

Effectiveness of Three Leading Food Delivery Services: A Comparative Study

Jenamie S. Langi¹, Jhon Archie S. Banuelos¹, Allan Adrian P. Lesmoras¹, Kevin M. Silvestre¹

¹BSHM Student, Asian Institute of Maritime Studies, Pasay City, Philippines

Article History:

Received: 15 January 2024

First Decision: 26 February 2024

Published: 24 April 2024

Abstract

The study investigates the effectiveness of three leading food delivery applications – Grab Food, Food Panda, and Lala Food – across various service dimensions, including food booking, preparation, delivery, handover, and after-delivery services. Employing convenience sampling, data were collected from 50 food-delivery users from Pasay City. The research instrument comprises 37-item questions which aims to measure users' perceptions. Findings revealed that Grab Food consistently outperformed its competitors, receiving "strongly agree" ratings across all service domains, with weighted mean scores ranging from 4.54 to 4.66. Though slightly lower than Grab Food, Food Panda, on the other hand, also received positive ratings with weighted mean scores ranging from 4.19 to 4.41. In contrast, Lala Food received lower ratings with weighted mean scores ranging from 3.93 to 4.15. This indicates an overall lower level of effectiveness compared to Grab Food and Food Panda. The comparison of the three food delivery services revealed significant differences in perceived effectiveness among respondents. These findings underscore the importance of app performance in driving user satisfaction and loyalty in the competitive food delivery market.

Keywords: Effectiveness, Food Delivery Services, Asian Institute of Maritime Studies



Copyright © 2024. The Author/s. Published by VMC Analytiks Multidisciplinary Journal News Publishing Services. Effectiveness of Three Leading Food Delivery Services: A Comparative Study © 2024 by Jenamie S. Langi, Jhon Archie S. Banuelos, Allan Adrian P. Lesmoras, Kevin M. Silvestre is licensed under [Creative Commons Attribution \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/).

INTRODUCTION

The COVID-19 pandemic has indeed affected a significant number of people in the Philippines, resulting in widespread job losses, business closures, and economic struggles. This epidemic has particularly devastated Southeast Asian food businesses, revealing critical flaws within the food and beverage sector. While online delivery services such as Grab Food remain invaluable, they cannot entirely replace the need for food retailers to reconsider their profitability strategies. This sentiment is echoed by Grab's website, which emphasizes the collaborative effort required to overcome the challenges posed by COVID-19 (Grab, 2020). Food delivery services are characterized by order services, payment processing, and monitoring, though they are not directly responsible for delivery activities themselves (Pigatto, Machado, Negreti, & Machado, 2017). Amidst this pandemic, there has been a noticeable shift in consumer behavior towards online service platforms, driven by a heightened need for convenience and safety. This shift has led to a surge in demand for online food delivery services, as consumers increasingly rely on digital platforms to meet their needs (V Ali Taha, 2021).

Many famous fast-food restaurants have responded to this trend by developing their own online booking applications, accessible via mobile phones, as well as utilizing third-party booking apps such as Grab Food and Food Panda. These platforms offer customers access to their services and products, often with a small fee for added convenience. Despite the challenges brought about by the pandemic, many businesses have been hesitant to embrace change, continuing to rely on traditional telephone-based systems and manual coordination methods that require the presence of employees. However, as technology continues to advance, businesses are compelled to adapt, particularly in response to shifting consumer preferences and expectations.

Despite the ongoing threat of the virus, the trend of using food delivery service applications remains strong, particularly in areas like Pasay, known as the Travel City due to its strategic location at the country's transportation hub. Even as quarantine restrictions are eased, many Pasayenos continue to prioritize the use of food delivery applications to minimize contact with others and mitigate the risk of transmission.

In this evolving landscape, online delivery has emerged as a vital component of the food service industry, enabling eateries to adapt to changing consumer behaviors and preferences. Online booking systems play a pivotal role in helping restaurants monitor occupancy, facilitate contact tracing, and manage customer expectations and concerns. Thus, this research aims to investigate the effectiveness of three leading food delivery service applications, shedding light on their impact on various stakeholders and the wider consequences for the food service industry. Through a comparative study, this study analyzed the circumstances surrounding online food delivery and explore the implications for businesses, consumers, and other stakeholders.

