



# A Study on Consumers' Perception of Food Delivery Platforms

Hsu Kuan Liu<sup>1</sup>

<sup>1</sup> I-Shou University

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## Abstract

With the rapid advancement of the digital era, people's lifestyles and consumption patterns have undergone significant changes. Instead of making phone calls for food delivery, consumers now have the convenience of using mobile devices like smartphones or tablets to access online food delivery platforms. Through these platforms, customers can effortlessly select their preferred dishes and restaurants, facilitating quick and seamless food delivery transactions.

Examining consumers' perceptions and viewpoints concerning the user interface and functionalities of food delivery platforms on mobile devices holds significant importance for e-commerce operators in the present scenario.

The questionnaires in this study were devised to gain insights into consumers' perspectives on the user experience and functionalities while using food delivery platforms.

The research findings revealed that the respondents considered "providing diverse payment methods" and "offering promotions" as the two most essential features of a food delivery platform. Moreover, consumers highly value the platform's ability to provide a flexible refund mechanism.

**Keywords:** Consumers' perception, Food delivery platforms, Smart mobile devices.

## Background

Consumer purchasing behavior has been continuously evolving with the advancement of technology. In the era before the widespread use of the Internet, purchasing goods often required visiting traditional markets and large retail stores (Blackwell et al., 2001). Limited by the size and geographical location of physical stores, consumers faced numerous constraints when choosing products. However, with the technological development and widespread adoption of the Internet, the general public can now purchase goods from around the world through online shopping, and various cross-border shopping platforms have emerged rapidly.

The ever-evolving digital technologies have accelerated the development of e-commerce, signifying a continuous transformation in people's shopping habits. Simultaneously, technology has created a geographically unrestricted digital shopping environment. In response to this immense online shopping opportunity, brick-and-mortar stores have also endeavored to incorporate virtual storefronts to provide a seamless omnichannel shopping experience, bridging the gap between online and offline shopping.

In the early stages of online shopping, it was primarily limited to desktop computers. However, with the widespread adoption of smart mobile devices, online shopping behavior has undergone a significant shift. Nowadays, consumers' lives are inseparable from their mobile devices, enabling them to make purchases on-the-go, anytime and anywhere, leading to real-time and convenient shopping experiences (Einav et al., 2014).

In the past, the foodservice industry primarily offered its services directly to consumers, requiring them to visit specific locations to enjoy the dining experience. Alternatively, consumers could place phone orders for takeout or contact the restaurant for delivery services. However, in recent years, the widespread adoption of online shopping has revolutionized the way consumers interact with the foodservice industry. Nowadays, consumers not only order through the restaurant's own websites but also utilize integrated foodservice information platforms to place orders for dining products. After the transaction, they can collect their ordered meals at designated locations, thus breaking the traditional requirement of physically visiting the restaurant to enjoy their favorite dishes. This consumer behavior of ordering meals online is known as "Order Meal on Internet" (OMI).

Generally, online meal ordering can be classified into two major categories: first, the in-house ordering platforms established by individual enterprises, such as fast-food chains like KFC and Pizza Hut; second, the online food delivery platforms operated by e-commerce companies, where the platform itself does not run restaurants but rather aggregates a wide range of dining options for consumers to choose from. Examples of such platforms include Uber Eats, foodpanda, etc. This research will primarily focus on the latter category, specifically the online food delivery platforms that do not directly operate restaurants.

As smart mobile devices become increasingly prevalent, food delivery platforms have thrived in many countries. Among them, Delivery Hero, which operates online food delivery services, originated in Berlin, Germany, in 2011. After acquiring the food delivery platform foodpanda, also based in Berlin, in 2016, Delivery Hero's service coverage expanded to more than 50 countries worldwide (Cha & Seo, 2020; Sudha & Raghunath, 2019).

According to research conducted by McKinsey & Company, the most mature food delivery markets globally include Australia, Canada, the United Kingdom, and the United States. In the years 2018 and 2019, the food delivery market in the United States experienced a twofold growth, while during the same period, the market in Australia saw a fourfold increase. Compared to the

growth in 2018, this trend exhibited an even more robust expansion in 2020 and 2021, with the market size growing four to seven times due to the impact of COVID-19. Seizing this emerging business opportunity, various food delivery platforms have expanded their operations, targeting consumers who opt for ordering through delivery platforms due to factors such as busy work schedules, adverse weather conditions, or a preference for staying at home (Ahuja et al., 2021).

