

# Research on the Internet Food Delivery Industry: Current Situation and Development Strategies Based on China

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## Abstract:

The rapid growth of the Chinese e-commerce market, driven by the widespread adoption of mobile phones and online payment services like WeChat Pay and Alipay, has significantly contributed to the expansion of the food delivery industry. According to CNNIC, by June 2024, nearly 1.1 billion Chinese citizens were Internet users, with mobile phone penetration reaching 80%. This shift, combined with the convenience of online payment systems, has transformed the catering industry. The COVID-19 pandemic further accelerated the development of food delivery services, showcasing their advantages over traditional dining options, such as contactless delivery and business continuity during quarantines. As China's fast-paced society increasingly prioritizes convenience and efficiency, the food delivery sector has become a key driver of the catering industry and holds profound social and economic implications. While existing studies have primarily focused on the background, current status, and impact of this industry, fewer have explored its future trends. This paper analyzes the present landscape, addresses challenges, and offers strategic solutions for the sustainable growth of the Chinese food delivery industry.

**Keywords:** Food Delivery Industry; Development Strategy

## 1. Introduction

With the rapid development and widespread adoption of the Internet, the size of the Chinese e-commerce market (including e-retail, e-wholesale, and digital information) is constantly growing and expanding [1]. In the meantime, mobile phones are continuously being upgraded and improved and are used widely by

individuals. According to the Statistical Report about the development situation of the Chinese Internet, released by CNNIC, until June 2024, the number of Chinese Internet users is nearly 1.1 billion (1.09967 billion users), which 7.42 billion users increase from December 2023. And the Internet penetration rate has reached 78%. This report indicates that the mobile phone penetration rate is

nearly 80%, and the mobile phone has been an indispensable key in people's lives. In addition, online payment services, such as WeChat Pay and Alipay, are also applied widely. These convenient and advanced online payment methods greatly enhance the efficiency and security of different business transactions, and they also bring more business opportunities and innovation space to merchants in various industries and fields in China. Tang proposed that under the superior and comprehensive environment of the Internet, the Chinese food delivery industry gets the chance to develop rapidly and provides new vitality for the catering industry with powerful momentum. At the same time, it has become a vital part of the Chinese catering industry and contributes to the progress and growth of the catering industry to some extent. Especially during the hard period of COVID-19, the national economy suffered a severe blow in China. However, the food takeout industry fully showed more advantages than traditional offline dining: non-contacting delivery, the solution to diet problems during the quarantine, the solution to business problems, and so on [2]. As a result, many catering merchants started to deliver food online, which also promoted the growth of the food delivery industry [3].

Meanwhile, with the development of the Internet environment, social competition is increasingly intensifying, and people work and live at a faster pace. Therefore, more and more human beings pursue a kind of "convenient, fast, efficient" life. This social condition has become an essential impetus in the Chinese takeout industry.

Nowadays, the food delivery industry is a strong engine in the Chinese catering industry. It also has a profound impact on the Chinese economy and society to a great de-

gree.

Most scholars have studied the background, situation, influence, advantages and disadvantages, and solutions of the Chinese food delivery industry, and only a few have researched the trend forecast and strategic suggestions for the industry's future development.

This paper will first analyze the current situation of the takeout industry development based on the Chinese market and then explain the various problems that have arisen in the process of the growth of the Chinese food delivery industry. After that, the paper will also provide the corresponding solutions and suggestions aimed at the Chinese food delivery industry and offer some useful strategies and proposals for the future development of Chinese food delivery.

## 2. Case Description

### 2.1 Having a large consumption group

According to the data from CNNIC, put together by China Business Research Institute (Figure 1), by December 2023, the number of online food delivery users in China has reached 5.45 million people. It has increased by 23.38 million people compared to February 2022.

What's more, Bi & Mao found that in recent years, the use rate of online food delivery services in first-tier and second-tier cities in China has been stable, and the use in third-tier and lower cities is increasing constantly. This also illustrates that the food delivery industry in China holds a large group of consumers, and the number of them continues to increase [4].

