Online Food Delivery (OFD) apps: What do the customers look at?

Nurul Najiha Zolkiffli
Department of Production and Operation Management,
Faculty of Technology Management and Business
Universiti Tun Hussein Onn Malaysia
86400, Batu Pahat, Johor, Malaysia
jiehazolkiffli@gmail.com

Rohaizan Ramlan[1*], Chan Shiau Wei[2]
Centre of Research on Service and Operations Management (CRSOM),
Faculty of Technology Management and Business,
Universiti Tun Hussein Onn Malaysia,
86400, Batu Pahat, Johor, Malaysia
rohaizan@uthm.edu.my, swchan@uthm.edu.my

Abstract

The online food delivery (OFD) application is the software application that connects the restaurants and customers through online. in this pandemic Covid-19, the OFD app makes food selection and purchases become easy. As a result, the purpose of this study is to determine customer preferences in OFD apps using the Best Worst Method (BWM). The selection of customer preferences criteria consists of price, design, convenience and time. The quantitative method is applied by disseminating a survey to OFD apps customers in Parit Raja, Malaysia through WhatsApp medium within two months. Based on the convenience sampling method, 112 surveys were received, however, 11 surveys does not meet the requirements. Therefore, only 101 surveys were analyzed using BWM. According to the findings, pricing is still the most essential factor for customers, followed by time, convenience, and design. This article also includes recommendations for OFD providers to improve their services.

Keywords
Best Worst Method, Customer preferences, Online food delivery application.

1. Introduction

According to Yeo et al., (2017), E-commerce is one of the platforms that customers prefer as a buying medium since it allows them to shop at their leisure and in their very own comfort zone. The growth of online retailing demonstrates that consumers have access to an almost limitless variety of goods and services. , and convenient delivery. The food business is one of the retailers that benefit from the use of e-commerce as a platform to better serve customers. E-commerce, as a shopping medium, allows users to conveniently shop, compare products and prices, and schedule product delivery swiftly (Suhartanto et al., 2018). Customers can order food through restaurant websites or online food delivery services like FoodPanda, Halo, McDelivery Malaysia, and Pizza Hut Malaysia, thanks to the availability of online restaurant technology. The rise of e-commerce is both an opportunity and a difficulty for restaurants, as it creates rivalry among businesses and increases profitability by attracting loyal consumers. E-commerce, according to Rahmaningtyas et al., (2017), allows users to purchase items and services conveniently while also lowering operating and marketing costs for businesses. Customers, on the other hand, were not interested in purchasing internet food due to product characteristics and uncertain product quality. To attract customers, internet food should have a distinguishing trait that sets it apart from other suppliers.

The food delivery application in Malaysia comprises two types of distributors who provide OFD services (Yeo et al., 2017). The first group includes retailers such as McDonald's Malaysia, Kentucky Fried Chicken (KFC) Malaysia, and Pizza Hut Malaysia. The second category consists of numerous restaurant intermediaries who provide delivery

services to a wide range of eateries. These two forms of OFD applications are used to create a practical food and beverage service. As a result, the second type of OFD suppliers, such as Foodpanda, Grab, and Halo, is the subject of this research. According to a poll done by Rakuten Insight in 2021, Foodpanda, which is owned by the Berlin-based firm Delivery Hero SE, was the most popular food delivery app among Malaysian respondents aged 25 to 34 years old (Statista, 2021).

Much of the rise in popularity of meal delivery can be attributed to Malaysia's greater Internet penetration rates and mobile phone purchases, both of which are critical to the success of food delivery services where food must be ordered via mobile phones or computers (The Star, 2019). OFD is a website or app that allows users to order and receive food from a variety of restaurants. It provides order, payment, and process monitoring services but is not responsible for order preparation. Customers usually search for a favourite restaurant, choose a product from the options, and include their delivery address (Ray et al., 2019). According to their spokesman, Foodpanda has signed up over 18,000 eateries due to increased demand, while GrabFood has a whopping 5,000 restaurants, and the number is expanding starting pandemic in 2019 (The Star, 2019). As a result, the study focuses on OFD providers in Parit Raja areas, specifically Halo, Foodpanda, and GrabFood, in order to determine customer preference on OFD app criteria using the Best Worst Method.

