

## Continued Use of Food Delivery Applications (FDAs) Post COVID-19 in Malaysia: Barriers and growth

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### Abstract

COVID-19 has opened many prospects for the retail sector, especially the food industry. Due to the pandemic retrenchment, the online channel has played a crucial role in ensuring the business's survival. Nevertheless, companies face several issues concerning Food Delivery Applications (FDAs), primarily related to user intent and barriers to non-adoption. The study aims to analyze the factors that influence user intent to use FDAs continuously, discover the barriers that influence consumers' intention to use FDAs, and explore the potential growth of FDAs.

Keywords: Continuance intention; COVID-19 pandemic; Food Delivery Applications (FDAs); Mobile Apps

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### 1.0 Introduction

The Coronavirus disease (COVID-19) pandemic has impacted various aspects of life, including the food industry. In Malaysia, the introduction of Movement Control Orders (MCO) has led to a surge in the use of food delivery services as people prioritize safety and convenience. Due to the increasing number of mobile internet users in Malaysia and the current circumstances due to the COVID-19 pandemic, food delivery has evolved from just a trend to a completely necessary and compulsory need. Food delivery services have become an essential alternative as people avoid dining out and eating in restaurants for safety reasons.

The use of technology has played an essential role in the growth and development of food delivery services. During the pandemic, online food delivery (OFD) services have become increasingly popular as people adhere to social distancing measures. The Food Delivery Applications (FDAs) are widely used, especially among Malaysians during the COVID-19 pandemic, with some delivery companies such as Food Panda and Grab Food seeing an increase in orders of more than 30% since an MCO was issued on 18 March 2020 (Grab, 2021). The growth of FDAs is expected in Malaysia, with the Malaysian online food market expected to reach over USD 319.1 million by 2026 (Tarmazi et al., 2021). In addition, technological advancements have helped food delivery services cater to consumers' different lifestyles and make food shopping more accessible. As a result of the pandemic, food delivery services have become an indispensable part of our daily lives and have helped many businesses stay afloat during these difficult times. COVID-19 was declared a pandemic or epidemic by the World Health Organization (WHO) on 11 March 2020. Transmission of the COVID-19 virus is worsening in Malaysia, according to the Malaysian Ministry of Health (KKM). At the time of writing, 5,079,436 confirmed cases with 37,028 deaths have been reported in Malaysia (WHO, 2023). The conventional food service sector was severely affected during the COVID-19 crisis. It was reported that certain businesses in Malaysia saw a 90% drop in sales when the MCO was introduced ([www.storehub.com/my](http://www.storehub.com/my)).

The COVID-19 pandemic has changed the way the food service sector operates and triggered new trends to meet the demand for more socially isolated food consumption. As FDAs grow in popularity in Malaysia, so does the emergence of food delivery services.

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Amidst the COVID-19 restrictions, it has become increasingly common for Malaysians to opt for food delivery services. This emerging trend has prompted many restaurants to explore using FDAs to enhance their customer service. Existing literature states that FDAs gained popularity after COVID-19 because consumers valued contactless consumption more regarding their health protection, and it shows that customers motivation to use food delivery apps was different during COVID-19 than before the pandemic (Chotigo & Kadono, 2021).

However, when the government allowed restaurants to reopen, mobile food delivery apps declined slightly as Malaysians rushed to dine at restaurants. It was claimed that the intention to use FDAs reduced by 17 per cent when the MCO was lifted (Statista, 2021b). Thus, it should be investigated whether the growth trend continues. Although it has made it easier for customers to buy food, understanding the factors that drive the intention to use FDAs continuously needs further research. What factors are responsible for Malaysian users continuing to use mobile food delivery services after the pandemic COVID -19 is still unknown. Therefore, there is a need to conduct a study in the Malaysian context to identify the factors associated with using FDAs continuously.

Given the explosive growth of food delivery apps, it is critical to examine this phenomenon holistically, particularly with the Malaysian context in mind and with particular attention to the factors that drive customers to continue using FDAs even after the pandemic. With this in mind, we intend to pursue three primary research objectives: To analyze the factors influencing users' intention to use food delivery apps continuously, to discover the barriers influencing consumers' intention to use food delivery apps and to explore the potential growth of food delivery apps in Malaysia. The following is a breakdown of the paper's structure. The paper is organized into four sections. The following sections provide a literature review of the factors that continuously influence users' intention to use FDAs, barriers to the continued use of FDAs and the components of FDA growth during the pandemic. The methodology section and the concluding section examine the conclusions and recommendations. Several recommendations for future research were discussed in this paper.