LITERATURES

Review of Online Food Delivery Platforms and their Impacts on Sustainability. The emergence of online food delivery platforms has become increasingly prominent, especially during the global COVID-19 pandemic of 2020. These platforms have demonstrated clear benefits by providing customers with convenient access to prepared meals and enabling food providers to sustain their operations amidst challenging circumstances. However, alongside these advantages, there have been notable criticisms of online food delivery, leading to customer and restaurant boycotts. In light of these dynamics, this study employs the three dimensions of sustainability as a framework to analyze the impacts of online food delivery. While it offers opportunities for increased sales and employment, online food delivery has faced scrutiny for the high commissions charged to restaurants and the potentially adverse working conditions imposed on delivery staff. Furthermore, its social impact extends to altering customer-food relationships, influencing transportation patterns, and potentially affecting public health. Additionally, significant concerns revolve around the generation of waste and the substantial carbon footprint associated with these platforms. To ensure the sustainability of online food delivery in the future, stakeholders must carefully consider strategies to mitigate negative effects

while maximizing positive outcomes (Charlene Li, 2020).

Drawing insights from (Muller, 2010) technology within the hospitality industry encompasses both software and hardware components, blending equipment with craftsmanship. Innovations in tools, systems, organizations, machinery, and equipment have propelled advancements in hospitality technology. Technology is evolving in a manner that promises more transformative change than witnessed in the past century, signaling a shift from labor-intensive processes to wireless technology-driven operations. As customers and staff increasingly embrace digital attitudes, restaurants and hotels must adapt to these changes swiftly. Despite the rapid pace of technological evolution, the adoption of technology in hotels and restaurants has been relatively slower compared to other sectors, potentially posing challenges in the coming decade. However, ongoing adjustments are anticipated to enhance human resource procedures, elevate brand awareness among customers and staff, streamline order processing, and address historical inefficiencies within the industry. These adaptations reflect a broader trend towards leveraging technology to enhance operational efficiency and customer experience within the hospitality sector.

Strategies and Challenges of Small-Scale Online Food Businesses in the Philippines. The top food delivery applications in the Philippines, include GrabFood, FoodPanda, and LalaFood. Further research conducted by SJ Lim and MI NoroÉa (2021) delves into the business operations of these online food delivery service app firms, focusing on Grab Food, Lala Food, and Food Panda, which are widely used by Filipino customers based on surveys. These delivery systems (FDS) provide customers with interfaces through which they can select restaurants and place food orders. However, one common issue faced by restaurants is the occurrence of waiting customers. Despite its significance, this issue is often overlooked by restaurant owners and can lead to customer defections. To address this concern and

enhance customer satisfaction, it is essential for restaurants to prioritize factors such as flavor, ambiance, and service quality. Fast service, in particular, is crucial for fast-food businesses to prevent customer losses due to lengthy wait times. Consequently, the objective of a recent project was to develop a mobile ordering platform tailored for quick-service restaurants, enabling customers to place food orders conveniently. The project utilized the Agile Methodology during development to ensure the system's effective implementation. A survey was conducted to gauge customer acceptance of the mobile application. While the survey included feedback from five small fast food and restaurant owners who tested the platform, it also involved fifty prospective customers to ascertain their opinions. The survey results provided insights into the anticipated level of approval for the mobile ordering platform. However, due to constraints such as time limitations and the inapplicability of proposed system enhancements to the current study, these enhancements were not integrated into the existing system (Buenaventura, 2021).

Food safety practices of food handlers at home engaged in online food businesses during COVID-19 pandemic in the Philippines. This study was conducted to assess the self-reported and observed food safety practices (FSP) of food handlers, who deliver food products that are prepared and cooked at home during the COVID-19 pandemic. In the Philippines, food handlers at home are not issued with sanitary permit or are not required to apply for food safety certification, which can lead to unsafe and unacceptable practices in food preparation putting customers at risk of FBD. Several improper food preparation practices at home, such as improper cooking practices, reheating, undercooking, cooling of food, inadequate preparation, cross contamination, insufficient processing and poor hygiene are found to cause FBD (Azanaw et al., 2019; Carstens et al., 2019; Ucar et al., 2016). In this paper, GrabFood and other food delivery services are new services that utilize internet technology in their applications. Food delivery application is proliferating during the Covid-19

pandemic; it transforms the way consumers consume the food. Consumer pleasure in using online application due to the limitation of mobility has enhanced the promotion of food delivery applications (Kumar and Shah, 2021).