## Motivation

As the digital era unfolds, people's lifestyles and dining habits have undergone significant changes. Consumers are no longer limited to dining out or making phone calls for food delivery. Instead, they can pick up their mobile phones or tablets and use online food delivery platforms to choose their favorite food and make payments. This allows them to quickly enjoy the delicious food delivered to their doorstep by delivery drivers.

According to statistics, the penetration rate of food delivery platforms in Taiwan (referring to the proportion of delivery platforms in the overall food industry) increased from 0.24% in early 2019 to 1.02% by the end of the year. This upward trend was further accelerated in 2020 due to the outbreak of the COVID-19 pandemic, which led to a faster change in consumer behavior. As a response, businesses strengthened their digital services to reach consumers who were staying at home due to quarantine or self-isolation, making "delivery-to-home services" an additional sales channel for foodservice providers. The rise of this contactless economy contributed to a nearly three-fold growth in the consumption amount through Taiwan's food delivery platforms in the first half of 2020 compared to the same period in 2019. The number of transactions exceeded 15 million, and the total consumption amount surpassed 3 billion New Taiwan Dollars, achieving a remarkable penetration rate of 2.79% for the food delivery platforms (Mirai Business Research Institute, 2020).

Food delivery platforms primarily allow consumers to place orders through websites or mobile applications. Subsequently, an AI computing system allocates the orders to delivery drivers who then deliver the meals to the consumers. The user-friendliness of the platform's interface and the smoothness of its operations, which determine whether consumers accept and continue to use the platform, are essential discussion topics for both the developers and operators of food delivery platform applications.

## Research Purpose

In 2020, the global outbreak of the COVID-19 pandemic significantly impacted people's willingness to go out for shopping and dining, leading to a shift in consumer behavior. As a result, online shopping experienced rapid growth, contributing to a substantial expansion of the e-commerce market. Among the industries affected, food delivery platform operators witnessed the most significant changes (Mirai Business Research Institute, 2020).

The convenience brought by technological advancements has profoundly impacted human life, leading to society's heavy reliance on smart mobile devices, which have been widely adopted. The availability of a robust Internet infrastructure and a wide array of applications on mobile devices has made online searching, business applications, entertainment, and social interactions indispensable aspects of daily life for the general public. Additionally, smart mobile devices play a crucial role in

the consumer purchasing decision process. Consumers find it easier to conduct research on products and services through mobile devices, which can lead to more frequent purchasing behavior. Moreover, the trend of Taiwanese people using mobile phones or tablets for shopping is becoming more apparent, making mobile devices an emerging shopping channel.

Understanding consumers' perceptions and opinions regarding the user interface and functionalities of food delivery platforms on mobile devices is a valuable topic for e-commerce operators at this juncture.

## Research Contribution

In Taiwan, using food delivery platforms has become an alternative option for people to dine, in addition to eating in or takeout. Through the services provided by numerous food delivery platforms' websites or mobile applications, consumers can easily enjoy delicious meals at home, thus changing their daily dining patterns due to the simplicity and convenience of this service.

Furthermore, the advancement of technology and the rapid proliferation of smart mobile devices have been crucial factors in accelerating the development of the food delivery industry. Looking back at 2020, the Internet penetration rate among Taiwanese aged 12 and above reached 83%. The rate of wireless Internet usage was 79.3%, and among those who used wireless Internet, nearly 77% accessed the Internet through mobile devices (Taiwan Network Information Center, 2020). COVID-19 has also increased consumers' reliance on food delivery services more than ever before, further boosting the demand for food delivery platforms (Muangmee et al., 2021).

Given the intense competition in the food delivery platform market, how to consolidate users, enhance platform user stickiness, and improve loyalty through product differentiation and service quality will be essential considerations for all operators. Taking into account the research background and motivation mentioned above, the purpose of this study is to investigate consumers' perceptions and opinions regarding the user interface and functionalities of food delivery platforms. The results of this research will provide each delivery platform operator with insights into consumer needs and recommendations as a reference for planning their business strategies in advance.

