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# Research on the Innovation of Business Ecosystem Model in China's Online Food Reservation Market at Sharing Economic Era

Mingli Zhang

*School of Literature Law and Economics, Wuhan University of Science and Technology; Hubei Small and Medium-sized Enterprise Research Center, Wuhan, 430065, China, mingli-zhang@wust.edu.cn*

Ziyue Guo

*School of Literature Law and Economics, Wuhan University of Science and Technology, Wuhan, 430065, China, 15071461522@163.com*

Hongping Zheng

*School of Literature Law and Economics, Wuhan University of Science and Technology, Wuhan, 430065, China, 1162950215@qq.com*

Wei Zuo

*School of Literature Law and Economics, Wuhan University of Science and Technology, Wuhan, 430065, China, zuoweiywy@163.com*

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## Research on the Innovation of Business Ecosystem Model in China's

### Online Food Reservation Market at Sharing Economic Era

• *Mingli Zhang<sup>1</sup>, Ziyue Guo<sup>2</sup>, Hongping Zheng<sup>3</sup>, Wei Zuo<sup>4\*</sup>*

<sup>1</sup>School of Literature Law and Economics, Wuhan University of Science and Technology, Hubei Small and Medium-sized Enterprise Research Center, Wuhan, 430065, China

<sup>2</sup>School of Literature Law and Economics, Wuhan University of Science and Technology, Wuhan, 430065, China

<sup>3</sup>School of Literature Law and Economics, Wuhan University of Science and Technology, Wuhan, 430065, China

<sup>4</sup>School of Literature Law and Economics, Wuhan University of Science and Technology, Wuhan, 430065, China

**Abstract:** At the sharing economy era, the online food reservation market has experienced great changes, such as the mobilization of ordering, cooperation of logistics, diversification of revenue stream. The ordering patterns has also changed from network order to improve user experience. At present, online food reservation market has difficulties in quickly dealing with the impacts and challenges brought by external environment due to lack of coordination and sharing mechanisms and competition over cooperation among economic individuals. Based on the theory of business ecosystem, this paper focuses on the impacts and challenges brought by the sharing economic era and takes "Huijiachifan" as a case study and proposes new framework of business ecosystem model in China's online food reservation market.

**Key words:** Online food reservation, Business ecosystem, Sharing economy

#### 1. INTRODUCTION

Online food reservation means that consumers select and order satisfactory food with the information presented on the reservation website via the Internet, whose main forms are takeout and private kitchen. <sup>[1]</sup>Takeaway is to utilize leisure time, equipment and personnel which all are not at peak mealtimes to produce takeout food. Private kitchen is to look for people who have idle time, deeply love cooking and are willing to share their home-style rich food. The sharing economy is defined as any marketplace that brings together distributed networks of individuals to share or exchange otherwise underutilized assets. Private kitchen and takeaway are the best expression of the sharing economy and online food reservation. <sup>[2]</sup>

Business ecosystem, first proposed by James F. Moore in 1993 in the paper of "predator-prey: new competition ecology", meant that various economic individuals and organizations establish economic unions for common interests through mutual cooperation. <sup>[3]</sup>Various economic individuals and organizations perform the respective duties in the interior system, and there are interdependence, sharing resources and maintaining the continuation and development of the system. Business ecosystem theory has broken the "single-win" concept of competition between traditional enterprises and emphasized that enterprise's management environment is a symbiotic system of deep connection and mutual dependency. <sup>[4]</sup>Business ecosystem combines the various groups of the online food reservation organically and promotes cooperation and sharing of members of the system in order to support and guarantee overall development of the system by constructing coordination mechanism, credit mechanism, regulatory mechanisms and government regulation.

