The buy-one-get-one-free promotion was popular mostly at the end of the day to get rid of leftover dishes with a mean of 3.20 and SD 0.61. Promotional pricing was also agreed on (mean 3.21 and SD 0.72). But word of mouth as always was the most powerful means of promotion (mean 4.35 and SD 0.89). Additional signage was installed by some vendors (mean 3.10 and SD 0.77). Advertisement in various forms was also added during covid-19 (mean of 3.33 and SD 0.88). Give-away items were popular with Thais (mean 3.53 and SD 0.84). But the government 50/50 copay program was the most effective (mean 4.69 and SD 0.99). Overall promotions helped to some extent with a mean of 3.63 and an SD of 0.81 as agreed.

4.4 Place

During the covid-19 crisis, there have been many changes in place of the marketing mix. Most notable was food delivery. The most popular food delivery app is GrabFood which was strongly agreed upon with a mean of 4.45 and SD of 0.95. Foodpanda came in at second place and was also strongly agreed upon with a mean of 4.15 and SD of 0.92. In third place was LINEMAN with a mean of 4.03 and SD 0.83 and also strongly agreed upon. Also, Robinhood was strongly agreed upon as a relatively new player with a mean of 4.02 and SD of 0.81. Less popular was for restaurants to deliver the meal themselves which was only agreed upon with a mean of 3.77 and SD of 0.71. Take-away was the most popular alternative during covid-19 and was strongly agreed with a mean of 4.77 and SD 0.96. Drive-through was a disagreed option which only a few shops offered with a mean of 2.82 and SD 0.83. Catering of larger parties was also a disagreed option with a mean of 2.65 and SD 0.75. Down-sizing was a strongly agreed upon option which was forced upon the vendors by the covid-19 crisis with a mean of 4.53 and an SD of 0.83. The relocation was another option that may have been necessary as the old location was no longer available during the crisis especially in areas of total lockdown and was only agreed upon with a mean of 3.53 and SD 0.84. The overall change of place has been agreed upon by the vendors, the change of venue may have meant food delivery or take away as well as downsizing and relocation of the venue (Mean 3.87 and SD 0.84).

4.5 Process

There were several process changes to comply with covid-19 regulations. Facemasks and face shields were the most visible process changes and were strongly agreed upon with a mean of 4.03 and SD of 0.82 by the respondents. They also agreed with wearing plastic gloves while serving food mean 3.66 and SD was 0.78. Disinfecting staff and customers was only agreed upon as disinfecting alcohol added a lot of cost for vendors with a mean of 3.25 and SD 0.88. Taking the temperature of customers and staff was another agreed-upon added process with a mean 3.02 of and SD of 0.77. Guest registration either handwritten by providing name and phone number or covid-19 tracking apps was agreed upon with a mean of 3.77 and SD 0.71. A guest reservation only applied when sit-down dining was an option and even restaurants that never before used a reservation system started to do so no by law with a mean of 3.45 and SD 0.96. No seating allowed was the most severe and most strongly agreed upon by the respondents with a mean of 4.73 and SD 0.83. Social distancing in terms of cue lines and distances between tables was not agreed upon by the hawkers with a mean of 2.65 and SD of 0.75. Scan-to-pay and electronic payments interestingly enough were strongly agreed upon by the vendors as they use mobile phones to receive the payment and 50/50 government contribution which was strongly agreed upon with a mean 3.87 and SD 0.82. The most obvious and often most painful process change was the reduction of operating hours during the various lockdowns was strongly agreed upon with a mean of 4.88 and SD 0.88. Overall, the respondents agreed that there were process changes even so they don't welcome them with an average mean of 2.10 and a standard deviation of 0.67.

4.6. Physical Evidence

We already discussed some of the physical evidence under visible process changes mandated by government regulations. Overall, they can be classified as hygiene and social distancing measured which have hit food service establishments hard. Covid-19 protective equipment such as temperature measurement, registration, sanitizing equipment, and most visible PVC framed Plexiglas or plastic screens received a mean of 4.51 and an SD of 65 and was strongly agreed upon by the vendors as an unwelcomed burden. Selling packaged food was another requirement that was agreed upon with a mean of 3.77 and SD 0.75 it often did not have such a big impact especially neighborhood vendors even before selling take-home food. Rearranging the service area had different requirements depending on the nature of the operation and the phase of the covid-19 pandemic. It may have meant a two-meter distance between tables or reducing the number of seating by 50%, one customer per table, dividers on tables, or switching to food delivery. The hawkers were forced to agree with these requirements with a Mean of 3.22 and SD of 0.88. Sealed utensils were not that popular as it meant extra costs and disposable plastic utensils had to be provided, some of the low-end food stalls simply sold the food without silverware this was disagreed upon with a mean of 2.81 and SD 1.04. Vaccinating the staff was only agreed upon by the hawkers as the government required vaccination while the vaccination facilities had limited capacities with a mean of 3.12 and SD of 0.78). Overall, the hawkers agreed with the physical evidence with an average mean of 3.43 and a standard deviation of 0.85.

4.7 People

The most important factor in a service business is people. There was often a reduction in staff to cut costs and also because of staff shortage this was strongly agreed with a mean of 4.32 and SD of 0.89. They also strongly agreed on cutting staff salary mostly in form of reduced working hours and no overtime due to mandatory curfew (Mean 4.11 and SD 0.93). The less expensive often illegal migrant workers from neighboring countries like Cambodia, Laos, and Myanmar were lacking due to the closure of the borders which was agreed upon with a mean of 3.94 and SD 0.73. This led to an increase in the number of Thai nationals working in the stalls who are either family members or often ex hotel employees who lost their jobs due to the pandemic this was strongly agreed upon with a mean of 4.51 and an SD of 0.65. The big change in the customer mix was that there were fewer international tourists, if any tourists only Thai nationals and ex-pats who work in Thailand, more affluent tourists were missing this was strongly agreed upon with a mean of 4.77 and an SD of 0.75. The focus on local customers was also strongly agreed upon with a mean of 4.22 and SD of 0.88. The new customer mix with different digressional income was strongly agreed upon with a mean of 4.66 and an SD of 0.66. Everyone agreed that there were fewer customers with a mean of 4.92 and an SD of 0.78. But there were also new vendors entering the market with the change in dynamics during the crisis which was agreed upon with a mean of 3.55 and an SD of 0.56. The heavier involvement of the various government agents was also strongly agreed upon and less welcomed with and mean of 4.77and an SD of 0.75. With an average mean of 4.38 and an SD of 0of .76, the people variable was strongly agreed upon by the respondents.