**Fig. 1 The scale and utilization rate of online food delivery users in China from 2020 to 2023**

### 2.2 Promoting the Development of People's Livelihood

#### 2.2.1 The provision of employment opportunities

The food delivery industry in China is so large that it provides many kinds of jobs and employment opportunities. Zhao et al. proposed that the takeout industry has generated a variety of new jobs, such as delivery riders, delivery station managers, delivery dish coordinators, delivery operating planners, and so on [5]. These different positions will meet the work abilities and needs of different people. Moreover, according to the data before, until the end of the year, the number of people employed is around 200 million. Among them, the number of delivery riders is as high as 13 million, which accounts for nearly 1% of China's population. It explains that the development of China's food delivery industry affects the lives of many people [4].

#### 2.2.2 The provision of convenient and efficient life

Convenience is not only widely regarded as the key discourse of takeout consumption, it is also always the main reason that people order takeaway food [1]. With the rapid development of the era and the growth of the Internet, social competition is fiercer and fiercer, so people have fast-paced lives and work. The paper found that at present, consumers in the age range of 20-39, who are mainly white-collar workers and college students, have become the majority groups of consumers. Maimaiti et al. found the many reasons that this group of consumers chooses to order delivery food, and among them, being at work (52.4%), don't want to go out (51.4%), lack of time/skill to cook (39.8%) [6].

Takeout can increase efficiency and save time for workers dining out when they are really busy at work. It can also provide comfort in times of exhaustion by allowing them

to indulge in their favorite foods and take a brief break. It is evident that calling for takeout is an extremely efficient and convenient way of dining and obtaining a brief respite for the young generation who are working hard.

### 2.3 The Innovation of the Takeaway

Compared to traditional meal delivery services, the food delivery industry has progressed towards diversified innovation today. And now, the food takeout industry services are not just food delivery anymore. A variety of goods, such as flowers, medicine, fresh vegetables, and daily necessities, can also be delivered. And as Meituan, it also provides services for hotel reservations, movie ticket purchases, and airline ticket purchases as well. In addition, a new service has been added to the takeaway industry: errand service. The consumers can ask the delivery riders to give them a hand to fetch some items they have purchased or documents that the customers need.

At the same time, technology is increasingly being integrated into the food delivery industry in China. Taking Meituan takeout platform as an example, the Meituan takeout platform launches the delivery cabinets. The delivery riders can put the orders into the delivery cabinet, and the customers will open the corresponding cabinet door by scanning the code. This innovation ensures that the takeaway food is not contaminated or damaged by external factors and also solves the problem of being mistakenly or stolen by others. In addition to delivery cabinets, the major delivery platforms also use big data analysis to innovate. They use such advanced methods to provide personalized services for consumers, pushing the types of meals that consumers like or suitable discounts to meet the diverse needs of customers.

## 3. Analysis of the Problem

### 3.1 The Weaknesses and Problems of Market Supervision

#### 3.1.1 The merchants

With the continuous expansion of the food delivery industry, more and more merchants enter the food delivery industry. This situation caused the government's market supervision authorities not to conduct comprehensive inspections and supervision of all the takeaway merchants in a short period of time [4]. So, a lot of illegal merchants damage consumer rights and disrupt the order of the food takeaway market in order to pursue more profits. These illegal merchants prepare meals in places that are difficult for individuals to find. What's worse, the environment where meals are made is terribly dirty and disorderly. And

they use expired and moldy food or otherwise unfit ingredients to prepare the takeaway meals to pass off the inferior products as high-quality ones. Additionally, there are also endless problems. For instance, the merchants cut corners and use inferior materials, set high prices for the takeout food, and put photos that do not match the actual products on the platform. The bad behavior of the takeaway merchants should be subject to strict government control.