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\* mingli-zhang@wust.edu.cn (Mingli Zhang), 15071461522@163.com (Ziyue Guo), 1162950215@qq.com (Hongping Zheng), zuoweiwywy@163.com (Wei Zuo)

## 2. THE DEVELOPMENT STATUS AND BUSINESS MODEL OF CHINA'S ONLINE FOOD RESERVATION MARKET

### 2.1 The development status of China's online food reservation market

#### 2.1.1 Explosive growth of online food reservation with late start

Open Table, America's largest online reservation platform, was established in 1998 and its services have been available worldwide now. China's first online order market company, Ele.me, was founded in 2009 and its business has covered more than 200 cities all over China until 2015. In contrast, China's online food reservation market experienced explosive growth with late start, as shown in the figure 1. By 2014, the market share of China's online food reservation reached 86.08 billion with an increase of 71.3% compared with that in 2013, accounting for 3.09% in the total catering market.<sup>[5]</sup> The reason for the rapid development of China's online food reservation is that China's Internet users is increasing and online order habits are being shaped.

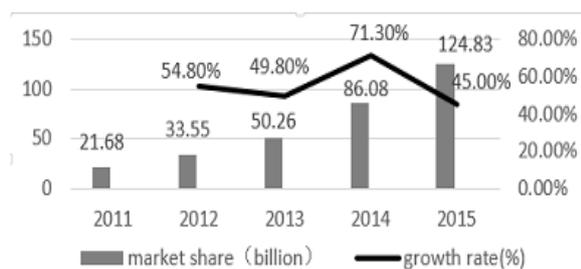


Figure 1. Market share of online food reservation market in 2011-2015

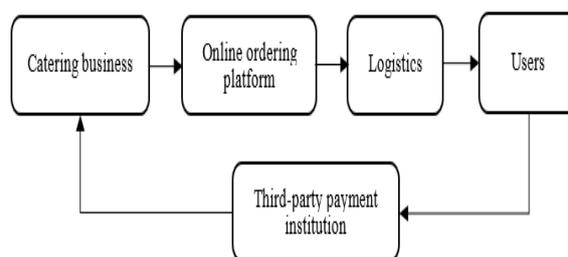


Figure 2. Business model of online food reservation

#### 2.1.2 Strong demand of consumers and lack of product innovation

The strong user demand of China's online food reservation market contributes to increasing the scale of from 63 million in 2011 to 162 million in 2014 with a growth rate of 157.14%.<sup>[5]</sup> Currently, users' scale has exceeded 200 million. In addition, China's online food reservation users' groups mainly consist of students and white-collar workers due to huge pressure of work and study, which are the main force of online food reservation. Moreover, Meituan Takeaway and Ele.me takes up 60% market share with over 1.5 million orders per day.

Compares with the huge expense demand, dining product innovation is seriously lagging behind. Except for typical dishes, innovative dishes provided by catering business are insufficient.<sup>[6]</sup> Obviously, people are more inclined to enjoy healthy diet due to the improvement of living standards and emphasis on health. But the supply of this kind of healthy food is too rare to meet the diversified and personalized demand.

#### 2.1.3 Intense competition of capital market and oligopoly competition in structure

The takeaway model brings new revenue growth point for the catering enterprises, thus attracting investment of Alibaba, Baidu, Tencent (BAT) and other Internet giants in 2015, as shown in Table 1. On the one hand, the development of online food reservation market is pushed by massive input of capital with the increase of competition. On the other hand, many small enterprises are eliminated from the market because of limited capital. Currently, almost 80% or more of market share are taken up by Meituan Takeaway, Ele.me and Baidu Takeaway. In the long term, oligopolistic competition will restrain dynamic and creative ability of online food reservation market, which is unfavorable for long-term development.

#### 2.1.4 Diversified development of the market and broad prospects of private kitchen

At present, major online ordering platform have broadened the fields of ordering through a lateral extension, including fresh flower, drugs, afternoon tea, breakfast and dinner and other types. On the longitudinal extension, each online ordering platform focused on industrial chain upstream.<sup>[7]</sup> For example, Ele.me launched the "Youcai" platform which is similar to that of Taobao. Once restaurants select the nearby sellers and submit

orders on the platform, “Youcai” will connect wholesalers in the wholesale market, making them provide fresh raw materials for buyers.

Private kitchen is greatly welcomed by investors because it can fully activate family idle resources and labor, improving matching efficiency between supply and requisitioning parties in the online food reservation market and provide unique experiences for diners. At present, there are already dozens of private kitchen platform presenting promising development prospects.