Table 3. Product

Variable	Mean	S.D.	Results
Product			
1. Existing menu	4.34	0.97	Strongly Agreed
2. Dish of the day - plat du jour	3.79	0.92	Agreed
3. Weekly special	3.41	0.94	Agreed
4. Portioning	3.63	0.95	Agreed
5. Healthier food	2.88	0.84	Disagreed
6. Limited menu	3.55	0.88	Agreed
7. Focus on the bestseller	4.54	0.98	Strongly Agreed
8. Signature dish	3.71	0.81	Agreed
9. Less labor-intensive dishes	4.27	0.93	Strongly Agreed
10. Less costly dishes	4.45	0.95	Strongly Agreed
Average	**3.94**	**0.92**	**Agreed**

Table 4. Price

Variable	Mean	S.D.	Results
Price			
1. Price unchanged	4.35	0.89	Strongly Agreed
2. Price discount	3.70	0.80	Agreed
3. Price increase	3.33	0.90	Agreed
4. Packaging charges	2.88	0.84	Disagreed

5. Delivery fee	3.65	0.77	Agreed
Average	**3.58**	**0.84**	**Agreed**

Table 5. Promotion

Variable	Mean	S.D.	Results
Promotion			
1. Buy one get one free	3.20	0.61	Agreed
2. Promotional pricing	3.21	0.72	Agreed
3. Word of mouth	4.35	0.89	Strongly Agreed
4. Signage	3.10	0.77	Agreed
5. Advertisement	3.33	0.88	Agreed
6. Give-away item	3.53	0.84	Agreed
7. Government copay 50/50	4.69	0.99	Strongly Agreed
Average	**3.63**	**0.81**	**Agreed**

Table 6. Place

Variable	Mean	S.D.	Results
Place			
1. GrabFood delivery	4.45	0.95	Strongly Agreed
2. foodpanda delivery	4.11	0.93	Strongly Agreed
3. LINEMAN delivery	4.03	0.83	Strongly Agreed
4. Robinhood delivery	4.02	0.81	Strongly Agreed
5. Shops deliver themselves	3.77	0.71	Agreed
6. Take-away	4.77	0.96	Strongly Agreed
7. Drive-through	2.82	0.83	Disagreed
8. Catering	2.65	0.75	Disagreed
9. Down-size	4.53	0.83	Strongly Agreed
10. Store Relocation	3.53	0.84	Agreed
Average	**3.87**	**0.84**	**Agreed**

Table 7. Process

Variable	Mean	S.D.	Results
Process			
1. Face masks/Shields	4.03	0.82	Strongly Agreed
2. Gloves	3.66	0.78	Agreed
3. Disinfecting	3.25	0.83	Agreed
4. Temperature taking	3.02	0.77	Agreed
5. Guest registration/covid-19 tracking app	3.77	0.71	Agreed
6. a Guest reservation	3.45	0.96	Agreed
7. No seating	4.73	0.83	Strongly Agreed
8. Social distancing	2.65	0.75	Disagreed
9. Scan-to-pay, electronic payment	3.87	0.82	Agreed
10. Operating hours	4.88	0.88	Strongly Agreed
Average	**3.73**	**0.82**	**Agreed**

Table 8. Physical Evidence

Variable	Mean	S.D.	Results
Physical Evidence			
1. Covid-19 protective equipment/screens	4.51	0.65	Strongly Agreed
2. Packaged food	3.77	0.75	Agreed
3. Rearrange the service area	3.22	0.88	Agreed
4. Sealed utensils	2.81	1.04	Disagreed
5. Vaccinated staff	3.12	0.78	Agreed
Average	**3.49**	**0.82**	**Agreed**

Table 9. Physical Evidence

Variable	Mean	S.D.	Results
People			
1. Staff reduction	4.32	0.89	Strongly Agreed
2. Staff salary cut	4.11	0.93	Strongly Agreed
3. Reduce migrant workers	3.94	0.73	Agreed
4. Increase Thai staff	4.51	0.65	Strongly Agreed
5. Fewer tourists in customer mix	4.77	0.75	Strongly Agreed
6. Focus on local customers	4.22	0.88	Strongly Agreed
7. New customer mix	4.66	0.66	Strongly Agreed
8. Fewer customers	4.92	0.78	Strongly Agreed
9. New Vendors	3.55	0.56	Agreed
10. Government Agencies	4.77	0.75	Strongly Agreed
Average	**4.38**	**0.76**	**Strongly Agreed**

Correlation Coefficient Analysis

The researcher also performed a correlation coefficient analysis which looked at the business continuity approached among SME street food vendors under the covid-19 pandemic in Bangkok, Thailand which included the following dimensions:

- 4.8 Product
- 4.9 Price
- 4.10 Promotion
- 4.11 Place
- 4.12 Process
- 4.13 Physical Evidence
- 4.14 People

Whereby the correlation coefficient represents the following:

+0.30. A weak uphill (positive) linear relationship
+0.50. A moderate uphill (positive) linear relationship
+0.70. A strong uphill (positive) linear relationship
+ 1.00 A perfect uphill (positive) linear relationship

4.8 Product

Sticking to the existing menu with the least possible changes received a very high correlation coefficient of 0.833. Offering a plat du jour or dish of the day received a coefficient of 0.774. The weekly special was less embraced by the gar kitchen operators with a coefficient of 0.503. While changing the size of the portions to 0.775 was a popular way to deal with the crisis and keep the quality and price of the product the same. Healthier dishes were less popular as not everyone was able to adapt with a correlation coefficient of 0.364. A reduced or limited menu on the other hand was a welcomed solution that can be implemented with less staff and fewer resources and received a coefficient of 0.587. Also focusing on the proven best-seller was a very practical solution with a coefficient of 0.834. A similar approach is the signature dish which often is also the best seller with a coefficient of 0.737. Less labor-intensive dishes were the answer for many restaurants as they were shorthanded during the crisis with a coefficient of 0.808. Also, less expensive dishes were the answer during the economic collateral damage caused by the covid-19 crisis with a correlation coefficient of 0.901. Overall, the vendors agreed that there had to be changes to be made to the product with the minimum impact on quality and price limiting to the existing bestsellers.

4.9 Price

Price was felt by most vendors to be left alone relatively unchanged despite inflation and increased costs while the customers had less money to spent. It was strongly agreed to leave the price unchanged with a correlation coefficient of 0.849. Price discounts were less popular and only agreed upon with a correlation coefficient of 0.766. Price increases were even less agreed upon with a coefficient of 0.656. Packaging charges were even disagreed upon with a coefficient of 0.345 as most vendors already sold their food in simple freezer-style plastic bags. Charging delivery fees were agreed upon with a correlation coefficient of 0.750, as the fees were normally collected by the food delivery app and this became standard practice during the covid-19 crisis.