## Problem Statement

Food delivery platforms are a novel industry with transactions facilitated through websites or mobile applications (Apps). The ease of operation of the platform interface impacts the user's experience and influences their decision to continue using the delivery platform for ordering meals (Wu & Fan, 2020). Particularly, in the post-COVID-19 era, changes in consumer habits are anticipated, and the number of consumers opting for food delivery services is expected to increase. Therefore, this study aims to explore consumers' perceptions and opinions regarding the user interface and functionalities of food delivery platforms. The research findings will be provided to platform operators as a reference for potential improvements in functionalities and interfaces in the future.

## Literature Review

### Mobile Commerce

The fundamental definition of mobile commerce, also known as M-commerce, is the integration of mobile communication with information-based commercial services, encompassing consumer transactions involving goods, services, information, and knowledge offered by M-commerce providers. It enables consumers to engage in commercial activities of monetary value anytime and anywhere through mobile devices and communication networks. Any services and related applications utilized by consumers through mobile networks fall within the scope of M-commerce.

According to Clarke III (2001), Mobile Commerce possesses four key characteristics: ubiquity, localization, personalization, and convenience.

1. **Ubiquity:** The primary feature of M-Commerce is its ability to allow users to engage in transactional activities, such as shopping, anytime and anywhere. The development of mobile technology has eliminated the constraints of physical stores' operating hours and locations, enabling consumers to make purchases at their convenience.
2. **Personalization:** M-Commerce facilitates the creation of personalized marketing content and services based on individual experiences. This opens up numerous possibilities for marketing strategies and promotional activities tailored to each consumer's preferences.
3. **Convenience:** With the advent of the mobile era, M-Commerce providers offer mobile-friendly websites or applications (Apps) equipped with real-time access to product information and online transaction capabilities. This caters to consumers' immediate needs and enhances the convenience of shopping.
4. **Localization:** Utilizing GPS technology, businesses can obtain consumers' geographical information, enabling them to deliver location-specific marketing content and service information. Consumers, in turn, can access localized business information at any time, enjoying more timely and personalized mobile services.

## Food Delivery Platforms

With the innovation and development of digital technology, the continuous evolution of smartphones' capabilities, and the convenience of mobile networks, coupled with the accelerated pace of modern life and a significant increase in the number of people dining out, food delivery platforms have risen rapidly. An increasing number of consumers now use mobile applications (Apps) on their mobile devices to place food orders. For instance, food delivery platforms offer a wide range of information from collaborating restaurants, including menus, allowing consumers to place orders directly through their mobile devices. These platforms also provide various payment options, order tracking, and a rating system for delivery services. Food delivery platforms not only bring time-saving convenience to consumers but also collect consumer behavior data for big data analysis to effectively understand their dietary and ordering needs. This information can be used for more precise marketing and personalized product recommendations in the future (Das, 2018; Gupta, 2019; Jacob et al., 2019).

## Current Status of Food Delivery Market in Taiwan

According to data from the Directorate-General of Budget, Accounting, and Statistics, the revenue of the catering industry has been steadily increasing from NT\$710.9 billion in 2016 to NT\$811.6 billion in 2019. However, in 2020, the COVID-19 pandemic severely impacted restaurant businesses, catering services, and group meal contracts. Large gatherings were canceled, and

people reduced their dining-out frequency to avoid gatherings. Additionally, border control measures affected the revenue of catering services, resulting in a decline in revenue to NT\$777.6 billion in 2020, with a negative annual growth rate of 4.2% (Statistical Department, 2021a).

According to the "Credit Card Consumption Big Data Analysis Report of Food Delivery Platforms" published by the National Credit Card Center of R.O.C., the pandemic has driven the rise of the "stay-at-home economy" and completely changed people's dining habits. Many individuals have developed a habit of using food delivery platforms, especially incoming travelers who rely on food delivery services during home quarantine and self-health management periods. This trend has accelerated the transformation of the catering industry, with more businesses collaborating with food delivery platforms or integrating delivery services. As a result, food delivery platforms have experienced a new wave of growth. Starting from March 2020, the monthly credit card consumption on food delivery platforms exceeded NT\$1 billion, showing a substantial growth compared to the same period in the previous year (National Credit Card Center of R.O.C., 2021).

