

Customer Perception of Online Food Delivery and Analysis of Factors Affecting Customers

– *Based on Young Chinese Customer Behavior Survey*

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Abstract

The online food delivery industry has great potential for development in China. As a new type of service industry, online food delivery has changed with time and China's economic development. Therefore, understanding young customer needs and requests requires constant updating. Only by better understanding the needs of customers can more targeted suggestions be provided for Chinese food delivery development. This study was conducted in the early stage of the COVID-19 outbreak in China, which represents a unique point in time. As the main group of online food delivery users, young people were selected as the survey subjects of this study. As described in this study, a binary logistic regression model is adopted to analyze factors that affect food delivery orders. Empirical studies have found that living expenses of 2001-4000 yuan, 4001-7000 yuan, and bad weather have a significant positive effect on purchasing behavior. Online food delivery users assign a high degree of emphasis on the taste of meals. These results suggest some strategies to attract Chinese online food delivery users: improving food safety supervision, maintaining the taste of meals, and increasing review system credibility.

Keywords: online food delivery, customer needs, logistic regression, purchasing behavior, food safety supervision

1. Introduction

A service that delivers products such as food in a short time after an order is received from a customer is called “delivery” or “take-out”. In the Chinese context, it has multiple meanings. However, in recent years it is generally understood as a food delivery service. Specifically, it corresponds to food delivery services such as Uber Eats.

In China, the delivery industry is developing along with technological development. The spread of mobile phones has made telephone ordering methods the mainstream method of food delivery. Customers need not go to restaurants. Instead they can receive their meals at home. Along with the spread of smartphones, people increasingly rely on mobile phone applications (apps) in various fields such as communication, socializing, and entertainment. In China, the online food delivery industry was born around 2011. After 2017, the two major food delivery platforms, Meituan and Ele.me, became the most widely used food delivery service application operators in the Chinese market (iiMedia Research, 2019).

For online food delivery usage processes, restaurants provide information about foods through the food delivery apps first; then customers order meals using the apps. After restaurants receive the order, the food will be prepared in the kitchen. Finally, food delivery riders will deliver it to the designated location. A person in good health with a vehicle can easily become a delivery rider after registering online. Because of the extremely easy conditions for employment, the delivery industry is promoting the reemployment of unemployed people and is maximizing the use of human resources. The online food delivery industry might continue to develop further by using online transactions and electronic trade platforms. However, other difficulties exist, such as food safety, waste disposal, environmental pollution, and inadequate policies.

2. Background and Earlier Studies

The Chinese online food delivery industry has just emerged in recent years. Many points must be improved

(Wang, 2015). In 2018, Chinese online food delivery users were 358 million people, representing an increase of 17.4% compared with data from 2017 (Table 1). The scale of Chinese food delivery market was over 240 billion yuan. In addition, the quality of delivery has improved. In the fourth quarter of 2018, single orders with a unit price of more than 40 yuan accounted for 32.9% of all orders (iiMedia Research, 2019). According to 2018-2019 China Online Food Delivery Industry Report, online food delivery users are concentrated in cities. Most users are between the ages of 18 and 30; moreover, their frequency of use is the highest (China Hospitality Association & Ele.me., 2020).

Table 1. Distribution of Chinese food delivery users based on city level

City Level	2017		2018	
	Million	Percentage	Million	Percentage
1	0.65	21.2%	0.54	15.2%
2	1.22	39.9%	1.44	40.1%
3	0.74	24.4%	0.96	26.8%
Under 4	0.44	14.5%	0.64	17.9%
Total	3.05	100%	3.58	100%

Source: iiMedia Research (2019). 2018-2019 China Online Food Delivery Industry Report

1) Based on economic production, Chinese cities are divided into five levels. Smaller numbers represent greater economic production.

For example:

First-tier cities (19): Beijing, Shanghai, Guangzhou, Shenzhen, Chengdu, Hangzhou, Wuhan, Chongqing, etc.

Second-tier cities (30): Shijiazhuang, Wenzhou, Harbin, Dalian, Jinan, Xiamen, etc.