4.10 Promotion

Buy one get one free was an agreed-upon promotion, which sometimes took on the form of buy two get one free with a correlation coefficient of 0.721. Promotional pricing was about as popular and agreed upon among the hawkers with a correlation coefficient of 0.724. But the best promotion and the most cost-effective promotion method was word of mouth a very high correlation coefficient of 0.892. Additional signage was a less agreed-upon way of promotion which some vendors felt was not that effective in attracting additional business with a lower correlation coefficient of 0.567. The advertisement also did not receive a very high correlation coefficient of 0.657. Give-away items such as face masks and disinfection alcohol were even less popular with a correlation coefficient of 0.543. The most popular promotion was the 50/50 copay provided by the Thai government to those people who would qualify, this meant that they can spend up to 150 baht a day on food with a 50% government match. The customers paid with an app and the vendor received the money in his bank account. The government 50/50 match received a very high correlation coefficient of 0.899 and was strongly agreed upon by the street food vendors.

4.11 Place

The main change in place was from a sit-down restaurant to delivery. The correlation coefficient for GrabFood delivery was the highest with 0.805 and strongly agreed

upon. The second highest was for foodpanda with a correlation coefficient of 0.753. LINEMAN received a correlation coefficient of 0.722. Robinhood the newest delivery service on the block still received a correlation coefficient of 0.6881 and was still agreed upon. Only agreed upon among the shops was the concept of the shop delivering the food to the customers directly themselves which had a lower correlation coefficient of 0.565. Take-away was strongly agreed upon and for many stalls, this was the only option even before the crisis so it received a correlation coefficient of 0.891. Drive-throughs is a great US concept but only worked well for a few high-so establishments in our survey and received a low correlation coefficient of 0.256 and was mostly disagreed upon among the hawkers. Also, catering was a more theoretical option and worked for a few vendors who delivered boxed food to companies for lunch service. Parties and special events even weddings and funerals were canceled due to covid-19 it received a correlation coefficient of 0.345. Down-sizing operations was another form of changing place and were not welcomed but strongly agreed upon with a correlation coefficient of 0.743. Store relocation was the ultimate change in place and agreed upon but not very often executed by the entrepreneurs the correlation coefficient was 0.668.

4.12 Process

The most visible changes were related to covid-19 regulations. Facemask and face shields received the highest correlation coefficients with 0.886. Wearing plastic gloves was for some less of a change and received a correlation coefficient of 0.645. Disinfecting customers and staff with alcohol have received a correlation coefficient of 0.782. Taking temperature received a correlation coefficient of 0.757. Guest registration with pencil and paper forms or covid tracking apps received a correlation coefficient of 0.711. Somewhat lower was the correlation coefficient of 0.689 for advanced guest reservations. The highest correlation coefficient 0.901 was for losing seating opportunities for customers. Social distancing in cue lines and seating was allowed to receive a correlation coefficient of 0.757. Electronic payment methods and scans to pay for the 50/50 program received a high correlation coefficient of the value of 0.811. The change and reduction in operating hours due to lockdowns and curfews received the highest correlation coefficient with 0.888 and summed up the process changes during covid-19 which greatly handicapped the way of doing business.

4.13 Physical Evidence

The physical evidence as pointed out under process focused largely on covid-19 protective measures including protective equipment for protecting employees and customers, taking temperature, disinfecting, and screening which received a correlation coefficient of 0.878 Boxed and Packaged food was another change with a correlation coefficient of 0.757. Rearranging the layout of the service area received a correlation coefficient of 0.688. Providing sealed utensils was disagreed upon with a correlation coefficient of 0.456. Having vaccinated staff received a correlation coefficient of 0.721 as early in the crisis this was not an option and still now not all staff is vaccinated, some if lucky received the first dose.

4.14 People

People are the most important variable in the service marketing mix. It included all the stakeholders which went beyond employees and customers. Staff reduction willingly or

unwillingly was strongly agreed upon and received a correlation coefficient of 0.899. Staff salary cut was also forced upon the vendors with a correlation coefficient of 0.867. Reducing the number of migrant workers was also agreed upon by those who employed migrant workers and were more than a family business with a correlation coefficient of 0.737. On the other side, migrant workers had to be replaced with more expensive Thai nationals and received a correlation coefficient of 0.778. Everyone agreed that there were fewer tourists in the mix especially foreign visitors with a correlation coefficient of the value of 0.888. The focus switched to less affluent local customers with a coefficient of 0.798. The new customer mix greatly impacted the operations and revenue of the business with a correlation coefficient of 0.803. Overall, there were fewer customers in number with a coefficient of 0.915. Because of the change in product mix also new vendors came into the game with a correlation coefficient of 0.665. The various government agencies and their staff played a bigger role especially in the enforcement function which was seen as an additional burden by the street food vendors and was strongly agreed upon with a correlation coefficient of 0.805.

Table 10. Product

Variable	Mean	Correlation Coefficient	Results
Product			
1. Existing menu	4.34	0.833	Strongly Agreed
2. Dish of the day - plat du jour	3.79	0.764	Agreed
3. Weekly special	3.41	0.503	Agreed
4. Portioning	3.63	0.755	Agreed
5. Healthier food	2.88	0.364	Disagreed
6. Limited menu	3.55	0.587	Agreed
7. Focus on the bestseller	4.54	0.834	Strongly Agreed
8. Signature dish	3.71	0.737	Agreed
9. Less labor-intensive dishes	4.27	0.808	Strongly Agreed
10. Less expensive dishes	4.45	0.901	Strongly Agreed

Table 11. Price

Variable	Mean	Correlation Coefficient	Results
Price			
1. Price unchanged	4.35	0.849	Strongly Agreed
2. Price discount	3.70	0.766	Agreed
3. Price increase	3.33	0.656	Agreed
4. Packaging charges	2.88	0.345	Disagreed
5. Delivery fee	3.65	0.750	Agreed

Table 12. Promotion

Variable	Mean	Correlation Coefficient	Results
Promotion			
1. Buy one get one free	3.20	0.721	Agreed
2. Promotional pricing	3.21	0.724	Agreed

3. Word of mouth	4.35	0.892	Strongly Agreed
4. Signage	3.10	0.567	Agreed
5. Advertisement	3.33	0.657	Agreed
6. Give-away item	3.53	0.543	Agreed
7. Government copay 50/50	4.69	0.899	Strongly Agreed