## Questionnaire Design

The questionnaire for this study was designed based on the research framework. The overall questionnaire is divided into two main sections: consumers' perceptions regarding the usability and functionality of food delivery platform interfaces and features, as well as basic demographic information of the respondents. The following provides an explanation of the questionnaire items.

### User Interface and Features of Food Delivery Platforms

For this study, eight interval-scale questions were designed to collect consumers' opinions regarding the user interface and features of food delivery platforms. The items included are as follows:

1. "Provides quick product search function."
2. "Offers online chat and consultation service."
3. "Provides Frequently Asked Questions (FAQ) section."
4. "Offers multiple payment options (e.g., cash, credit card, mobile payment, etc.)."
5. "Provides platform feature navigation instructions."
6. "Offers a section for special promotions and discounts."
7. "Provides a lenient refund mechanism."
8. "App responsiveness and feedback speed."

These questions were designed to understand consumers' perspectives on the usability and functionality of using food delivery platforms.

### Study Participants and Sampling

The participants of this study consist of consumers in Taiwan, who serve as the population for this research. Two sampling methods were employed to obtain the samples. The first method used was Convenience Sampling, where questionnaire links



were posted on social media platforms such as Facebook and Instagram, allowing consumers to fill out the survey voluntarily. At the same time, paper-based questionnaires were distributed to food delivery personnel to collect responses from customers. The second method used was Snowball Sampling, which involved starting the survey from acquaintances and then expanding it to friends and family members known to those participants through online networks to gather their perspectives on using food delivery platforms.

## Research Result

### 1. Characteristics of Food Delivery Platform Consumers

This section provides an explanation of the sample characteristics of consumers using food delivery platforms, including gender, age, education level, occupation, and reasons for using food delivery platforms (multiple selections allowed).

Gender:

Among the respondents in the valid sample, the majority identified as "female," accounting for 54.2% of the total sample, while "male" respondents constituted 45.8%.

Age:

Within the valid sample, the most prominent age group was "26-30 years old," accounting for 19.2% of the total sample. The second most represented age group was "20 years old and below," constituting 17.2% of the total sample.

Education Level:

Regarding education level, the majority of respondents in the valid sample were "college/university" graduates, comprising 73.0% of the total sample. The second most represented group was "master's degree" holders, accounting for 19.3% of the total sample. Respondents with a "doctoral degree" constituted 2.0% of the total sample, while those with "high school/vocational school or below" education represented 5.7%.

Occupation:

In the valid sample, the most prevalent occupation category was "service industry," accounting for the majority at 26.6%. The second most represented category was "students," constituting 25.2% of the valid sample.

Among the respondents in the valid sample, the reasons for using food delivery platforms were ranked as follows: "To save time on going out or queuing," accounting for 80.5%, "Weather conditions (typhoons, rain, hot weather, not willing to go out)," accounting for 57.8%, "Promotional discounts," accounting for 47.3%, "To reduce contact with others during home quarantine," accounting for 33.9%, "Fast delivery speed," accounting for 23.2%, and "Diverse restaurant options available on the platform," accounting for 22.4%.

### 2. Perceptions on the Operation Interface and Functions of Food Delivery Platforms

The purpose of this study is to understand consumers' perceptions regarding the operation interface and functions of food delivery platforms. The respondents in the survey identified "providing diverse payment methods" as the most important function, while "providing platform operation guidance" was considered the least important. The detailed statistical data are presented in the table below.

**Table 1.** Perception on the operation interface and functions of the food delivery platform

Platform Operation Interface and Functions	Mean	Standard Deviation
Providing diverse payment methods	6.65	0.721
Providing promotional offers	6.62	0.729
Providing quick product search feature	6.52	0.732
Offering a lenient refund mechanism	6.48	0.860
App responsiveness to user feedback	6.41	0.892
Providing frequently asked questions (FAQ)	5.88	1.020
Offering online chat consultation service	5.79	1.147
Providing platform navigation guidance	5.72	1.069

*(Note: The above table presents the mean and standard deviation of respondents' perceptions of the platform's operation interface and functions. The ratings were measured on a scale from 1 to 7, with 7 being the highest satisfaction level.)*

## Conclusion

The aim of this study was to explore consumers' perceptions and views regarding the operation interface and functions of food delivery platforms. The research results indicated that the respondents ranked the importance of platform functions as follows: providing diverse payment methods, offering promotion, facilitating quick product searches, providing a lenient refund mechanism, app responsiveness to user feedback, offering frequently asked questions (FAQ), providing online chat consultation services, and offering platform navigation guidance.