### 1.1 Food Delivery Applications (FDAs)

The term "food delivery applications" (FDAs) describes the method of ordering food deliveries through a mobile device (apps). A mobile application is a software program that can be downloaded and installed on smartphones or tablets to enable users to perform specific tasks. Due to consumers' increasing reliance on smartphones and apps, FDAs have become increasingly popular over the past decade. The development of food delivery apps was a breakthrough that successfully connected customers with nearby restaurants, leveraged the sharing economy platform and provided additional business and employment prospects to the existing market. The services offered by various FDAs can be categorized as providing orders, monitoring, payment, and tracking facilities, but they are not liable for the actual food preparation (Pigatto et al., 2017). Various food suppliers offer their services through FDAs in Malaysia, and some examples are Food Panda, Dahmakan, DeliverEat and GrabFood. These food delivery services are mainly concentrated in Kuala Lumpur, Klang Valley, Penang and Johor Bahru (Ariffin et al., 2021). It is reported that 81% of customers in Malaysia used Foodpanda as their FDA of choice in 2021, followed by GrabFood as their second choice at 70%. Fig. 1, illustrated below, shows the most used app for food delivery orders in Malaysia for 2021.

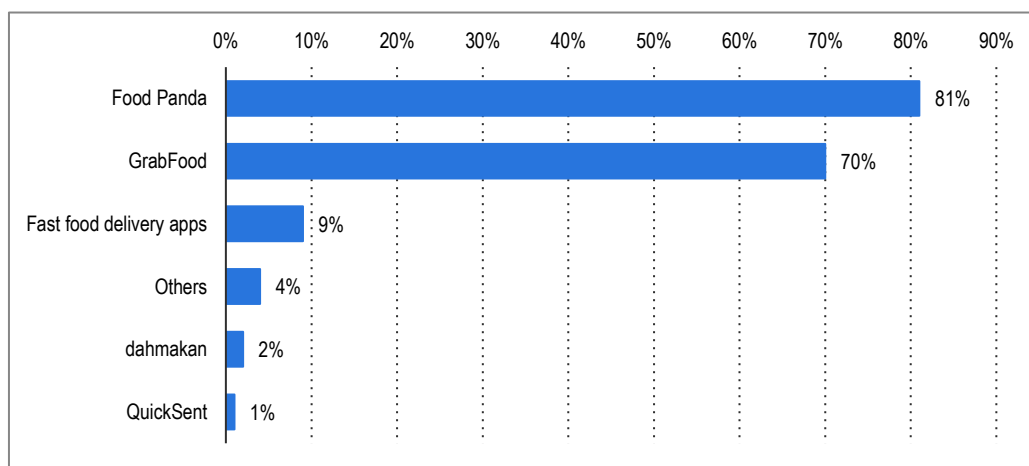


Fig. 1: Most used app for food delivery orders in Malaysia  
Source: Statista (2021a)

### 1.2 Business Model

There are two types of online delivery platforms: the aggregator and the new delivery (Yeo et al., 2017). Aggregators belong to the traditional delivery model, as they collect customers' orders and route them to the respective restaurants. This includes Pizza Hut, McDonald's, Domino's Pizza, and Kentucky Fried Chicken (KFC). On the other hand, the new delivery service entrants are creating logistics networks to serve restaurants that may not employ their own delivery staff. Examples include UberEats, FoodPanda, Room Service, GrubHub, HungryNaki, PathaoFood and other services. The current study is looking at the new delivery perspectives.

As for the business model (refer to Fig.2), the food delivery process starts when customers order with the food delivery service and choose their preferred dishes from a list of available restaurants from the mobile apps. From there, the delivery service then forwards

the orders to the corresponding restaurants based on the order received. Then the delivery service receives an estimated time from each restaurant to prepare the meals. Once the meal is prepared, the delivery service driver picks up the customer's order from the desired restaurant and brings it to them as soon as it is ready. The couriers employed by the delivery services can use different means of transport, either by car, bicycle or on foot. Each courier is available for the service during a predetermined work shift.