#### 3.1.2 The delivery riders

Although all the delivery riders will receive some corresponding training from the food takeout industry, there is also many delivery riders' unethical and uncivilized behavior, such as spitting in the consumer's food, etc. Most horribly, a lot of criminals commit crimes by pretending to be the delivery riders, such as home robbery. All of these indicate that there is a lack of regulation and supervision for the delivery riders to supervise and manage them, and there are potential safety risks for consumers.

### 3.2 The Inadequate After-sales Services for the Takeaway Orders

In people's daily lives, the problems of food takeout have become all too common: lack of utensils, damaged packaging, incorrect or missing dishes, expired or spoiled food, foreign objects in the food, and so on. Because the after-sales services of the takeaway platforms are still inadequate and the awareness among the consumers to seek legal redress is too weak, every time when people encounter problems with food delivery, most of them will resolve these situations through private negotiations with merchants. However, some merchants refuse to provide solutions, measures, and compensation for the consumers. These can lead to an increasingly irresponsible attitude among the takeout merchants, seriously violating the rights of consumers. Moreover, they have a negative impact on the takeaway industry and terribly disturb the food delivery industry [6].

### 3.3 Food Pollution and Waste

#### 3.3.1 Food pollution

Due to the huge number of consumers in the Chinese food takeout market, according to the data from iiMedia Research, in 2023, the average daily frequency of ordering takeaway food through Chinese food delivery platforms (Figure 2) was over 50%. The proportion of customers ordering 3-4 times per week also reached 23.98%. The information indicates that the consumers order the takeout food really frequently. This situation has led to the excessive use of disposable tableware, packaging boxes, and

packaging bags and caused severe white pollution. The environment and appearance of the cities will be spoiled,

### **Fig. 2 Consumer daily ordering frequency of Chinese food delivery platforms in 2023**

In addition, these disposable tableware, plastic bags, and other white pollution are really difficult to decompose. They are mostly burned for disposal by individuals. However, the burning process would generate a large amount of toxic gases, such as carbon dioxide, carbon monoxide, toluene, benzene, and so on [7]. These toxic gases also pose a serious threat to human health. At the same time, when these white pollutants are exposed to sunlight, they will release small amounts of potent greenhouse gases - methane and ethylene. Hence, the accumulation of plastic waste over time leads to an increase in greenhouse gases, which has a serious negative impact on the Earth's greenhouse effect.

Besides humans, animals are also severely affected by white pollution. Animals may mistake discarded plastic packaging for food and swallow it, leading to digestive problems or even death. Such cases have been reported many times before.

#### **3.3.2 Food waste**

First of all, because of the weak personal saving awareness of consumers and the unreasonable spending habits of consumers, many human beings consume impulsively and blindly and order more takeout food, which leads to food being wasted. Next are food delivery platforms and merchants. They will adopt a variety of marketing strategies, such as discounted meal packages and discounts, to increase their profits, thereby indirectly encouraging consumers to order excessive amounts of food, leading to food waste. Furthermore, due to the growing size of the food takeaway market and the large number of food takeaway businesses and consumers, it is very difficult for government regulatory bodies to conduct comprehensive and thorough investigations and supervise food waste in the food delivery industry.

#### **3.4 Food Safety and Health**

Maimaiti et al. proposed that maintaining food safety and hygiene is one of the major difficulties of the food delivery industry. Because the government, market, and takeaway platform regulations are not well-established, many food delivery service providers do not have the necessary licenses, such as a business license, a permit for food safety, and a permit for catering service, and they can easily access into the food delivery market and operate their delivery business on food delivery platforms [6]. These unqualified and illegal merchants may even choose to prepare meals in shabby and messy locations and environments and use spoiled, expired ingredients and unqual-

and the physical health of human beings will also be harmed [2,6,7].

ified, low-quality packaging materials. This situation is terribly unsafe for consumers.

What's more, many businesses add large amounts of seasonings to their dishes to make them more flavorful and want to appeal to customers by this method. As a result, the takeaway food is really high in salt, sugar, and oil, which is terribly detrimental to the health of customers.