2) In the 2018-2019 China Online Food Delivery Industry Report, the city level was divided into 4 categories (1, 2, 3, Under 4).

According to the 2018-2019 and 2019-2020 China Online Food Delivery Industry Report, growth in the number of food delivery users in first-tier and second-tier cities has slowed in recent years, but the frequency of food delivery has increased. In first-tier and second-tier cities, the percentage of users who order food delivery at least once daily is 54.3%. The percentage of users in third-tier and fourth-tier cities is 26.6%. In addition, first-tier and second-tier cities' users shifted their delivery consumption times from lunch and dinner to all-day meals; orders after 8 pm increased gradually. In other words, the driving force for delivery industry growth in first-tier and second-tier cities has changed from an increase in the number of users to an increase in the frequency of use by users. Growth of the delivery industry in third-tier and fourth-tier cities is driven by the increase in the number of users.

China has a vast land area and population. Random sampling is desirable for investigating food delivery user-related information, but it is difficult to implement. Many earlier studies of food delivery users have specifically examined younger generations: the main groups of food delivery users. One study by Li et al. (2020) was a literature review paper, and because Chinese food delivery industry was relatively developed, more than 60 papers were referenced from China. Most of these Chinese food delivery studies have examined college students. Studies by Han et al. (2017) and Zhu et al. (2019) were limited to college students. Some food delivery studies have used non-probability sampling. For example, work by Wu et al. (2022) used an online questionnaire. This was a convenience sampling conducted via an online platform. About 80% of survey respondents were young people aged 18-24. A study by Mehrolia et al. (2020), which targeted India, used the snowball method to collect data. Furthermore, the main group of data analyzed was young people.

According to Report on the Work of the Government (2018), China will reasonably adjust the social minimum wage and raise the threshold for personal income tax. Therefore, the disposable incomes of low-income and middle-income groups are expected to increase further, promoting the increased use of food delivery services.

Previous research on the Chinese food delivery has focused on areas such as e-commerce services, food safety, delivery riders, waste disposal, environmental pollution, and policy improvements. Along with economic development, people demand abundant food. Food is indispensable to people's lives. It has the characteristic of being prone to quality deterioration. Moreover, some companies use illegal and unsanitary means to produce

food to reduce costs, leading to food safety issues (Zhang et al., 2016).

The increased use of food delivery riders entails numerous difficulties such as personnel management, traffic accidents by food delivery riders, service quality, insurance, and so on. The working environments of food delivery riders also present difficulties (Chen 2020). There are two types of food delivery riders: the food delivery platform operator itself delivers the product, or the delivery is performed by a sole proprietor without an employment contract. Although sole proprietors have a high degree of freedom in working styles, if they are injured during delivery, it will not be regarded as a work accident, and their income may become unstable (The Beijing News, 2020).

In China, many online food delivery users order food delivery every day, generating great amounts of waste. The disposal of non-burnable garbage, the collection and reuse of plastic tableware, and garbage classification are important topics in current research on food delivery (Zhu et al., 2019).

The main groups of Chinese food delivery users are office workers and students. The weather and food delivery convenience have positive impacts on food delivery orders (Zhao et al., 2021). From the perspectives of merchants and customers, research by Wang (2015) analyzed the benefits and existing difficulties of food delivery. The difficulties include online and offline docking issues, low customer loyalty, and distribution delays. A study by Lee et al. (2007) found that transfer costs, perceived values, and customer satisfaction had positive impacts on repeat purchase behavior.

There is still too little research on the current young online food delivery users. Many researchers have conducted research around online food delivery-related areas, such as food safety, delivery riders, and environmental pollution. However, it should be noted that people born around 2000 (Millennial Generation) are now gradually joining the group of online food delivery users, forming the main group of 18 to 25-year-olds. At the same time, with time and China's economic development, people's lifestyles and customer needs have also changed. Therefore, it is necessary to survey the younger generation of online food delivery users. At this particular point in time, the emergence of this study can well complement and describe the customer perception of online food delivery and the possible factors that influence them to order food delivery.