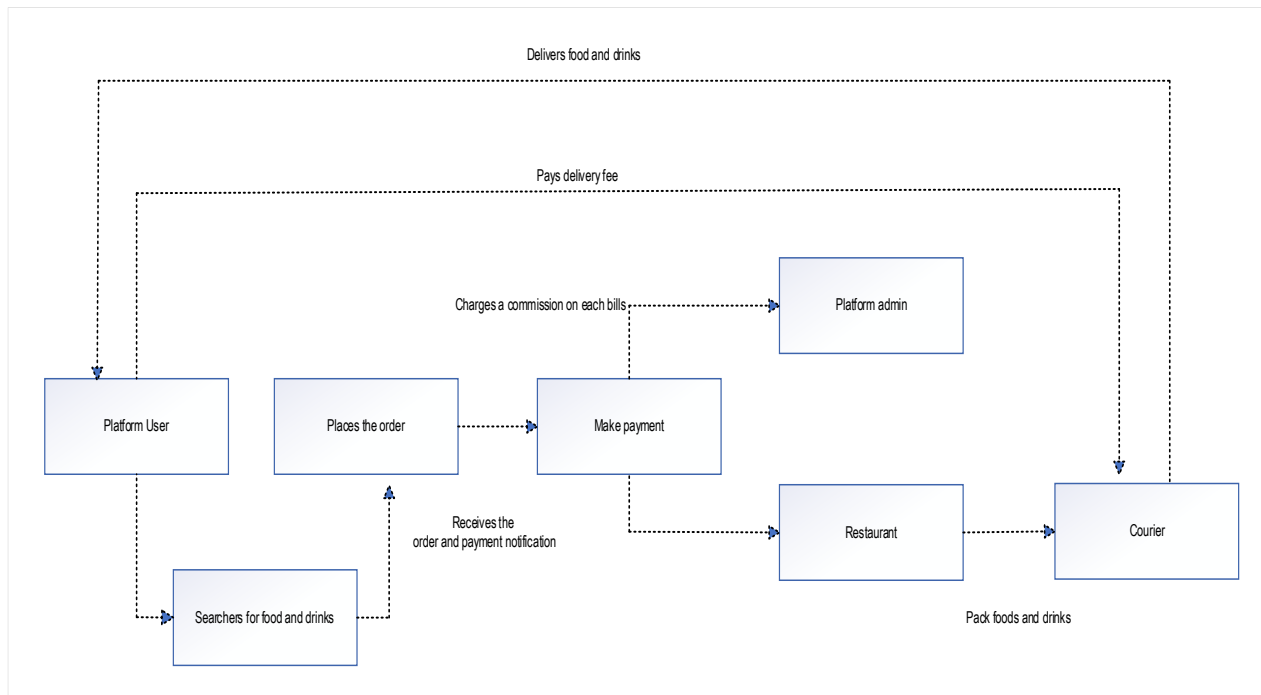


Fig. 2: Food Delivery Apps (FDAs) Business Model  
Source: Ramesh et al. (2023)

## 2.0 Literature Review

### 2.1 Factors Influencing User Intention to Continuously Use FDAs

Firstly, FDAs provide convenience at all consumer touch points, among millennials, working professionals or even baby boomers. Due to hectic schedules, users can easily choose the food and restaurants based on the application (apps) reviews. Moreover, the apps offer various payment options, where customers can opt for credit/debit cards, e-wallets or even cash on delivery. Furthermore, customers prefer convenient delivery to their doorstep. This offers the advantage that repeat purchases are more accessible, as the address and payment are already on file with the FDAs. In addition, FDAs provide a convenient and efficient way for individuals to obtain nutritious meals without interfering with their busy schedules.

Secondly, FDAs provide time-saving orientation. Time-saving orientation is defined as a combination of factors, including increased workloads and single-person households (as found among students), which have led to the precipitous development of FDAs (Saad, 2021). In today's fast-paced world, many people cannot bear the inconvenience of eating out or waiting in a restaurant for food to be served. An earlier survey found customers find it harder to shop at brick-and-mortar retailers due to changing lifestyles. As customers spend less time and effort to make a purchase, the time-saving aspect of service increases its value and is significant (Yeo et al., 2017).

Third is apps service quality. Apps service quality includes visual design, navigation design, interactivity, responsiveness, online reviews and information design of the app (Kapoor & Vij, 2018; Pigatto et al., 2017). Visual design refers to the aesthetics, consistency and attractiveness of the overall appearance of the smartphone apps, including the type of fonts, size of fonts, colors used, images, shapes, animations and app layout (Chaouali et al., 2020). The visual design greatly influences users using mobile apps for online purchases. Visual design is a core component of a mobile app's quality that influences users' experience when using the apps. A recent study found that one of the essential usability aspects of mobile apps is the navigation design of the apps, which refers to the structural layout of the apps and its content. The availability of necessary information and the ease with which this information can be found and accessed can improve consumers' decision-making and purchasing tasks. In the case of the food aggregator mobile apps, information such as a digital menu, customer reviews, pictures of the restaurant and food, and the restaurant coordinates is essential information that customers need (Kapoor & Vij, 2018).