METHODOLOGY

Population and Sampling. Employing convenience sampling as sampling technique, the respondents of this study are 50 food delivery application users/customers from Pasay City. Applying the tenets of convenience sampling, members of the population have met certain practical criteria, such as easy accessibility, geographical proximity, availability at a given time, and willingness to participate in the study.

Instrumentation. Anchoring from the step-by-step online transaction in ordering food via the three applications, a researcher-made instrument was prepared to gather the pertinent data of the study. Five major sections encompass the composition of the questionnaire: 1) Effectiveness of app in terms of food booking service; 2) Effectiveness of app in terms of food preparation service; 3) Effectiveness in terms of delivery proper service; 4) Effectiveness in terms of handover service; and, 5) Effectiveness in terms of after delivery service. A 5-point Likert scale was used with the following scale range and description:

Table 1
Likert scale used in measuring the effectiveness of food delivery services

Scale	Range	Description
5	4.21 – 5.00	Strongly Agree
4	3.41 – 4.20	Agree
3	2.61 – 3.40	Neutral
2	1.81 – 2.60	Disagree
1	1.00 – 1.80	Strongly Disagree

Initial validation of the instrument was done by the Thesis Adviser of the proponents. This was followed by 2 experts: Faculty from the Hospitality Management Department; and, Statistician. To test its internal consistency, a pilot survey was done with 10 regular

customers of the 3 applications. Results of the testing indicated a .98 Cronbach alpha, thus, further indicating that the instrument was very reliable.

Data Source. Using a pen-and-paper mode, respondents were outsourced conveniently in areas accessible from the residences of the researchers who also reside in Pasay City. Informed consent was also acquired to comply with the tenets of ethical research. Upon completion of data collection, the gathered data underwent data cleaning, tabulation, and prepared for statistical analysis.

Data Analysis. Using Statistical Package for Social Science (SPSS) version 28, data of the study was analyzed using the following statistical tools. Percentage was used to determine the distribution of the demographic profile of the Food Delivery Application users, specifically on their Residence, Estimated Time of Transaction, and Type of Food Ordered. Weighted mean was used to determine and describe the effectiveness of the services of the three leading service companies. Standard deviation was used to calculate the average deviation of each individual score from the mean/average. Lastly, analysis of variance (ANOVA) was used to determine the comparison of the three delivery food service companies.

Analysis and interpretation were done accordingly. This analysis involved examining trends, patterns, and relationships within the data to derive meaningful insights. The findings were critically evaluated to assess the effectiveness and performance of the three leading food delivery services across various dimensions, including food booking, preparation, delivery, handover, and after-delivery services.

RESULTS

Effectiveness of app in terms of booking service. Table 1 presents the effectiveness of the app in terms of food booking services. It is evident from the table that all statements were marked "strongly agree" for Grab Food and

Food Panda, while only two out of eight statements were marked "strongly agree" for Lala Food.

Table 1
Mean distribution on the effectiveness of the app in terms of Food Booking Service (N=50)

Statements	Grab Food		Food Panda		Lala Food	
	Mean	Description	Mean	Description	Mean	Description
The appearance of the application is eye-friendly.	4.50	SA	4.33	SA	4.16	A
The selections are organized and easy to navigate.	4.37	SA	4.25	SA	4.11	A
I can choose from a wide choice of restaurant where to order.	4.59	SA	4.31	SA	5	A
I can choose from a wide variety of menu to order.	4.57	SA	4.33	SA	4.05	A
I am allowed to select and remove side dishes, drink and others.	4.48	SA	4.28	SA	4.11	A
the application allows me to leave a note for specific instructions.	4.67	SA	4.47	SA	4.21	SA
There are different payment methods (e.g. G-cash, COD, etc.) to choose from.	4.76	SA	4.53	SA	4.16	A
Generally, the food booking application is very effective.	4.78	SA	4.53	SA	4.21	SA
Average Mean	4.59	SA	4.38	SA	4.13	A

Grab Food has the highest weighted mean of 4.59, followed by Food Panda with an average weighted mean of 4.38, both interpreted as "strongly agree". On the other hand, Lala Food received an average weighted mean of 4.13, interpreted as "agree". This indicates that Grab Food is the most effective app in terms of food booking service, with an average of 4.59, followed by Food Panda with an average of 4.38, and Lala Food with an average of 4.13.