Table 13. Place

Variable	Mean	Correlation Coefficient	Results
Place			
1. GrabFood delivery	4.45	0.805	Strongly Agreed
2. foodpanda delivery	4.11	0.753	Strongly Agreed
3. LINEMAN delivery	4.03	0.722	Strongly Agreed
4. Robinhood delivery	4.02	0.681	Strongly Agreed
5. Shops deliver themselves	3.77	0.565	Agreed
6. Take-away	4.77	0.891	Strongly Agreed
7. Drive-through	2.82	0.256	Disagreed
8. Catering	2.65	0.345	Disagreed
9. Down-size	4.53	0.743	Strongly Agreed
10. Store Relocation	3.53	0.668	Agreed

Table 14. Process

Variable	Mean	Correlation Coefficient	Results
Process			
1. Face masks/Shields	4.03	0.886	Strongly Agreed
2. Gloves	3.66	0.645	Agreed
3. Disinfecting	3.25	0.782	Agreed
4. Temperature taking	3.02	0.757	Agreed
5. Guest registration/covid-19 tracking app	3.77	0.711	Agreed
6. a Guest reservation	3.45	0.686	Agreed
7. No seating	4.73	0.901	Strongly Agreed
8. Social distancing	2.65	0.757	Disagreed
9. Scan-to-pay, electronic payment	3.87	0.811	Agreed
10. Operating hours	4.88	0.888	Strongly Agreed

Table 15. Physical Evidence

Variable	Mean	Correlation Coefficient	Results
Physical Evidence			
1. Covid-19 protective equipment/screens	4.51	0.878	Strongly Agreed
2. Packaged food	3.77	0.757	Agreed
3. Rearrange the service area	3.22	0.688	Agreed
4. Sealed utensils	2.81	0.456	Disagreed
5. Vaccinated staff	3.12	0.721	Agreed

Table 16. People

Variable	Mean	Correlation Coefficient	Results
People			
1. Staff reduction	4.32	0.899	Strongly Agreed
2. Staff salary cut	4.11	0.867	Strongly Agreed
3. Reduce migrant workers	3.94	0.737	Agreed
4. Increase Thai staff	4.51	0.778	Strongly Agreed
5. Fewer tourists in customer mix	4.77	0.888	Strongly Agreed
6. Focus on local customers	4.22	0.798	Strongly Agreed
7. New customer mix	4.66	0.803	Strongly Agreed
8. Fewer customers	4.92	0.915	Strongly Agreed
9. New Vendors	3.55	0.665	Agreed
10. Government Agencies	4.77	0.805	Strongly Agreed

4. CONCLUSION

The collateral damage of the covid-19 crisis hit gastronomy businesses hard worldwide. The impact was felt even more on the low end of the industry with little access capacity. Our research focused on the business continuity of Thai street food vendors under the early waves of the covid-19 pandemic. This was a study of street food hawkers in the Thailand capital Bangkok with two hundred participating SMEs. The study followed the framework of the 7Ps of service marketing and included the following:

The product saw only minor changes in response to the covid-19 pandemic. Most of the changes were to simplify the product offering as the fewer staff was available and resources had to be preserved. The food hawkers stuck to their signature dish and best sellers. The menu was simplified by eliminating more complicated and less profitable dishes. The dish of the day - plat du jour and weekly special was another way along the same line.

The quality of the product was impacted as well, for instance instead of using ground pork only it was stretched with ground chicken. Often the customers initially did not recognize the change in quality as it was covered up with seasoning which deceived the pallet. Portioning was to slowly reduced by some gar kitchens while reducing the dishes too much would have caused complaints from the customers. Some vendors also switched to healthier food on demand from the customers to fight the covid-19 pandemic with a healthier lifestyle.

Prices did not change much as the covid-19 crisis made the customers more price-sensitive than ever before. Only some high-end street food vendors were able to increase the price for the more affluent clientele which understood that operating expense increased and had to be passed on to the customers. The lower end of the market did not tolerate price increases, and the vendors were afraid to lose their customers. The competition was supermarkets that offered ready-to-eat and frozen food, in hygiene packaging but higher prices than available on the street. Street food vendors found it difficult to pass on corona-induced packaging charges. It was easier to ask customers to pay a delivery fee that was charged and collected by the food delivery app (FDA) operators.

Promotions took on various forms, depending on the target market. Promotions were in form of more advertisements in print and online, which only worked for the upper end of the market. Signage which was as simple as installing a covid-19 sign at the stall attracted more attention from the walk-in customers. There was also some type of promotional pricing occasionally. While stores like IKEA offered a 10% discount for shopping in the store street food hawkers were not able to stimulate more business with such discount schemes. Word of mouth as always was the strongest promotion method. This coupled with buy-one-get-one-free at the end of the day attracted more customers. Give-away items were not as effective in stimulating sales except give-away food for charity as public relations events which easily attracted a crowd. The most popular promotion was the 50/50 government match where qualified customers would get up to 150 baht roughly five US dollars in daily government support a kind of electronic food stamps that were redeemed by the vendors with a smartphone.

Place saw the biggest changes during covid-19. Place of business was heavily affected by covid-19 regulations. This included a reduction in the size of the operation, also moving the restaurant. And even different modes of place through delivery service, catering, and carry-out. Delivery services with GrabFood being the most popular followed by foodpanda and LINEMAN with Robinhood being the newest which comes out of SCB bank. Beep, Skootar, LALAMOVE, Get!, Gojek, and Skootar were other competing food delivery apps (FDA) that competed for market share. Shops delivering themselves were not that popular. Some street food vendors used their motorcycles or local motorcycle taxi drivers to deliver the food mostly to their regular customers who were afraid to go out during the covid-19 pandemic to get the food by themselves. The vendors delivered especially large orders of boxed food to the customer regularly and more or less unknowingly turned their restaurant into a catering service not so much for parties which were not allowed during covid-19 periods but for lunch services at the workplace. Again, this is something that worked for the larger street food vendors, small vendors have cash flow problems when it comes to purchasing large quantities. Take-away was even popular before the crisis and often the standard operating mode for street food vendors. Drive-through was an option for the upper end which targeted the same customers as fast-food restaurants. Down-sizing was the threated theme in terms of place changes. In the worst-case gar, kitchens had to be relocated due to total lockdowns and other restrictions.