**Table 1. BAT investment events in 2015**

Investors	Investment time	Investment projects	Investment amount(USDollars)
Alibaba	June 2015	Koubei Takeaway	92 millions
	July 2015	Youdian Takeaway	10 millions
	September 2015	Dianwoba	46 millions
	June 2015	Yazuo	15 millions
Baidu	June 2015	Baidu Takeaway	250 millions
	July 2015	Keruyun	10 millions
	October 2015	PeixeUrbano	--Acquisition
	October 2015	9now	77 millions
Tencent	January 2015	Eleme	54 millions

Source: The website of China e-Business Research Centre

## 2.2 The analysis of online food reservation business model

At first, catering businesses release product information on the ordering platform, then ordering platform provide consumers with food and service information. Next, consumers order food and complete the payment confirmation through the payment system of the order platform after selecting and communicating with catering business. Finally, consumers receive food from logistics and make evaluation on the platform, which marks the completion of transactions. The business model of online food reservation is a closed-loop composed of food order, payment and logistics.

It can be seen in the figure 2 that business model of online food reservation market presents some inadequacies in the present. Usually various economic individuals are independent from each other, presenting a situation of more competition than cooperation. Intensely vicious competition in the online food reservation are led by catering businesses in order to attract more users. User's rights cannot be guaranteed because of asymmetric information between the users and catering businesses. Online ordering platform is faced with difficulties to coordinate the relationship between users and catering businesses. In addition, it is difficult for this business model of online food reservation market to deal with impacts and challenges brought by external environment owing to lack of cooperative evolutionary between various economic individuals.

## 3. THE IMPACTS ON BUSINESS MODEL OF ONLINE FOOD RESERVATION MARKET AT SHARING ECONOMIC ERA

The sharing economy has affected and changed people's life style, commercial operation mode and organizational management mode with an unimaginable speed,<sup>[8]</sup> which have imposed impacts on the online food reservation market in the following aspects:

### 3.1 Ordering patterns has changed from network order to improve user experience.

Ordering models should be transformed from simply web ordering to improve user experience in the sharing economy. In the takeaway market, what users concern most are food quality, delivery speed and health security. However, private kitchen platform should play the rule of social function. According to survey conducted by Tencent, 24.9% of users expects unique food through private kitchen platform, but 52.3% of users are more inclined to meet a group of interesting people. Thus, private kitchen should pay attention to use emotional marketing to enhance user's loyalty.

### 3.2 The mobilization of ordering and cooperation of logistics

The ordering channels have changed from websites and telephones to mobile clients in the sharing economy.<sup>[9]</sup> Mobile APP has become the main way of online food reservation. According to a survey conducted by sootoo.com, concerning the ordering channels of catering and takeaway in the first half of 2015, mobile clients make up 85%, PC end users make up 15%, which shows that the catering users prefer mobile clients.

The transportation mode has changed from point-to-point and hub-and-spoke to joint logistics in the sharing economy. Catering logistics industry can turn to available people according to the geographical position. The mode of joint logistics can improve meal delivery speed and reduce logistics cost.

### 3.3 Shared platform, diversified revenue stream

In the sharing economic era, the speed and efficiency of information transmission and acceptance among catering enterprises, online ordering platforms and users have been greatly improved due to the openness and sharing of information. Moreover, the costs of catering enterprises and users are reduced, including time and money. In addition to the platform service fee, online ordering platform not only provides data analysis reports for partners to help them to make decisions though accumulating huge amounts of user data, but also offers various value-added products and services in order to expand revenue stream.

### 3.4 Diversified choice for users and fierce market competition

With the lower barrier to enter the online food reservation market, any person is potential to become a catering business, providing food and services for users in the sharing economic era. The increase of suppliers in the online food reservation market greatly broadens the selection scope of the demand side, improving the efficiency of matching accuracy. However, it also caused a huge impact on the online food reservation market.<sup>[10]</sup> On the one hand, the increase of supply and distinctive product will bring intense competition; on the other hand, in order to shape the user habits and improve the user loyalty, there is increasing competition between Private kitchen and takeaway market.