Fourth is ease of use. The term "ease of use" (EU) refers to how convenient it is to use a product or service that employs modern technologies (Shah et al., 2021). According to the FDAs, customers can manage food and restaurant filtering, order easily, and monitor quickly. Moreover, consumers nowadays find that using FDAs is easy and effective. Previous studies have found that the EU is the most essential precondition for the intention to use FDAs (Bao & Zhu, 2022).

## 2.2 Barriers to FDAs

There are a few barriers to FDAs. Firstly, there are usage barriers. Usage barriers stem from the fact that the new product does not conform to established consumer norms, preferences and expectations (Ram & Sheth, 1989). The complexity of an FDAs can be difficult for people with a lot of technical knowledge or experience in dealing with such applications (Kaur et al., 2020). In the context of FDAs, barriers to use may arise from a complicated interface, confusing content, and processing delays.

Secondly are value barriers. The value barrier concerns consumers' assessment of whether the new product offers more value than an existing product (Lian & Yen, 2013). Customers who order from FDAs expect fresh, hot, high-quality food. If these quality expectations are not met, a value barrier is created. Some people prefer to eat out or cook at home or have special dietary needs that cannot be easily met by meal delivery apps, which may limit their use.

Next is risk barriers. The risk barrier relates to privacy and security concerns when utilizing mobile apps (Pigatto et al., 2017). The risk barrier deals with the resistance caused by the uncertainty associated with innovation. In the context of FDAs, customer delivery experiences are among the trivial issues. For example, describing the complete address and location of the house to the delivery person became a nuisance.

Lastly are environmental concerns. The environmental impact of food deliveries, including packaging waste and increased carbon emissions from delivery vehicles, is a growing concern for many people, leading them to choose alternative food options. Research indicates that individuals who prioritize ethics are increasingly conscious of the environmental impact of their dietary choices. As a result, demand for natural and safe food is on the rise (Tsai et al., 2015)

## 2.3 Potential Growth of FDAs

As Malaysia enters a new era of technological advancement, the widespread use of smartphones has proven to be one of the most transformative trends in recent years. The impact of smartphones is particularly evident in the expansion of FDA-related industries. In Malaysia, food delivery has evolved from a mere trend to an indispensable need due to the increasing number of mobile internet users and the pandemic COVID -19. This is evident when mobile phone penetration was 89% and grew by 4% from 2021-2022 (Commissionfactory, 2022). Growing internet usage has increased online food delivery services that connect businesses and users through various FDA platforms. In Malaysia, there are currently 6.86 million people using FDAs in 2020 (Kemp, 2021).

Moreover, with the increasing digitisation of the world, e-wallets have emerged as a convenient and secure way to transact. In Malaysia, digital wallets called *dompert* digital are the fourth most common type of online payment method. The government plays a crucial role in promoting the use of digital wallets by users. The use of e-wallets in the food delivery industry offers numerous benefits to both customers and merchants. While the food delivery market has seen exponential growth in recent years, it experienced a further increase during the pandemic as most consumers chose to stay home. Promoting digital wallets has the potential to significantly transform digital payments in Malaysia, where 123% of the population has access to a mobile network (Commissionfactory, 2022). Several digital wallet systems in Malaysia include bank transfers, QR code payments, e-wallets, Grab Pay and many others. Studies have also shown that every Malaysian uses multiple online payment methods. One of the main advantages of using e-wallets for food delivery is the speed and efficiency with which transactions can be completed.

Other than that, the FDAs experienced a boom during COVID-19, and many competitors entered the market because of the restrictions. FDAs answered both restaurant and customer needs and their concerns for personal safety. It is worth noting that the new social norms during COVID-19 made it necessary to stay home, boosting the demand for FDAs. In Malaysia, it was reported that 38% of new OFD users started using FDAs after the Malaysian government introduced movement controls, leading to a 61% increase in online food delivery customers (Vodus, 2020).

In addition, the rise of social media also promotes the growth of FDAs. Social media has become a transformative tool for promoting FDAs products and services. Collaboration and information sharing among users are increasing due to the increasing number of FDAs incorporating apps with user-generated content and social media features. This trend empowers users to work together and exchange knowledge (Bao & Zhu, 2022). It appears that the number of people who order food online is on the rise, possibly due to a recent social media initiative. This allows FDA-related industries to reach a wider audience and market their products effectively.