2. Literature Review

2.1 Online Food Delivery application

Online food delivery (OFD) is a method of delivering or picking up food from a restaurant or a local eatery via a website or smartphone app. In countries where technology is still developing and customer habits are changing, online food delivery (OFD) is essential (Rathore and Chaudhary, 2018). As a result, customers will be able to use the app to look for meals and restaurants, as well as compare restaurant prices and services. Moreover, technology has played a critical part in transforming the food delivery business from phone-based to online ordering, allowing it to rise to the top and fulfil the ever-changing demands of clients.

2.2 OFD apps criteria

The OFD apps criteria obtained from previous studies in 2018 until 2021 are as follow:-

(a) Price (Alalwan, 2020; Garg et al., 2020, Prasetyo et al., 2021).
A price is an amount charged for anything to be consumed, such as a product or service. Customer perceptions of the product, consumer satisfaction, purchasing intentions, and availability were all influenced by the product's price (Garg et al., 2020). Customers are also expected to compare the cost of ordering food via traditional methods with the cost of ordering food via OFD apps, according to Alalwan (2020). As a result, users frequently resort to lower-cost goods, resulting in longer customer retention before the price paid was reasonable (Garg et al., 2020). The food price, delivery fees, and tax fees are among the charges that are included in the OFD apps. Furthermore, the meal price varies between delivery and pick-up, and the food pricing on OFD apps is somewhat higher than the restaurant's actual price.

(b) Apps/Website Design (Cho et al., 2019; Kapoor and Vij, 2018)
Design is a logical framework of mobile apps that requires accessibility, understandability and operability that users need to make an effort to use (Cho et al., 2019). Furthermore, the system's design should be simple to use to assist the user in completing the task, especially in the e-commerce setting, where users expect to complete all search, order, and purchase operations in a few clicks (Cho et al., 2019). In addition, the design of a mobile application refers to the quality, design and attraction of the website's design, including images, colors, fonts, shapes, animations and layout (Kapoor and Vij, 2018).

(c) Convenience (Cho et al., 2019; Rathore and Chaudhary, 2018; Ray et al., 2019; Das, 2018)
Convenience refers to the capacity to use something without effort. OFD can provide convenience by allowing clients to compare meal prices from multiple restaurants, allowing them to avoid waiting in restaurants and traffic-related circumstances (Ray et al., 2019). Furthermore, convenience ensured that a mobile app could be downloaded and utilised at any convenient time and location to assess its quality (Cho et al., 2019). Furthermore, Jiang et al., (2013) stated that when the service provides convenient access, the ability to purchase online at any time and from any location will assist improve the consumer's perception of online shopping. In addition, there are options such as a favourite button, a list of prior orders, and a reorder button that make using the OFD apps more convenient. According to Rathore and Chaudhary (2018), convenience is the most important element driving OFD, followed by affordability.

(d) Time (Reddy and Aradhya, 2020; Rathore and Chaudhary, 2018)
Time is the most important component in every form of business or service, as time and delivery are inextricably linked (Rathore and Chaudhary, 2018). Consumer impressions become positive when they are able to avoid dealing with the physical hardship of travel, according to Yeo et al., (2017). Moreover, Sethu and Saini (2016) reported that online food purchasing services assist students in better time management. As a result, reducing time enhances the consumer's attitude (Childers et al., 2001; Eriksson and Nilsson, 2007). Thus, when users can save time, they are more likely to employ OFD services.

2.3 Multi-Criteria Decision Making (MCDM)
A multi-criteria decision-making (MCDM) problem is one in which a decision-maker must choose the best alternative from a list of options while considering a set of criteria. BWM is an easy-to-understand and-implement MCDM method that standardises comparisons, makes decision-making easier and more clear, and reduces the number of comparisons required to obtain the weights of the criterion (Rezaei, 2015). Thus, BWM will be used in this study to attain the research purpose.

3. Methods
The quantitative approach was applied to conduct an online survey of OFD app users in Parit Raja, Malaysia, using a Google Form. Since the entire number of users of OFD apps is unclear, convenience sampling was used in this study. Due to the pandemic of Covid19, cross-sectional design research was used to disseminate the survey across several platforms. The BWM method was applied to determine the ideal criteria. It is involved respondents being asked from each criteria to select one best and one worst criteria. Following that, each of the criteria is compared to the others, and the weight of each is calculated using pairwise comparison. The advantages of employing the BWM approach are simple to comprehend and implement, making decision-making easier and more understandable (Rezaei, 2015).