#### **3.5 The Leakage of Consumers' Personal Information**

In the current high-speed development of the Internet environment, food delivery platforms use big data analysis to provide personalized services to consumers and better meet their different needs. However, there is also a negative impact. In the era of big data, consumers' personal information is easily leaked, which can badly infringe on the privacy rights of consumers and provide opportunities for unscrupulous criminals to commit fraud and crimes, posing a threat to the safety of consumers' property and other aspects [8].

### **4. Suggestions**

#### **4.1 Improve Legislation and Strengthen Supervision**

The government and relevant regulatory departments should continuously improve the regulatory system for the food delivery market and strictly formulate and implement relevant laws and regulations for the food delivery industry. Every takeout platform should have strict standards and requirements for all the merchants to access the food delivery platforms. They also need to review the merchants' licenses strictly. The relevant law enforcement departments should also increase their enforcement efforts. They should take responsibility for conducting irregular spot checks on food delivery merchants and impose severe punishments on those unqualified and illegal merchants in order to standardize market order and create a good food delivery market atmosphere [4,9].

For delivery riders, the food delivery platforms should establish relevant rules and regulations to manage them. At the same time, the platforms can take measures to implement transparency in the delivery process. Delivery riders are required to wear cameras throughout the delivery process, allowing consumers to see the status of their delivery. The platforms can also view these recorded videos to spot-check the riders' situations. They will impose certain



penalties on unqualified riders and strengthen supervision and management of them.

## **4.2 Enhance the After-sales Processing Capabilities of Food Delivery Platforms and Merchants**

The takeout platforms need to enhance the after-sales services and improve consumer legal rights protection and after-sales channels. They can spread this information through the Internet to strengthen consumers' awareness of protecting their legal rights by the laws. Meanwhile, the food delivery platforms should also strengthen the management and supervision of after-sales service for merchants.

In addition, for food delivery, merchants need to strengthen communication and exchange with consumers and think from the perspective of consumers. They can establish different communication groups for consumers to receive timely suggestions and evaluations from customers about the store so that the merchants can provide them with effective feedback to improve the consumer experience. The merchants should also improve their service quality and treat all customer opinions and requests seriously and patiently. By helping consumers solve their problems, they can win the trust of consumers and enhance their competitiveness in the food delivery industry to achieve further development [4].

## **4.3 The Solution to Food Pollution and Waste**

### **4.3.1 For pollution**

Firstly, the government and other relevant departments, as well as food delivery platforms, should take responsibility for guidance and supervision. They should supervise merchants to actively use recyclable and environmentally friendly tableware and meal boxes and reduce the use of plastic bags. They also need to encourage merchants to replace plastic bags with biodegradable or paper packaging bags. Moreover, the government should strengthen environmental education and publicity. And in order to enhance consumers' sense of environmental responsibility, they are supposed to encourage consumers to recycle reusable food delivery "garbage", such as recycling food delivery packaging bags with writer's garbage bags, etc. Additionally, for the treatment of food delivery waste, the government should strengthen the upgrading and investment of science and technology. They can use advanced technology to accurately classify the waste sold and effectively treat it with specific methods.

### **4.3.2 For food waste**

First of all, the problems of food waste need to be addressed from the most fundamental source, which is at the

consumer level. Consumers must enhance their awareness of thrift and frugality. To reduce the waste, they should order the food reasonably based on their situations and choose the appropriate quantity of takeaway food.

From the perspective of food delivery platforms, they need to optimize their marketing strategies. This way can not only rationalize marketing mechanisms such as full discount promotions and discounts but also avoid excessive marketing on the platforms that leads to consumer impulse and over-consumption.

At the same time, the takeout merchants can also take some positive and effective measures. For instance, they can introduce some selections of small dishes to meet the needs of different consumers, which can reduce the food waste caused by over-ordering or excessive food quantity.