## 3.0 Methodology

The study begins with identifying the problem or topic associated with the factors influencing users' intention to use food delivery apps continuously from the perspective of Malaysian consumers. It is based on the review of the concept, theories, and previous study findings. The data generated is revealed in the SWOT Analysis form. SWOT stands for Strengths, Weaknesses, Opportunities and Threats. SWOT analysis can help businesses better understand the internal and external factors affecting their operations. This strategic tool assesses strengths, weaknesses, opportunities, and threats to enable informed decision-making and calculated risk-taking. Effective business strategies can be developed by aligning with goals and objectives. Overall, a SWOT analysis is a valuable tool to achieve desired outcomes.

## 4.0 Findings

SWOT Analysis was used to analyze the gathered materials based on literature reviews. The research findings were separated into Strengths, Weaknesses, Opportunities, and Threats.

Table 1. SWOT Analysis of The Continued Use of Food Delivery Applications (FDAs)

Strengths	Weaknesses	Opportunity	Threats
<ul style="list-style-type: none"> <li>• Convenience</li> <li>• Time saving</li> <li>• Ease of use</li> <li>• Easy navigation</li> <li>• User tracking function</li> </ul>	<ul style="list-style-type: none"> <li>• Processing delay</li> <li>• Low usage among elderly</li> <li>• Complicated interface</li> <li>• Not available worldwide</li> <li>• Need to use the Internet</li> </ul>	<ul style="list-style-type: none"> <li>• It-savvy user</li> <li>• Usage of e-wallet</li> <li>• Covid-19 pandemic</li> <li>• Rise of social media</li> <li>• Changes in lifestyles</li> <li>• High number of working people</li> </ul>	<ul style="list-style-type: none"> <li>• Environmental issues</li> <li>• Risk barrier</li> <li>• Security concern</li> <li>• Increase pollution</li> </ul>

## 5.0 Conclusion and Recommendations

The COVID-19 pandemic in Malaysia has expanded the food sector. It has given consumers access to various food products they can buy safely from home via the Internet. Malaysia's Food Delivery Applications (FDAs) market is expected to grow by USD 319.1 million by 2026. The COVID-19 pandemic has only accelerated this trend as the number of people opting for food delivery services has increased significantly. The findings shows that customers prefer FDAS because they are convenient and can save time. With so many commitments, finding the time and energy to prepare nutritious meals at home can be a real challenge. In addition, the quality of service and ease of use of the apps influence users' intention to continue using FDAs even after a pandemic. The service quality of the apps is captured by three attributes of the mobile apps: visual design, navigation design and information design.

However, companies dealing with FDAs need to be mindful that despite the growing trend, there is also a barrier for customers to use FDAs. Businesses must take action to remove these barriers and close the gap. The implication the company will lose current and potential customers if the barriers are not closely monitored. For example, food service companies must train the delivery team to communicate more effectively with customers to better understand specific requirements when delivering customer orders. In addition, the food service can consider implementing a system where customers can easily input their complete address and location during the ordering process to eliminate confusion or miscommunication. Research has shown that improving delivery times and ensuring on-time service can have a decisive impact on a company's competitiveness in the market.

Considering the potential growth that FDAs offer, food service companies must seize opportunities to remain competitive in the market and become critical players. With the increasing internet use among shoppers in Malaysia, the trend of online food delivery in Malaysia has provided access to a broader range of previously unavailable foods. As a recommendation, food service companies must follow the trends and changes in customers' lifestyles and buying habits. Food service companies need to arm themselves with various strategies and offerings to remain viable in the industry. In addition, the company must continue to improve its offering to consumers by using technology to optimize delivery routes and improve food services. This can be achieved by improving the FDA's infrastructure by providing easy payment methods, efficiency in food delivery and good customer service.

The current study is subject to certain limitations. Specifically, it focuses solely on the standpoint of SWOT Analysis. Furthermore, it must be noted that the research conducted focuses exclusively on customers' opinions regarding FDAs. As a result, it would be erroneous to generalize these findings to other areas of the food service industry, such as the transportation and distribution of fresh produce. It is imperative that future studies adopt a mixed-method approach that seamlessly combines qualitative and quantitative methods to overcome these limitations. Furthermore, future studies should also focus on issues concerning employees, sellers and delivery personnel engaged with FDAs.

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## Paper Contribution to Related Field of Study

This paper contributed to the field of Marketing and Hospitality and Tourism Industry.

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