## 4. CASE STUDY——“HUIJIACHIFAN”

“Huijiachifan” began its operations in September 2014 and has become the largest family kitchen sharing platform in China. Its sharing model is similar to that of Uber and Airbnb. “Huijiachifan” changes the relationship between users and catering businesses and builds social and sharing relations on the basis of food through integrating the idle kitchen resources in society and hobby of cooking staff into the shared platform.

As for business model, “Huijiachifan” adopts the model of booking online and having meal offline or enjoying take-away service within 2 kilometers to meet office workers’ demand for experience of the family or takeout. “Huijiachifan” has covered Beijing, Shanghai, Guangzhou, Shenzhen, Hangzhou and other first-tier cities with more than 500 staff and over one million users on the platform. Besides, its orders are over million per month. In terms of the rank of Takaway APP in 2015, “Huijiachifan” ranked fourth, next to Ele.me, Meituan Takaway and Baidu takeaway, presenting broad prospects.

### 4.1 The innovation of “Huijiachifan” in the sharing economy

#### 4.1.1 Making full use of idle resources and doing well in using emotional marketing

“Huijiachifan” integrates the kitchen of idle resources in society and hobby of cooking staff into the line, improves the utilization of resources, and creates the income for the idle private kitchens at home. More importantly, the successful emotional marketing has inspired inner feelings and demands of young outworkers who extremely miss hometown and home-cooked food, thus quickly attracting a large number of customers in a short time.

#### 4.1.2 Saving operating costs and improving the efficiency of matching supply and demand

“Huijiachifan” fully reflects the core process of operation of business model in the sharing economic era. It

merged localization and mobilization, so users can view the recommendation, evaluation about food and find food and service nearby online. Also, users can pay and reserve via the network platform so as to experience service or product offline. Finally they choose to share their experiences on the Internet. In addition, the private kitchen use “Go home for dinner” platform to save the shop rent and other fees and improve the net profit margin, making it possible for the platform to collect commissions and achieving a win-win situation.

#### **4.1.3 Meet the social demands of users, improve user’s experience**

Experience economy pays attention to people-orientation, and emphasis on the importance of the people’s needs, such as mental, social, and spiritual personality. “Huijiachifan” not only provides users with distinctive food, but also satisfies user’s higher level demand which they hope obtain in the consumption process, namely the demand of social interaction. A good interaction mechanism is formed in order to enhance user loyalty by providing table service and holding kitchen party.

### **4.2 Inefficiencies and improvements of “Huijiachifan”**

#### **4.2.1 To improve food safety and payment security**

The private kitchen of “Huijiachifan” is in short of regulation on raw material procurement in the entire process, increasing the risk of food safety and leading to the user’s mistrust of the food safety. In addition, in the network order, “Huijiachifan” mainly offers WeChat and Alipay to users, whose payment safety also need to be improved. Therefore, “Huijiachifan” should improve the user’s trust of the food safety and payment security.

#### **4.2.2 The logistics system needs further cooperation**

At present, “Huijiachifan” is equipped with three methods for logistics——professional distribution team, business distribution and third party logistics distribution, which not only fail to make full use of resources, but also can increase the logistics cost. In the sharing economy era, “Huijiachifan” should strengthen the cooperation with other logistics team in order to reduce logistics cost on the base of the geographic location to search for the recent delivery staff.