4. Data analysis
A total of 112 surveys were received from the distributed questionnaire. 11 of the 112 surveys received do not match the requirements. As a result, only 101 surveys were examined using the BWM approach. For two months, the surveys were circulated using Google Form and a few social media platforms such as WhatsApp and Twitter. The data was then transferred to.csv format and analyzed with the BWM method in Microsoft Excel.

4.1 Demographic Profile of Respondent
Table 1 shows the results of a descriptive study of some of the corresponding characteristics based on the demographics of customers who participated in this survey. According to the data, 100 percent of respondents have used OFD apps/web, with 94 respondents (93.07 percent) preferring the apps platform and another 7 respondents (6.93 percent) preferring the website. There are 53 female respondents (52.48 percent) and 48 male respondents (47.52 percent) among the 101 total respondents. The majority of the respondents are between the ages of 20 and 29, contributing for 49.50 percent, followed by those between the ages of 21 and 29, 44.55 percent, 30-39 years old (3.96 percent), and two respondents between the ages of 40 and above, representing 1.98 percent. The majority of respondents (58.42 percent) ordered OFD once a week, followed by 28.71 percent who ordered two to three times per week, 9.90 percent who ordered four to five times per week, and 2.97 percent who ordered six or more times per week.

Table 1: Frequencies and percentage of respondent's demographic

Variable	Frequency	Percentage (%)
Experience using OFD apps/web		
i. Yes	101	100
ii. No	0	0
Platform that usually used		
i. App	94	93.07
ii. Website	7	6.93

Gender		
i. Male	48	47.52
ii. Female	53	52.48
Age		
i. 20 and below	50	49.50
ii. 21 - 29	45	44.55
iii. 30 - 39	4	3.96
iv. 40 and above	2	1.98
Food ordering per week		
i. 1	59	58.42
ii. 2 - 3	29	28.71
iii. 4 - 5	10	9.90
iv. 6 and above	3	2.97

4.2 Customer Criteria Preference

Customer criteria preference refers to the best criteria, which each respondent defines as the most significant criteria in the selection of an OFD system, and the worst criteria, which is the least important criteria. The most significant factors are listed in Table 2, indicating that price is the most important criterion, contributing for 75.25 percent, followed by Apps/Website Layout Design, with 11.88 percent. Time (8.91%) and Convenience criterion are the third and fourth most important factors, respectively (3.96 percent).

Table 2: Frequencies and percentage for most important criteria

Most Important Criteria	Frequency	Percentage (%)
Price	76	75.25
Apps/Website Layout Design	12	11.88
Convenience	4	3.96
Time	9	8.91

Table 3 displays the frequency and proportion of respondents who chose the least important category. The majority of responders (63.37 percent) rank Apps/Website Layout Design as the least significant criteria. Convenience is ranked second least important at 19.80 percent, and Price is ranked third least important at 9.90 percent. The fourth and least essential criterion is Time, which contributes to 6.93 percent of the total.

Table 3: Frequencies and percentage for least important criteria

Least Important Criteria	Frequency	Percentage (%)
Price	10	9.90
Apps/Website Layout Design	64	63.37
Convenience	20	19.80
Time	7	6.93

4.3 Weighted and Consistency Ratio

Respondents were asked to compare selected most significant criteria with any of the other criteria using a scoring scale of 1 to 9. A score of 1 indicates that the other criteria are of similar importance, while a score of 9 indicates that the most relevant criterion is exceptionally important in comparison to the other criteria (Rezaei et al., 2016). To determine consistency for each condition, a criteria analysis is performed. The Best Worst scores of each criteria are used to determine the rank order of the criteria. Table 4 displays the results for each criterion.

Table 4: Ranking of Best Worst Method

Criteria	Weight	Rank
Price	0.456137617	1
Apps/Website Layout Design	0.146887402	4
Convenience	0.177486697	3
Time	0.219488284	2
Reliability Score (Ksi)	0.119258845	
Consistency Ratio (CR)	0.073164935	

The value of consistency ratio is near 0, which indicates that the correlation is extremely accurate and reliable. The accuracy and consistency of each pairwise relation for each criterion are examined and analyzed using a pairwise comparison between criteria. The most important criteria, as shown in Table 4, is 'price,' which received the most weight in comparison to the others. Then comes ‘time' and ‘convenience,' with ‘apps/website layout style' receiving the least weight, indicating that it is the least relevant factor in OFD app user preference.