Effectiveness of app in terms of Food Preparation Service. Table 2 presents the effectiveness of the app in terms of food preparation service. It is evident from the table that all statements were marked "strongly agree" for Grab Food and Food Panda, while only three out of eight statements were marked "strongly agree" for Lala Food. Grab Food has the highest weighted mean of 4.66, followed by Food Panda with an average weighted mean of 4.41, both interpreted as "strongly agree". On the other hand, Lala Food received an average weighted mean of 4.15, interpreted as "agree". This indicates that Grab Food is the most effective app in terms of food preparation service, with an average of 4.66, followed by Food Panda with an average of 4.41, and Lala Food with an average of 4.15.

Table 2
Mean distribution on the effectiveness of app in terms of Food Preparation Service (N=50)

Statements	Grab Food		Food Panda		Lala Food	
	Mean	Description	Mean	Description	Mean	Description
It allows me to see the progress of my order in real time.	4.57	SA	4.24	SA	4.06	A
It shows if I already found a rider who will deliver my order	4.63	SA	4.33	SA	4.28	SA
It allows me to know if the rider is on his way to my pinned location	4.67	SA	4.49	SA	4.17	A
It allows me to locate if the designated rider is already in the store	4.67	SA	4.43	SA	4.22	SA
It allows me to know if my order is already completely prepared.	4.74	SA	4.49	SA	4.17	A
It allows me to know (via rider or app) if my order is available or not.	4.67	SA	4.43	SA	4.00	A
The application is quite efficient in terms of food preparation services.	4.60	SA	4.43	SA	4.06	A
General, the application for ordering food is fairly. effective	4.72	SA	4.46	SA	4.22	SA
Average mean	4.66	SA	4.41	SA	4.15	A

Effectiveness in terms of Delivery Proper Service. Table 3 presents the effectiveness of the app in terms of delivery proper service. It is clearly shown in the table that two out of nine statements were marked "agree" for Grab Food, five out of nine statements were marked "agree" for Food Panda, while all statements were marked "agree" for Lala Food. Grab Food has the highest weighted mean of 4.40, interpreted as "strongly agree", followed by Food Panda with an average weighted mean of 4.19, interpreted as "agree". On the other hand, Lala Food received an average weighted mean of 3.93, interpreted as "agree". This indicates that Grab Food is the most effective app in terms of delivery proper service, with an average of 4.40, followed by Food Panda with an average of 4.19, and Lala Food with an average of 3.93.

Table 3
Mean distribution of effectiveness in terms of Delivery Proper Service (N=50)

Statements	Grab Food		Food Panda		Lala Food	
	Mean	Description	Mean	Description	Mean	Description
I can communicate well with the rider/app while my order is in transit.	4.70	SA	4.41	SA	4.00	A
I can view in the app if the driver is on its way to deliver my order.	4.78	SA	4.38	SA	4.00	A
Rider easily understands where to drop the order.	4.50	SA	4.19	A	4.06	A
Rider arrives on the correct pinned location.	4.24	SA	4.16	A	4.00	A
The order arrives on time based on the application	4.02	A	4.03	A	3.67	A
Rider always has available change when paying in large cash bills.	4.0	A	3.95	A	3.89	A
Rider has proper delivery equipment to secure the safety of orders	4.48	SA	4.27	A	4.00	A
The riders have outstanding delivery timing	4.28	SA	4.05	A	3.72	A
Generally, the delivery proper service is fairly. effective	4.57	SA	4.30	SA	4.06	A
Average mean	4.40	SA	4.19	A	3.93	A

Effectiveness in terms of Handover Service.