Process changes were also obvious, such as taking customer names in a list or scanning the covid-19 app. Customers make reservations. Cash payments are trying to be avoided by scan-to-pay and electronic payments the 50/50 government copayment which

only required a smartphone with internet access. Customers get silverware wrapped in plastic, and may even be in a plastic container. More frequent and more thorough cleaning. Some have a walk-through disinfecting spray and special floor mats. Food is no longer served on plates but packed in lunch boxes. Also measuring the temperature of customers as they came in. The first and last solution was to modify the food stalls or should we call them curbside restaurants. This was not so much voluntary but in response to government regulations to limit the spread of covid-19. These were in the first-place measures which hit everyone such as the mandatory wearing of masks early on in March of 2020, as well as sanitizing the hands and keeping social distance. Then there were the measures for food services in particular, like taking the temperature of guests, providing hand sanitizers, wearing plastic gloves while serving, and limiting the availability of buffets. Then the stores had to receive shielding in form of Plexiglas screens that were framed with PVC to support them. All these were added costs, as well as packaging material for take-home food when restaurants were closed and only allowed the customers to eat the food at home. Also, during times when the restaurant could be open, the social distancing required two meters between guests which often was more like one meter. Then the requirement changed that there also needs to be a screen on the table to separate the maximal two diners. After that the regulations changed to only have one person sit on the table by himself, this meant that occupancy decreased by 75% a big loss to the business. But for some street food hawkers, the worst was yet to come when some hot spot areas were closed and the stalls had to relocate or temporarily shut down. As these really small SME businesses did not have the capital some had to go to the seed corn and sell everything they had and this way they were forced out of business. Covid-19 and its new strains are here to stay with us even with mass vaccination which just now starts in Thailand. As even the director-general of the World Health Organization WHO pointed out we need to learn how to live with the virus there is no end inside and we may never go back to the colorful vibrant curbside dining with street food vendors in Thailand, after all the tourists did not come back either, and we do not know when and if? Another unseen process change was that maintenance was deferred.

Physical evidence of the covid-19 crisis was easy to see with the covid-19 warning signs and regulations highlighted by government posters. Issuing disinfection spray to customers and employees was a visible sign as well that often also smelled good in the high-end restaurants which had their signature smell. There were also barriers for the crowd to generate cue lines and maintain social distancing of at least one-meter distance between customers. Covid-19 protective equipment not only included the temperature measuring and providing of disinfection, and registration via the covid-19 app and barcode scanning or sign-in before entering but also Plexiglas screens surrounding the food as a sneeze break. Packaged food in Styrofoam boxes or simple plastic bags was another change in the physical evidence induced by covid-19 along with issuing packaged sealed utensils. Rearranging the service area often was necessary to create social distancing, the most frequent change was serving out of the restaurant window or door and banning entrance to the actual stall. Vaccinated staff was another physical evidence later in the game especially in the fall of 2021. But staff not only had vaccination passes but there were also posters indicating that all the staff was fully vaccinated in upscale hawker places.

People are the heart and soul of any service business and the vulnerable part of the marketing mix, especially during the covid-19 crisis. Staff reduction staff salary cut reduce migrant workers increase Thai staff fewer tourists in customer mix Focus on local customers New customer mix Fewer customers New Vendors Government Agencies. People changed in terms of fewer staff and staff wearing face shields and gloves as well as face masks and face shields. The staff also was more conscious of the hygiene requirements and also was often the victim of layoffs in larger food stalls. Vendors also cooperated as stakeholders as well as customers and owners. There is a new customer target for those vendors which

dependent on tourists in the past. Also, the service expectations of the customers became different. Thailand's third-richest man with a net worth of $12.7 billion according to the 2021 Forbes list 2021, is Mr. Charoen Sirivadhanabhakdi not only controls Thai Beverage, Thailand's largest brewery, and Big C supermarkets but he is also the self-made son of a Bangkok street vendor. As we can see these SME enterprises are run by entrepreneurs of all types who were able to continue their businesses during the crisis.

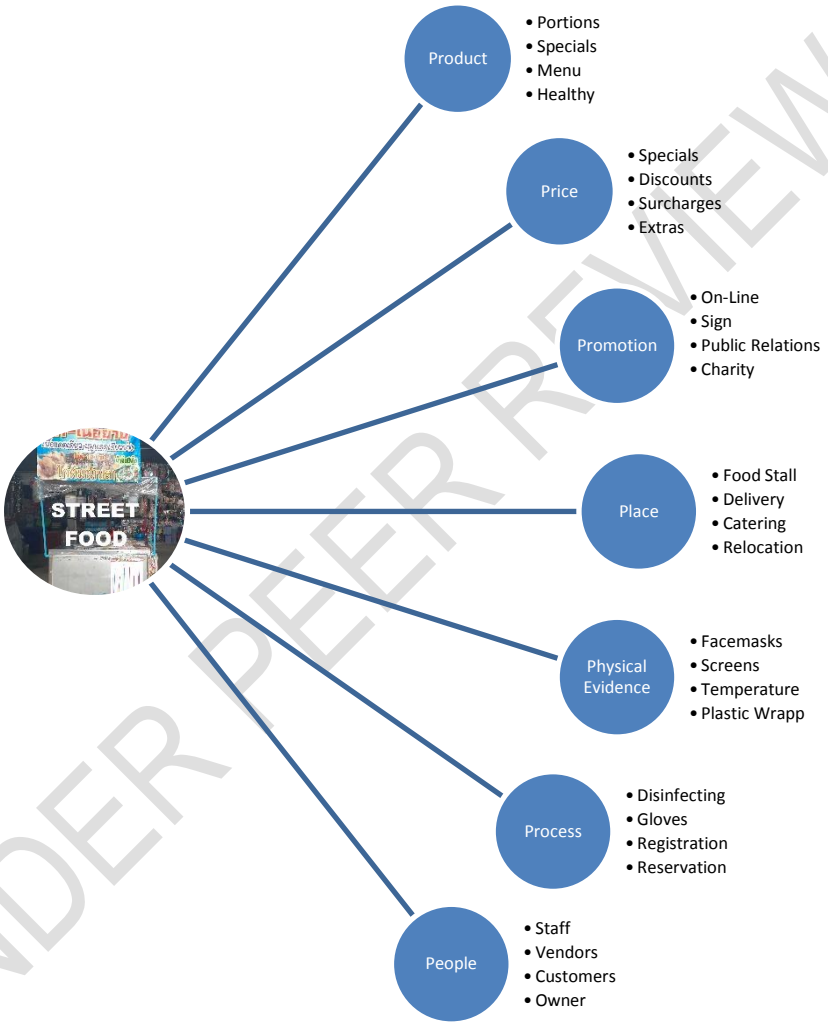

Figure 3. Street Food Vendor Service Marketing Framework adapts to Covid-19

STREET FOOD VENDOR BUSINESS CONTINUITY								
		7	**P's**	Marketing	in	Covid-19	Crisis	
		Product	Price	Promotion	Place	Physical Evidence	Process	People