## **4.4 Strict the Management of Food Safety and Health**

The relevant government departments should strengthen the supervision of catering establishments. They can irregularly dispatch law enforcement personnel to conduct surprise inspections. If the merchants have problems such as poor environmental hygiene and unsafe ingredients used, they should punish them by closing their stores and paying the corresponding fines. Besides, although the stores are renovated, they will also pass the review of the supervisory department before reopening. For those merchants that seriously violate regulations, they should no longer be allowed to continue operating their stores, and they should be forced to go out of both the food delivery industry and catering industry and be blacklisted.

Additionally, the government must strictly regulate the food safety management of merchants [10]. The government should spot-check the food from the merchants. If the merchants add excessive and unhealthy additives or exceed the salt and oil content limit, they should be warned by the government and required to improve. This can protect the safety and health of consumers during meals.

Except for the dish preparation, the safety of dish delivery should not be underestimated. The food delivery industry should continue to promote the use of food delivery sealing stickers and ensure that the takeout stickers are comprehensively popularized and used. If the takeout food is intentionally opened or damaged, consumers can respond promptly and protect their own safety.

## **4.5 Strengthen the Protection of Consumers' Personal Information**

Every platform should establish a sound information security protection mechanism. They should upgrade the tech-

nology for consumer information protection by adopting advanced encryption techniques and security measures. Nowadays, the express delivery industry practices using privacy labels. They perform privacy processing on personal information on consumer express delivery orders and hide the sensitive personal information of users. The food delivery industry can learn from the useful practice of the express delivery industry, retaining only necessary delivery information for food delivery riders.

Besides, strengthening consumers' awareness of personal information protection is also crucial. Both the government and takeout platforms should actively promote the importance of personal information protection and raise consumers' awareness of personal information protection.

## 4.6 Future Strategies and Proposals

### 4.6.1 Optimize user experience

The food delivery platforms should continue to optimize the interface design of the takeaway ordering apps in order to ensure smooth ordering for consumers and show clear information about merchants and food for consumers. Besides, the platforms also need to strengthen the cooperation with merchants. In an effort to enhance user experience, they must ensure all the key aspects, such as dish quality, delivery speed, and service attitude, meet user expectations.

### 4.6.2 Continuous technological innovation

Food delivery companies should continuously strengthen their investment and application of new technologies and positively use innovative methods such as AR technology to enhance the ordering experience through intelligent and unmanned delivery. Meanwhile, the takeout platforms also need to continuously pay attention to the trends of the times and the development status of the industry and use big data science to predict the future of the industry that can actively and effectively plan future development strategies for the industry, and promote the long-term development of the food delivery industry.

## 5. Conclusion

This paper reveals the current development of the Chinese food delivery industry. It also reflects on some of the problems and drawbacks that were exposed during the growth of the takeout industry. The government and relevant departments have insufficient supervision over the external sales market, and the regulatory efforts need to be strengthened. The after-sales services of food delivery platforms also have shortcomings, and the consumers' rights cannot be reasonably protected. Additionally, the

problems of pollution and food waste are very terrible because of the takeout. Concurrently, there are still issues with food safety and health. Consumers' personal information is also at risk of leakage. These problems require strict supervision by the government and relevant departments in order to be effectively controlled and resolved. The government and others need to scientifically and comprehensively formulate relevant laws and regulations for the food delivery industry and strictly implement them in order to strengthen the management of the food delivery industry. In the meantime, the food delivery platforms, merchants, and consumers are also required to work together to create a favorable development atmosphere and environment for the delivery industry. What's more, the food delivery industry is supposed to continue to optimize customer experience and utilize innovative technologies to promote the long-term development of the industry.

This paper has business value. It offers a lot of useful suggestions for the takeout industry, which can promote the progress and development of the food delivery industry. Moreover, the paper also analyzes the social impact brought by the food delivery market and provides effective suggestions that have certain social significance.

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