5. Discussion and Conclusion

In conclusion, despite Alalwan's (2020) finding that there is no substantial association between price and customers' intention, pricing remains an important criterion for OFD app customers. The price value is important for customers' OFD apps for a variety of reasons, which support the claim by Prasetyo et al., (2021). To begin with, the price listed in ODF apps is slightly more than conventional restaurant costs, and it varies by provider. In addition, delivery charges and tax fees are included in the total amount and the delivery rates range amongst OFD suppliers as well. However, the meal pricing for Foodpanda differs between delivery and pick-up choices, with pick-up being somewhat less expensive. Nevertheless, certain OFD providers, such as GrabFood and Foodpanda, offer discounts for specific restaurants, including free delivery, hot deals, promotions, and vouchers that contribute positive perceptions to customers as mentioned by Prasetyo et al., (2021). The customer's preference for the second criterion is time. Since the OFD applications are primarily designed for people who do not have time to go to a restaurant, it has created a new expectation among customers that their meals would be delivered within a specified time frame. To address this, certain OFD apps show the status of meals being prepared and delivered once payment has been made, and customers can even contact the rider through the OFD app. The customer's third selection criteria is convenience. The OFD apps have features that make it easier for customers to use the apps, such as a favourite button, a list of prior orders, a reorder button, a preorder function, notification, a chat support button, live meal preparation and delivery status, and the ability to contact the rider. Aside from that, the OFD is aided by a variety of alternatives payments. Finally, the design of OFD apps contributes less to client preferences, even though the apps/web must provide a user-friendly experience to match customer expectations (Yee et al., 2018).

Based on observation, some suggestions for improvement to the OFD provider include the ability to upload a picture of the meal for information sharing, the extension of feedback comment periods, and an enhancement in the notification of minimum purchase rules. By uploading a photo of the food being delivered, customers will have access to preliminary information such as the portion size, a comparison of the actual food to the published menu, and a price and food comparison. Meanwhile, feedback comments are critical for OFD providers and restaurants to improve. Customer feedback is currently unavailable for Halo app; however, for Foodpanda, the feedback form only appears before subsequent orders for a limited time, allowing users to score the rider, packing, and punctuality of the entire ordering process. Meanwhile, there are two types of feedback for GrabFood: one for rider ratings and another for ordering food ratings. Interestingly, minimum purchase rules set by OFD providers for specific restaurants result in additional charges for customers who refuse to follow the regulations due to oversight. To avoid this, it is recommended that the OFD provider improve their modus operandi on alerting customers.

Due to its focus only in the Parit Raja area, this study is unable to generalize to the Malaysian context. Other than that, high-level bias Furthermore, convenience sampling has a higher level of bias, making it impossible to generalize the results to the entire population.

Acknowledgements

This research was made possible by funding from research grant number TIER1-H944 provided by the Universiti Tun Hussein Onn Malaysia.

References

Alalwan, A. A. (2020). Mobile food ordering apps: An empirical study of the factors affecting customer e-satisfaction and continued intention to reuse. *International Journal of Information Management*, 50, 28-44.

Childers, T. L., Carr, C. L., Peck, J., and Carson, S. (2001). Hedonic and utilitarian motivations for online retail shopping behavior. *Journal of retailing*, 77(4), 511-535.

Cho, M., Bonn, M. A., and Li, J. J. (2019). Differences in perceptions about food delivery apps between single-person and multi-person households. *International Journal of Hospitality Management*, 77, 108-116.

Das, J. (2018). Consumer perception towards' online food ordering and delivery services': An empirical study. *Journal of Management*, 5(5).

Eriksson, K., and Nilsson, D. (2007). Determinants of the continued use of self-service technology: The case of Internet banking. *Technovation*, 27(4), 159-167.

Garg, A., Gupta, S., Mathew, M., and Singh, S. (2020). Prioritising the preference of factors affecting the mobile network selection: A combination of factor analysis and best worst method. *Journal of Public Affairs*, (July).

Jiang, L. A., Yang, Z., and Jun, M. (2013). Measuring consumer perceptions of online shopping convenience. *Journal of Service management*.