## **5. INNOVATION OF MODEL IN ONLINE FOOD RESERVATION BUSINESS ECOSYSTEM AT THE SHARING ECONOMY ERA**

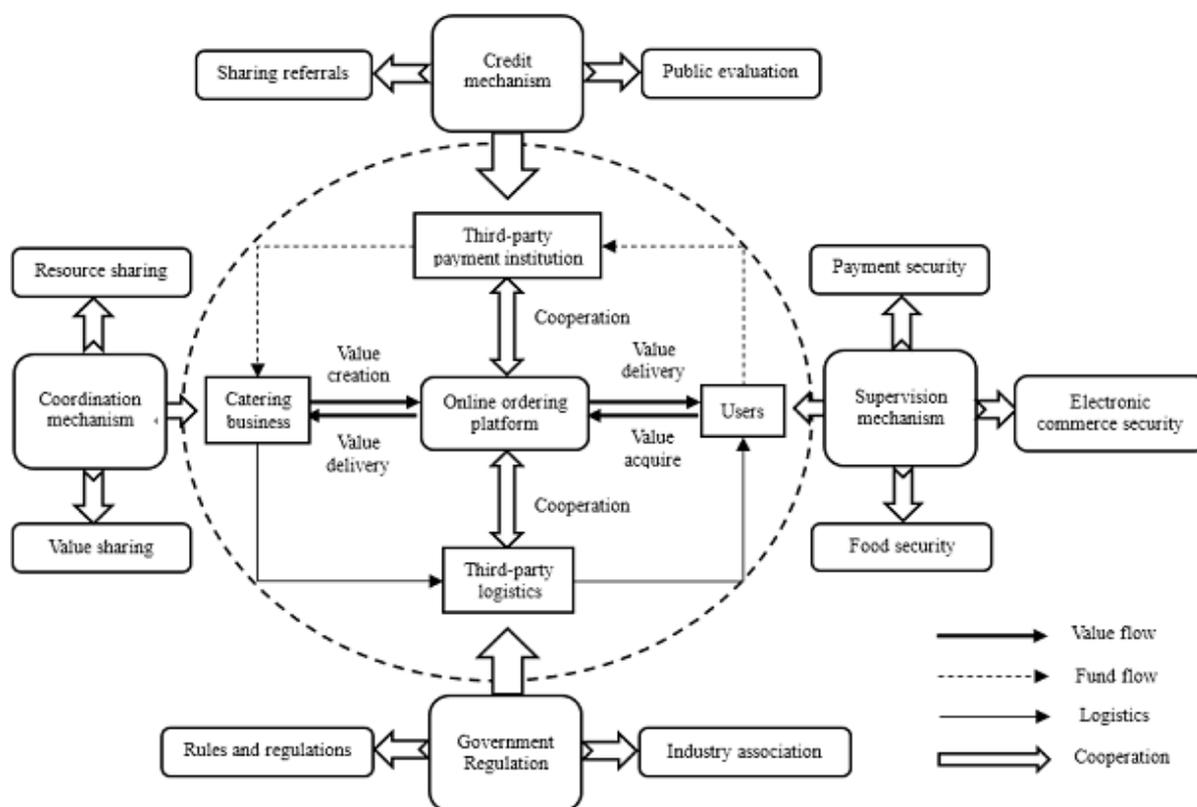
According to the characteristics of business model in the online food reservation market and impacts brought by sharing economy, combining with the business ecosystem theory, this paper proposes new framework of business ecosystem model in China’s online food reservation market, as shown in figure 3.

### **5.1 Specific analysis of the core supply chain system**

As can be seen in the figure 4, the core supply chain system of online food reservation business ecosystem is made up of the users, catering businesses, online ordering platform, third-party payment institution and third-party logistics. The relationship between these core elements are interdependent and complementary to each other, which guarantees normal operations of the system.<sup>[11]</sup> At the same time, these core elements endeavors to pursue co-evolution through mutual cooperation. The following is specific analysis of the core elements of the system.

#### **5.1.1 Users**

Demand is the origin of the value creation. Only by satisfying the demands can the business ecosystem be driven forward. In the sharing economic era, it is necessary to meet the needs of users and improve the user experience by establishing a “customer-centered” business mind. Efforts can be made in the following aspects: 1) enriching the channel to get information, improving the information service and catering business; 2) making the positioning technology more accurate to meet users’ needs; 3) providing more convenient payment methods; 4) enhancing the delivery speed by cooperative logistics.



**Figure3. The framework of business ecosystem model in China’s online reservation market**

**5.1.2 Catering business**

As the producers and providers of food, catering business is the creator of the value of the whole system and plays the role of maintaining healthy operations of online food reservation business ecosystem. The model of sharing economy not only benefits users, but also satisfies catering business for profit. The system should provide more comprehensive feedback to catering businesses. At the same time, a sharing mechanism which is more conducive to catering business should be established.