Variable	Category							
Customer								
	Low							
	High							
	Local							
	Foreign							
Meal								
	Breakfast							
	Lunch							
	Dinner							
	Late Night							
Format								
	Takeaway							
	Delivery							
	Seating							
Cost								
	0.15-0.30							
	0.60-1.20							
	1.50-2.50							
	3.00-4.50							
Employee								
	1-2							
	3-4							
	5-10							
Years in Business								
	< 1 year							
	1 - 3 years							
	4 - 5 years							
	5 - 10 year							
	> 10 years							
Impact	**(Legend)**							
	very high							
	high							
	low							
	very low							

Figure 4. Street Food Vendor BUSINESS CONTINUITY

Limitations

This study is a snapshot of time, and time is the major variable in the covid-19 crisis. The covid-19 situation in Thailand as worldwide has been very fluid, to say the least, and continues to occur in various stages, also referred to as waves, while the first wave meant the loss of foreign tourists due to the closure of the country, the second wave imposed social distances, government regulations and curfews on the Thai people. While the third wave resulted in a total shut-down of businesses especially in the hospitality industry. By now Thailand has experienced over 2 million covid-19 infections and over 21,000 covid-19 related deaths in 2021 and the year have not yet ended. The Covid-19 Delta variant and SARS-CoV-2 plus variants will stay with us for a long time even after mass immunizations which will have to be repeated semiannually as found out now. The swift spread of the variants across Europe has upended wishful thinking of a quick return to normal from the pandemic.

Recommendations

It is highly recommended to follow up this study with a larger sample in terms of the number of participating street food hawkers. And also, over time, as time plays an important factor in the covid-19 crisis marked by the various waves and level of widespread immunization not to take into account the various types of vaccines and first second, and third doses, currently the level of fully immunized population is still relatively low. And the country is just in the process of opening up to tourists and releasing some restrictions. The ban on alcohol is still in place which greatly influences the hospitality industry as well as other restrictions. It also would be interesting to apply this research instrument to other areas in Thailand outside of the capital city Bangkok. It also would be of great interest to study other ASEAN countries and other parts of the world with the same or an improved instrument that may also take other aspects of street food vending into consideration while the world is still suffering from the pandemic's fallout, as street food hawkers represent suffering SME battered by a broken economy.

COMPETING INTERESTS DISCLAIMER:

Authors have declared that no competing interests exist. The products used for this research are commonly and predominantly used products in our area of research and country. There is no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by the personal efforts of the authors.

REFERENCES

1. Abdussalam, M. and Käferstein Fritz (1993). Safety of Street Foods. February 1993, World Health Forum 14(2):191-4. Source PubMed

2. Acerbi, Patricia (2017). Street Occupations: Urban Vending in Rio de Janeiro, 1850-1925. University of Texas Press. ISBN-13: 9781477313565

3. Alfiero, Simona Lo Giudice, A. Bonadonna, Alessandro (2017). Street food and innovation: the food truck phenomenon. November 2017. British Food Journal 119(11):00-00.DOI: 10.1108/BFJ-03-2017-0179

4. Adjrah, Y., Soncy, K., Anani, K., Blewussi, K., Karou, D.S., Ameyapoh, Y., de Souza, C., and Gbeassor, M. (2013). "Socio-economic profile of street food vendors and microbiological quality of ready-to-eat salads in Lomé", International Food Research Journal, Vol. 20 No. 1, pp. 65-70.

5. Alves da Silva, S., Cardoso, R.D.C.V., Góes, J.T.W., Santos, J.N., Ramos, F.P., Bispo de Jesus, R.,Sabá do Vale, R. and Teles da Silva, P.S. (2014),"Street food on the coast of Salvador, Bahia, Brazil: a study from the socioeconomic and food safety perspectives", Food Control, Vol. 40No. 1, pp. 78-84.

6. Alvesson, M. (2003). "Methodology for close up studies–struggling with closeness and closure", Higher Education, Vol. 46 No. 2, pp. 167-193

7. Arcese, G., Flammini, S., Lucchetti, M.C. and Martucci, O. (2015). "Evidence and experience of open sustainability innovation practices in the food sector", Sustainability, Vol. 7 No. 7, pp. 8067-8090.

8. Azanza, M.P.V., Gatchalian, C.F. and Ortega, M.P. (2000). "Food safety knowledge and practices of street food vendors in a Philippines university campus", International Journal of Food Sciences and Nutrition, Vol. 51 No. 4, pp. 235-246.

9. Basinski, S. (2014). "Hot dogs, Hipsters, and Xenophobia: immigrant street food vendors in New York", Social Research: An International Quarterly, Vol. 81 No. 2, pp. 397-408

10. Boland, Ramond (2019). Bangkok street food. In book: Tourism and Hospitality in Conflict-Ridden Destinations. DOI: 10.4324/9780429463235-15

11. Bhowmik, S. K. (2005). ‗Street Vendors in Asia: A Review', Economic and Political Weekly, May 28–June 4: 2256–2264

12. Calaresu, Melissa and van de Heuvel, Danielle (2016). Food Hawkers – Selling in the Streets from Antiquity to the Present. Routledge Publishers ISBN 9781138329706

13. Cavuta, G., Di Matteo, D.,(2015). Experiential Tourism: The Strategic Role of the Factory Outlet Centre for the Development and Attractiveness of the Destination. Journal of Geography and Earth Sciences 3. American Research Institute for Policy Development, Madison, 63-86.

14. (PDF) Enogastronomic Tourism: Can it Mitigate the Intangibility of the Destination? Streetfood is a New Business Model for the Management of Tourist Regions. Available from: https://www.researchgate.net/publication/305396279_Enogastronomic_Tourism_Can_it_Mitigate_the_Intangibility_of_the_Destination_Streetfood_as_a_New_Business_Model_for_the_Management_of_Tourist_Regions [accessed Jun 19 2021].

15. Cetin, G. and Bilgihan, A. (2016). "Components of cultural tourists' experiences in destinations", Current Issues in Tourism, Vol. 19 No. 2, pp. 137-154.