Kapoor, A. P., and Vij, M. (2018). Technology at the dinner table: Ordering food online through mobile apps. *Journal of Retailing and Consumer Services*, 43, 342-351.

Prasetyo, Y. T., Tanto, H., Mariyanto, M., Hanjaya, C., Young, M. N., Persada, S. F., ... & Redi, A. A. N. P. (2021). Factors affecting customer satisfaction and loyalty in online food delivery service during the covid-19 pandemic: Its relation with open innovation. Journal of Open Innovation: Technology, Market, and Complexity, 7(1), 76.

Rahmaningtyas, A., Hartono, S., and Suryantini, A. (2017). Faktor-Faktor Yang Mempengaruhi Pembelian Makanan Khas Daerah Secara Online. (Doctoral dissertation, Universitas Gadjah Mada).

Rathore, S. S., and Chaudhary, M. (2018). Consumer's Perception on Online Food Ordering. *International Journal of Management & Business Studies*, 8(4), 12-17.

Ray, A., Dhir, A., Bala, P. K., and Kaur, P. (2019). Why do people use food delivery apps (FDA)? A uses and gratification theory perspective. *Journal of Retailing and Consumer Services*, 51(3), 221–230.

Reddy, C. S., and Aradhya, G. B. (2020). Driving Forces for the Success of Food Ordering and Delivery Apps: A Descriptive Study. *International Journal of Engineering and Management Research*, 10.

Rezaei, J. (2015). Best-worst multi-criteria decision-making method. *Omega* (United Kingdom), 53, 49–57.

Rezaei, J., Nispeling, T., Sarkis, J., and Tavasszy, L. (2016). A supplier selection life cycle approach integrating traditional and environmental criteria using the best worst method. *Journal of Cleaner Production*, 135, 577-588.

Statista (2021). Food delivery apps usage post COVID-19 in Malaysia 2020. https://www.statista.com/statistics/1149430/malaysia-favorite-food-delivery-apps-by-age-group/, Retrieved on 7 Sept 2021.

Sethu, H. S., & Saini, B. (2016). Customer Perception and Satisfaction on Ordering Food via Internet, a Case on Foodzoned. Com, in Manipal. *In Proceedings of the Seventh Asia-Pacific Conference on Global Business, Economics, Finance and Social Sciences* (AP16Malaysia Conference (pp. 15-17).

Suhartanto, D., Helmi Ali, M., Tan, K. H., Sjahroeddin, F., and Kusdibyo, L. (2019). Loyalty toward online food delivery service: the role of e-service quality and food quality. *Journal of foodservice business research*, 22(1), 81-97.

The Star (2019). Appy meals: Malaysians are eating at home thanks to food deliveries. Available from: https://www.thestar.com.my/lifestyle/living/2019/09/16/food-delivery-services-malaysia, Retrieved on 7 Sept 2021.

Yeo, V. C. S., Goh, S. K., and Rezaei, S. (2017). Consumer experiences, attitude and behavioral intention toward online food delivery (OFD) services. *Journal of Retailing and Consumer Services*, 35(July 2016), 150–162.

Yee, T. B., Ramlan, R., Hassan, R., Shukri, S. R. M., and Mokhtar, R. (2018). The evaluation of third party hotel booking website performance using analytic hierarchy process (AHP). *Journal of Advanced Research in Dynamical & Control Systems*, 10(7), 426-431.

Biographies

Nurul Najiha Zolkiffli obtained her Bachelor Degree from the Faculty of Technology Management and Business, UTHM in 2021.

Rohaizan Ramlan is a senior lecturer in Operation Management at UTHM's Faculty of Technology Management and Business, as well as a member of the Centre for Research on Service and Operations Management (CRSOM). In 2005, she graduated from UTM with a master's degree in Manufacturing Information Technology. Her BSc in Computer Science is her bachelor's degree (Hons.). Rohaizan's research interests span a wide range of disciplines, including production and operations management, as well as decision-making.

Chan Shiau Wei is a member of the Centre of Research on Service and Operations Management and a lecturer at UTHM's Faculty of Technology Management and Business (CRSOM). In 2014, she earned a PhD in Education (Mathematic) from Universiti Teknologi Malaysia. Her areas of research interest are applied mathematics and education.