Table 4 presents the effectiveness of the app in terms of handover service. It is apparent from the table that all statements were marked "strongly agree" for Grab Food, while only four out of six statements were marked "strongly agree" for Food Panda and only two out of six statements were marked "strongly agree" for Lala Food. Grab Food has the highest weighted mean of 4.54, followed by Food Panda with an average weighted mean of 4.32, both interpreted as "strongly agree". On the other hand, Lala Food received an average weighted mean of 4.13, interpreted as "agree". This indicates that Grab Food is the most effective app in terms of handover service, with an average of 4.54, followed by Food Panda with an average of 4.32, and Lala Food with an average of 4.13.

Table 4
Mean distribution of effectiveness in terms of Handover Service (N=50)

Statements	Grab Food		Food Panda		Lala Food	
	Mean	Description	Mean	Description	Mean	Description
The order is intact, and the packaging is sealed properly.	4.52	SA	4.41	SA	4.05	A
The rider is friendly and courteous when handing over the order.	4.54	SA	4.30	SA	4.21	SA
Quantity of order is correct according to the number of ordered items.	4.52	SA	4.19	A	4.11	A
Temperature (hot or cold) of food is preserved with the use of insulated box.	4.28	SA	4.08	A	4.00	A
The rider takes a picture for verification that the order was received	4.61	SA	4.46	SA	4.16	A
Generally, the handover service is fairly effective.	4.74	SA	4.41	SA	4.26	SA
Average mean	4.54	SA	4.32	SA	4.13	A

Effectiveness in terms of After Delivery Service.

Table 5 presents the effectiveness of the app in terms of after-delivery service. It is justified in the table that all statements were marked "strongly agree" for Grab Food, while only five out of six statements were marked "strongly agree" for Food Panda and only three out of six statements were marked "strongly agree" for Lala Food. Overall, Grab Food has the highest weighted mean of 4.59, followed by Food Panda with an average weighted mean of 4.33, and Lala Food with an average weighted mean of 4.21; all of them are interpreted as "strongly agree". This indicates that Grab Food is the most effective app in terms of after-delivery service, with an average of 4.59, followed by Food Panda with an average of 4.33, and Lala Food with an average of 4.21.

Table 5
Mean distribution of effectiveness in terms of After Delivery Services (N=50)

Statements	Grab Food		Food Panda		Lala Food	
	Mean	Description	Mean	Description	Mean	Description
The app always marks "delivered" right after receiving the order.	4.67	SA	4.32	SA	4.39	SA
I always receive the correct order after opening the package.	4.60	SA	4.46	SA	4.17	A
I can easily contact the customer service when needed to inquire/complain.	4.58	SA	4.37	SA	4.22	SA
Customer service is very hands on if mistakenly received a wrong order.	4.51	SA	4.29	SA	4.17	A
There is an option to return/replace/refund order due to reasonable grounds	4.56	SA	4.14	A	4.06	A
The application's post-delivery support is first-rate.	4.64	SA	4.43	SA	4.28	SA
Average mean	4.59	SA	4.32	SA	4.21	A

Comparison of Services of Three Delivery Food Services. Table 6 reveals the results of the comparison of the three food delivery services as perceived by the respondents. Based on the table, Grab Food received the highest mean response of 4.56, followed by Food Panda with a mean of 4.36, and lastly, Lala Food with the lowest mean of 4.10. The computed F-ratio of these means is 3.94 with a p-value of 0.023, indicating significant differences. Through the LSD multiple comparisons test, it was found that Grab Food has significantly higher effectiveness than Lala Food, with a mean difference of 0.46 and a p-value of 0.007.

Table 6
Multiple Comparison on the effectiveness of Three Delivery Food Services

Food Delivery Services	Mean	Standard Deviation	F-Ratio	P-Value	Interpretation
Grab Food	4.56	0.43	3.94	0.023	Significant
Food Panda	4.36	0.66			
LalaFood	4.10	0.81			

DISCUSSION

The results of the study provide valuable insights into the effectiveness of different food delivery services, namely Grab Food, Food Panda, and Lala Food, across various aspects of the delivery process. Overall, Grab Food consistently emerged as the top performer in terms of app effectiveness across food booking, preparation, delivery, handover, and after-delivery services. On the other hand, while Food Panda also demonstrated strong performance, Lala Food lagged behind in several areas.