In the current era of online transactions, payment methods have become highly diversified. Each consumer may have their preferred payment method based on the availability of discounts or loyalty programs. Therefore, consumers expect food delivery platforms to accept various payment methods. Additionally, the presence of promotions or discounts on the platform is also a consideration factor for consumers.

Food delivery platforms play a crucial role in integrating a wide range of food service providers and providing delivery services. Consumers can conveniently browse through restaurants and select their desired meals on the platform's app. This level of convenience saves consumers time and effort, as they do not need to travel to the restaurants or wait for their orders. Thus, the ability to quickly search and find desired meals is a significant factor influencing consumers' willingness to use the platform.

Furthermore, consumers value the platform's ability to provide a lenient refund mechanism. This feature contributes to consumers' sense of security and trust in the platform, knowing that they can request refunds in certain situations without significant hassle or strict conditions.

Overall, the findings of this study shed light on the factors that are important to consumers when using food delivery platforms, such as the availability of multiple payment options, promotional offers, and quick and efficient order processing.

Understanding these aspects is crucial for platform operators to improve user satisfaction and retain a loyal customer base.

## Recommendations



The findings of this study can serve as valuable reference points for food delivery platform operators in their future operational and marketing adjustments.

### 1. Provide Diverse Payment Options to Enhance Consumer Adoption

According to the research results, consumers highly prioritize having diverse payment options. A survey conducted by the "Institute for Information Industry" in Taiwan revealed that the adoption rate of mobile payments reached 60.3% in the second half of 2020. However, it is still lower compared to traditional methods such as physical credit cards (76.3%) and cash (75.5%) (Institute for Information Industry, 2021). Nevertheless, the ongoing COVID-19 pandemic has accelerated consumers' reliance on contactless tools, and in such a trend, the mobile payment market is expected to become more vibrant. In the long run, this will be advantageous for platform operators.

### 2. Offer Promotion

Besides "providing diverse payment options," the research results indicate that consumers highly value the availability of a "promotional zone" on the platform. Currently, the promotions offered by food delivery platforms are mainly related to delivery fee discounts, order subtotal discounts, or new user incentives. However, since many consumers do not make frequent monthly purchases, it is recommended that platform operators offer exclusive promotions or loyalty rewards to retain and enhance customer loyalty among existing members and long-term users.

### 3. Establish a Lenient Refund Mechanism

The most common consumer complaints in online food platforms are related to order cancellations without refunds. To address this issue, it is suggested to implement a lenient refund policy for disputed cases and establish a proactive refund mechanism with real-time customer support. By doing so, platforms can effectively reduce disputes and increase consumer satisfaction.

In conclusion, by incorporating these research recommendations into their business strategies, food delivery platform operators can enhance the user experience, increase consumer satisfaction, and ultimately solidify their position in the competitive market.

## Research Limitations

This study is based on relevant literature reviews to formulate research questions and the research framework. Subsequently, a formal questionnaire was distributed, and statistical analysis was conducted. While the process of questionnaire distribution aimed to be objective and rigorous, there are still limitations due to certain influencing factors, which require further in-depth exploration and analysis in the future. The following are the relevant limitations and future recommendations for the reference of researchers interested in this topic.

The majority of the sample in this study was collected through online social media for questionnaire distribution and collection. As younger age groups have a higher proportion of social media usage, the sample distribution across age groups may be uneven, which could lead to limitations in statistical analysis, making it difficult to generalize the findings to various age groups.

Due to constraints in time, manpower, and financial resources, the geographical scope of this study's consumer sample is primarily limited to the southern region of Taiwan. Additionally, some areas have a limited number of samples. To address this, future studies could extend the questionnaire distribution period or utilize diverse distribution platforms to reduce sampling bias.

By acknowledging these limitations and considering future recommendations, researchers can enhance the comprehensiveness and reliability of their studies in this area of interest.

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