**5.1.3 Online ordering platform**

Online ordering platform is the bridge between users and catering business, as well as the link between third-party payment agencies and third party logistics. As an open information platform, online ordering platform not only provide values for users and catering businesses, it also should realize the value itself. With a huge customer resources, online ordering platform should strive to innovate business model in order to expand profit model through taking full advantage of the platform to provide a variety of value-added products and services.

**5.1.4 Third-party payment institution**

Third-party payment institution is one of the most important members in the online food reservation business ecosystem. Innovating and improving the payment system will contribute to the overall development of the system. Sharing economy has made the mobile client to become the main way of ordering. A Mobile client payment means with convenience and safety should be offered in order to improve user experience.

**5.1.5 Third-party logistics**

Logistics organization is the carrier of the food delivered to consumers and the key factor to improve the user experience. In the sharing economic era, cooperative logistics can greatly reduce logistics cost by making full use of social idle personnel. It should become the main way of food distribution in the online food reservation business ecosystem.

## **5.2 Analysis of the supporting and protection mechanisms of online food reservation business ecosystem**

Supervision mechanism, coordination mechanism, credit mechanism and government regulation play an important role in promoting the healthy and sustainable development of online food reservation business ecosystem. Online ordering platform is the builders and managers of the whole business ecosystem, working together with the other members of the system to create and share value on the basis of providing a shared platform.<sup>[12]</sup> Thus, online ordering platform should be the builder of coordination mechanism, credit mechanism and supervision mechanism.

### **5.2.1 Coordination Mechanism**

Establishing a reasonable coordination mechanism is the premise of the sustainable development of the business ecosystem.<sup>[13]</sup> Each member in the system hammers at maximizing their self-interest, so the core of the coordination mechanism is to coordinate the relationship between members of the system so that they can do their best with what they have. Online ordering platform should promote sharing of resources between the members of the system by strengthen communication and rationally allocate resources on the basis of the different demands of members.

### **5.2.2 Credit mechanism**

To a large extent, consumer behavior is built on the trading with strangers in the sharing economic era, thus a perfect trust system is an important mechanism that can able to develop and maintain business activities of sharing economy. In the process of establishing trust, online order platform should encourage other members to communicate each other so as to gradually eliminate the diaphragm.<sup>[14]</sup> In addition, a reasonable scoring mechanism should be built on the basis of mutual evaluation and recommendation of users, and transforming it to the specific trust values.

### **5.2.3 Supervision Mechanism**

Supervision mechanism is the strong internal constraints for online food reservation business ecosystem. It restricts and monitors the behavior of the parties through signing agreements with the other members. It is key for online ordering platform to supervise food security, payment security and security of electronic commerce. Online ordering platform should apply a more severe punishment in order to reduce the probability that moral hazard produce among members. At the same time, a strict exit mechanism should be built so as to eliminate unqualified catering businesses.

### **5.2.4 Government Regulation**

Government regulation is the external cause that affects and maintains the online food reservation business ecosystem. Its basic function is to constraint and control members' behavior as well as make market rules. Regulatory changes always lag behind the pace of market change, so the government should adjust the policy in order to provide more opportunities for the development of online ordering market.<sup>[15]</sup> Meanwhile, industry associations should play a positive role to make up for the shortcomings of government management and ensure the effective operation of online food reservation business ecosystem.

## **6. RECOMMENDATIONS**

In the sharing economic era, China's online food reservation market has experienced various changes, including mobilized ordering, cooperative logistics, diversified revenue channels, which brings unprecedented opportunities to the online food reservation market. Online ordering platform can provide a range of value-added services in order to innovate profit model; third-party payment institution can provide convenient and security mobile payment in order to increase the user experience; cooperative logistics can be used widely to improve the quality of logistics.

From the trend, it can be seen that: firstly, the development of China's online food reservation market will

be vertical and diversified .Products and services based on specific food and marketing strategy based on differentiation and personalization will greatly increase user stickiness. Secondly, establishing cooperative and industrialized distribution mode and providing convenientmobile payment methods will contributes to improving the user experience. Thirdly, credit system and safety standard system should be improved as soon as possible so as to guarantee food security and eliminate trust barrier caused by weak sharing culture in china. Finally, the government should provide more supports so as to accelerate the development of online food reservation market.

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