In terms of food booking services, Grab Food and Food Panda received unanimous "strongly agree" ratings across all statements, indicating high satisfaction among users. However, Lala Food received fewer "strongly agree" ratings, suggesting potential areas for improvement in this aspect of their service.

Similarly, Grab Food and Food Panda excelled in food preparation, delivery, handover, and after-delivery services, with all statements marked "strongly agree" by respondents. In contrast, Lala Food received fewer "strongly agree" ratings across these categories, signaling room for enhancement in these areas to match the performance of its competitors.

The comparison of the three food delivery services revealed significant differences in perceived effectiveness among respondents. Grab Food garnered the highest mean response, followed by Food Panda and Lala Food. Statistical analysis confirmed that these differences were significant, with Grab Food exhibiting significantly higher effectiveness compared to Lala Food.

These findings underscore the importance of app performance in driving user satisfaction and loyalty in the competitive food delivery market. For Lala Food to improve its effectiveness and competitiveness, it may need to address identified areas of weaknesses, such as food booking services, preparation, delivery, handover, and after-delivery services. By enhancing these aspects of their service, Lala Food can better meet the expectations and needs of its customers, ultimately contributing to its success in the food delivery industry.

REFERENCES

- Ali Taha, V., Pencarelli, T., Škerháková, V., Fedorko, R., & Košíková, M. (2021). The use of social media and its impact on shopping behavior of Slovak and Italian consumers during COVID-19 pandemic. *Sustainability*, 13(4), 1710. <https://doi.org/10.3390/su13041710>
- Azanaw, J., Gebrehiwot, M., & Dagne, H. (2019). Factors associated with food safety practices among food handlers: facility-based cross-sectional study. *BMC research notes*, 12, 1-6. <https://doi.org/10.1186/s13104-019-4702-5>
- Buenaventura, R. U., Ignacio, A. E., & LaspoÉa, J. A. S. (2021). Mobile Ordering Application for a Generic Fast Food Restaurant. *International Journal of Multidisciplinary: Applied Business and Education Research*, 2(5), 371-380. <https://doi.org/10.11594/ijmaber.02.05.01>
- Carstens, C. K., Salazar, J. K., & Darkoh, C. (2019). Multistate outbreaks of foodborne illness in the United States associated with fresh produce from 2010 to 2017. *Frontiers in microbiology*, 10, 492987. <https://doi.org/10.3389/fmicb.2019.02667>
- Kizildag, N., & Ucar, N. (2016). Nanocomposite polyacrylonitrile filaments with electrostatic dissipative and antibacterial properties. *Journal of Composite Materials*, 50(30), 4279-4289. <https://doi.org/10.1177/0021998316635731>
- Kumar, S., & Shah, A. (2021). Revisiting food delivery apps during COVID-19 pandemic? Investigating the role of emotions. *Journal of Retailing and Consumer Services*, 62, 102595. <https://doi.org/10.1016/j.jretconser.2021.102595>
- Li, C., Miroso, M., & Bremer, P. (2020). Review of online food delivery platforms and their impacts on sustainability. *Sustainability*, 12(14), 5528. <https://doi.org/10.3390/su12145528>
- Lim, S., & NoroÉa, M. (2021). A study of stakeholder's perception of factors affecting online food delivery service industry in the Philippines. *Proceedings of the 11th Annual International Conference on Industrial Engineering and Operations Management Singapore, March 7-11, 2021*. <https://doi.org/10.46254/an11.20210882>
- Muller, C. (2010). Hospitality technology: A review and reflection. *Worldwide Hospitality and Tourism Themes*, 2(1), 9-19. <https://doi.org/10.1108/17554211011012568>
- Pigatto, G., Machado, J. G. D. C. F., dos Santos Negreti, A., & Machado, L. M. (2017). Have you chosen your request? Analysis of online food delivery companies in Brazil. *British Food Journal*, 119(3), 639-657. <https://doi.org/10.1108/BFJ-05-2016-0207>