16. Charmaz, K. (2006), Constructing Grounded Theory, a Practical Guide through Qualitative Analysis, Sage, London

17. Chavarría, Luis Torres and Phakdee-Auksorn, Panuwat (2017). Understanding international tourists' attitudes towards street food in Phuket, Thailand. January 2017Tourism Management Perspectives 21:66-73 DOI: 10.1016/j.tmp.2016.11.005

18. Cifci I, Atsiz, O Gupta, V. (2021). The street food experiences of the local-guided tour in the meal-sharing economy: the case of Bangkok. British Food Journal© Emerald Publishing Limited0007-070XDOI10.1108/BFJ-01-2021-0069

19. Cross, John (editor) and Morales, Alfonso (editor) (2013). Street Entrepreneurs: People, Place, & Politics in Local and Global Perspective. Routledge, Paperback, ISBN: 041574847X. ISBN-13: 9780415748476

20. De Cassia Vieira Cardoso, R., Dos Santos, S.M.C. and Silva, E.O. (2014), "Street food and intervention: strategies and proposals for the developing world", in De Cassia Vieira Cardoso, R., Companion, M. and Marras, S.R. (Eds), Street Food: Culture, Economy, Health and Governance, Routledge, London, pp. 255-268. Routledge, ISBN-13: 9781138706491

21. De Cassia Vieira Cardoso, R., Companion, M., and Marras, S.R. (Eds), Street Food: Culture, Economy, Health and Governance, Routledge, London, pp. 255-268. Routledge, ISBN-13: 9781138706491

22. Decrop, A. (2004). Trustworthiness in qualitative tourism research. In J. Phillimore & L. Goodson (Eds.), Qualitative research in tourism: Ontologies, epistemologies, and methodologies (pp. 165–196). London: Routledge.

23. Di Matteo, Dante and Cavuta, Giacomo (2016). Enogastronomic Tourism: Can it Mitigate the Intangibility of the Destination? Streetfood as a New Business Model for the Management of Tourist Regions. December 2016 Procedia Economics and Finance 39:347-356 DOI: 10.1016/S2212-5671(16)30335-5 License CC BY-NC-ND 4.0

24. Erokhin, Vasily and Gao, Tianming (2020). Impacts of COVID-19 on Trade and Economic Aspects of Food Security: Evidence from 45 Developing Countries. August 2020. International Journal of Environmental Research and Public Health 17(16):5775 DOI: 10.3390/ijerph17165775. License CC BY

25. Evers, Clifton (Editor) and Seale, Kristen (Editor). (2018). Informal Urban Street Markets: International Perspectives. Routledge ISBN-13: 9781138546394

26. Grivetti, Louis Evan (2002). Street Foods. February 2002. American Journal of Clinical Nutrition 75(2):337-338 DOI: 10.1093/ajcn/75.2.337

27. Gupta, V., Sajnani, M. and Gupta, R.K. (2019). "Street foods: contemporary preference of tourists and its role as a destination attraction in India", International Journal of Culture, Tourism and Hospitality Research, Vol. 14 No. 1, pp. 136-154.

28. Gursoy, D. (2018). "Future of hospitality marketing and management research", Tourism Management Perspectives, Vol. 25, pp. 185-188.

29. Henderson, J.C. (2019). “Street food and tourism: a Southeast Asian perspective”, in Park, E., Kim, S. and Yeoman, I. (Eds), Food Tourism in Asia, Springer, Singapore, pp. 45-57.

30. Henderson, J.C., Yun, O.S., Poon, P. and Biwei, X. (2012). “Hawker centers as tourist attractions: the case of Singapore”, International Journal of Hospitality Management, Vol. 31 No. 3, pp. 849-855.

31. Hossain, M. (2021). “The effect of the Covid-19 on sharing economy activities”, Journal of Cleaner Production, Vol. 280, p. 124782

32. Jeaheng, Y. and Han, H. (2020). “Thai street food in the fast-growing global food tourism industry: preference and behaviors of food tourists”, Journal of Hospitality and Tourism Management, Vol. 45, pp. 641-655. DOI: 10.1016/j.jhtm.2020.11.001

33. Kodvanj I, Homolak J, Virag D, Trkulja V. (2020). World Health Organization (WHO) COVID-19 Database: Who needs it? Department of Pharmacology, University of Zagreb School of Medicine. July 2020 DOI: 10.20944/preprints202007.0051.v2

34. Kong, Lily (2007). Singapore Hawker Centres: People, Places, Food. Singapore: Publisher National Environment Agency. ISBN 9789812481498

35. Kusakabe, K. (2006). Policy Issues in Street Vending: An Overview of Studies in Thailand, Cambodia, and Mongolia, Informal Economy Poverty and Employment, Geneva.

36. Lee, Derrick Chen, Tingzhen and Chan, Wilco (2021). Perceptions of Gen Z Tourists on Street Food in Hong Kong. DOI: 10.1007/978-3-030-70695-1_10 In book: Generation Z Marketing and Management in Tourism and Hospitality

37. Lertputtarak, S. (2012). “The relationship between destination image, food image, and revisiting Pattaya, Thailand”, International Journal of Business and Management, Vol.7 No.5, pp.111-122

38. Liu, Z., Zhang, G. and Zhang, X. (2014). “Urban street foods in Shijiazhuang city, China: current status, safety practices and risk-mitigating strategies”, Food Control, Vol. 41 No. 1, pp. 212-218.Long-Solís, J. (2007), “A survey of street foods in Mexico City”, Food and Floodways, Vol. 15 Nos 3-4, pp. 213-236

39. Lunchaprasith, T. and Macleod, D. (2018). “Food tourism and the use of authenticity in Thailand”, Tourism, Culture and Communication, Vol. 18 No. 2, pp. 101-116.

40. Lusch, Robert and Nambisan, Satish (2015). Service Innovation: A Service-Dominant Logic Perspective. March 2015MIS Quarterly 39(1):155-175 DOI: 10.25300/MISQ/2015/39.1.07

41. Mazumder, M Amin, A. Paul, RK and Riyad, RH (2020). A study on the livelihood of the mongers and cognition of street food safety under Covid-19 pandemic situation in Dhaka city. December 2020. Journal of Advanced Civil Engineering Practice and Research 11 (December 2020):25-29

42. Matteucci, X. and Gnoth, J. (2017). “Elaborating on grounded theory in tourism research”, Annals of Tourism Research, Vol. 65, pp. 49-59.

43. McGee, T.G. (1973). Hawkers in Hong Kong: A study of planning and policy in a Third World City. Hong Kong: Centre of Asian Studies.

44. Milgram, B. Lynne (2019). (Re) fashioning Philippine street foods and vending. August 2019Economic Anthropology 7(2) DOI: 10.1002/sea2.12161

45. Makalesi, Arastirma Mutlu, Havva Gözgeç and Aydemir, Burhan (2019). WOMEN STREET FOOD VENDORS IN GASTRONOMY: A CASE STUDY. October 2019 Gözgeç, H. ve Aydemir, B. (2019). "Gastronomide Kadın Sokak Gıda Satıcıları: Bir Örnek Olay Çalışması", Manas Sosyal Araştırmalar Dergisi, 8 (4): 3854-3870.

46. (PDF) WOMEN STREET FOOD VENDORS IN GASTRONOMY: A CASE STUDY. Available from: https://www.researchgate.net/publication/337196785_WOMEN_STREET_FOOD_VENDORS_IN_GASTRONOMY_A_CASE_STUDY [accessed Jun 30 2021].

47. Muangmee, C.; Kot, S.; Meekaewkunchorn, N.; Kassakorn,N.; Khalid, B. (2021). Factors Determining the Behavioral Intention of Using Food Delivery Apps duringCOVID-19 Pandemics. Journal of Theoretical and Applied Electronic Commerce Research 2021, 16, Page 1297–131 DOI: 10.3390/jtaer16050073

48. Nguyen, Luke (2017). Street Food Asia: Saigon, Bangkok, Kuala Lumpur, Jakarta. Hardie Grant Books Publisher, South Yarra, Australia. ISBN13 9781743792193

49. Nualkhair, Chawadee (2015). Thailand's Best Street Food: The Complete Guide to Streetside Dining in Bangkok, Chiang Mai, Phuket, and Other Areas. Tuttle Publications ISBN 9780804844666

50. Olsen, Sjúrður F. (2001). Street Foods. March 2001BMJ Clinical Research 322(7287) Source PubMed Central

51. Philips, Alan (2020). Starting & Running a Food Truck Business: Everything You Need to Succeed with Your Kitchen on Wheels, Alpha Books ISBN-13: 9781465490117

52. Pilato, Manuela; Platania, Marco; and Seraphin, Hugues (2021). Connecting Locals and Visitors: The Case of Street Food. DOI: 10.1108/978-1-80043-900-920211018 In book: Tourism in the Mediterranean Sea

53. Poojara, Rashmi H. (2020). Street Foods: Safety Concerns. In book: Safety and Quality in Food Supply Chain: A farm to Fork approach Publisher: New India Publishing Agency, New Delhi

54. Privitera, D. and Nesci, F.S. (2015). "Globalization vs. Local. The role of street food in the urban food system", Procedia Economics and Finance, Vol. 22, pp. 716-722

55. Richards, G., (2015). Food experience as integrated destination marketing strategy, World Food Tourism Summit in Estoril, Portugal.

56. Rosales, Rocio (2020). Fruteros: Street Vending, Illegality, and Ethnic Community in Los Angeles. University of California Press ISBN-13: 9780520319851

57. Saha, D. (2011). Collective bargaining for street vendors in Mumbai: Toward promotion of social dialogue. Journal of Workplace Rights, 15(3-4).

58. Setboonsarng, C. Thai Siam Commercial Bank Launches Food Delivery App Amid Competition Reuters 2020

59. Sezgin, A.C. and Sanlier, N. (2016). “Street food consumption in terms of the food safety and health”, Journal of Human Science, Vol. 13 No. 3, pp. 4072-4083

60. Simopoulos AP, Bhat RV (Eds): (2000). Street Foods. World Rev Nutr Diet. Basel, Karger, 2000, vol 86, pp 100-122. DOI: 10.1159/00005

61. Steyn, N.P. and Labadarios, D. (2011). “Street foods and fast foods: how much do South Africans of different ethnic groups consume?” Ethnicity and Disease, Vol. 21 No. 4, pp. 462-466.

62. Tan, Eunice (2020).iDabao during Covid-19: Online-to-offline (O2O) food delivery service and the digitalization of hawker (street) food during a crisis. November 2020. Conference: The 4th International Seminar on Tourism (ISOT)

63. Thakur, C.P., Mehra, R., Narula, C., Mahapatra, S. and Kalita, T.J. (2013). “Food safety and hygiene practices among street food vendors in Delhi, India”, International Journal of Current Research, Vol. 5 No. 11, pp. 3531-3534.

64. Thompson, David (2010). Thai Street Food. Publisher Ten Speed Press, Berkley, CA ISBN10 158008284X ISBN13 9781580082846

65. Tigari, Harish and Shalini, S. (2020). Socio-Economic Condition of Urban Street Food Vendors. June 2020. Shanlax International Journal of Economics 8(3) DOI: 10.34293/economics.v8i3.3193 License CC BY-SA 4.0

66. Volkova, S., Ayton, E., Porterfield, K., Corley, C.D. (2017). Forecasting influenza-like illness dynamics for military populations using neural networks and social media. PloS one 12(12), 0188941

67. Williams, C.C. and Horodnic, I.A. (2017). “Regulating the sharing economy to prevent the growth of the informal sector in the hospitality industry”, International Journal of Contemporary Hospitality Management, Vol. 29 No. 9, pp. 2261-2278

68. Winarno, F.G., and Allain, A. (1991), “Street foods in developing countries: lessons from Asia”, Food, Nutrition and Agriculture, Vol. 1 No. 1, pp. 11-18

69. Yahiro, K., Toi, S. and Nagashima, Y. (2013). “The impact of street food stalls on the local economy and conditions for their sustainable management”, Memoirs of the Faculty of Engineering, Kyushu University, Vol. 73 No. 1, pp. 1-11.

70. Yang, M.; Mamun, A.A.; Mohiuddin, M.; Nawi, N.C.; Zainol, N.R. Cashless transactions: A study on intention and adoption of e-Wallets. Sustainability 2021, 13, 831.

71. Yeo, V.C.S.; Goh, S.-K.; Rezaei, S. Consumer experiences, attitude and behavioral intention toward online food delivery (OFD) services. Journal of Retail. Consumer Services 2017, 35, 150–162.

72. Yu, Anne Shen, Angela Ryan, Michael Boulanger, Lucy (2021).Bulletin of the World Health Organization March 2021 99(3):171-171A DOI: 10.2471/BLT.21.285550

73. Zeb, Shumaila Shahwar Hussain Syed, and Javed, Asma (2021). COVID-19 and a way forward for restaurants and street food vendors. January 2021Cogent Business & Management 8(1):1923359. DOI: 10.1080/23311975.2021.1923359 License CC BY 4.0

74. Zhao, Y.; Bacao, F. What factors determining customer continuingly using food delivery apps during 2019 novel coronavirus pandemic period? International Journal of Hospitality Management 2020, 91, 102683.

75. Zinecker, M.; Doubravský, K.; Balcerzak, A.P.; Pietrzak, M.B.; Dohnal, M. The Covid-19 Disease and Policy Response to Mitigate the Economic Impact in the EU: An Exploratory Study Based on Qualitative Trend Analysis. Technol. Econ. Dev. Econ. 2021