3. Objectives and Analytical Methodology

As a new type of service industry, Chinese online food delivery has changed with time and China's economic development. Moreover, customer needs are changing. Therefore, understanding customer needs and requests requires constant updating. Only by better understanding the needs of customers can more targeted suggestions be provided for Chinese online food delivery development. Research data used for this study were collected in the early stage of the COVID-19 outbreak in China (the comprehensive blockade policy had not yet begun), which represents a unique point in time. Therefore, this study has important reference value for future research related to food delivery during and after COVID-19. In this study, the subject is to investigate customers' perceptions of online food delivery services and analyze the factors that influence customers' delivery ordering behavior. This study focuses on young Chinese food delivery customers with a developed food delivery industry as the object of analysis.

According to China Online Food Delivery Industry Report (First Half of 2019), orders from food delivery users aged 20-34 accounted for 86.3% of the total. In January 2020, a questionnaire was distributed to young people around a department store in Taian City, Shandong Province, China, an oral survey was also conducted. The survey content includes reviews of apps and food delivery industries, speed of delivery, frequency of food delivery, and names of most commonly used food delivery apps. This survey was used as a preliminary survey and used as a reference for producing a formal survey form later.

Like other food delivery research studies, we chose students and white-collar workers as the main target of the questionnaire. Because of COVID-19, the online questionnaire survey was administered in March 2020. After completing the questionnaire, the survey administration platform generates a link. With the help of the questionnaire platform (WenJuanXing, a platform providing functions equivalent to Amazon Mechanical Turk), the questionnaire was distributed to students and white-collar workers. To eliminate concerns about respondents or other interfering factors, the survey was completely anonymous, and the survey purpose was explained before participation. The questionnaire used for this study consisted of four sections: respondent attributes; factors affecting the ordering of online food delivery; evaluation of food delivery; and trust in food delivery. Except for the respondents' attributes, questions in the questionnaire fit a five-segment evaluation model. In all, 218 questionnaires were collected at the end of March 2020. The respondents were distributed all over China, which accords with the characteristics of China's population distribution. The eastern coastal cities provided most respondents, with fewer from western inland cities (Fig. 1). Among the respondents, 34 people did not use food

delivery; 184 people had experienced using food delivery services.

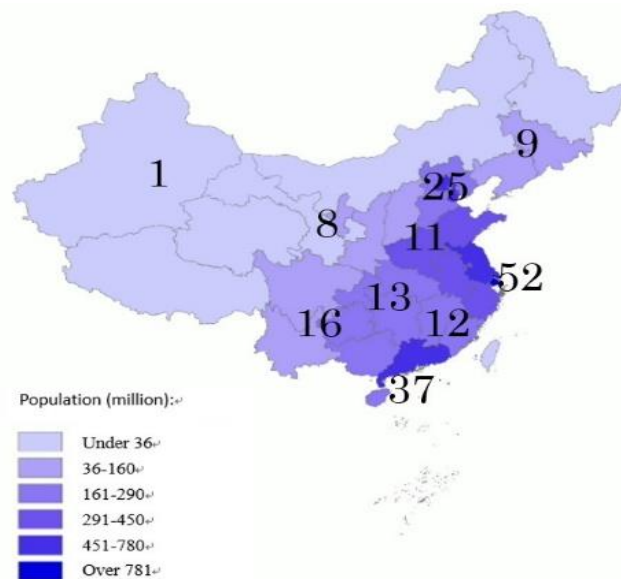


Figure 1. Distribution map of respondents and the population map of China

Source: Created by the author based on questionnaire response data and the Seventh China Census

1) Numbers represent the distribution of respondents by province

4. Results

4.1 Statistical Analysis Results

For the 184 respondents, 120 were students; 64 were workers. The respondents aged 19–30 were more than 80% of the respondents, which accords with the current food delivery market segment. Table 2 shows that, as the number of weekly food delivery orders increases, the number of corresponding respondents tends to decrease. Among the respondents, 48 ordered food delivery once a week, accounting for 26.1% of all respondents. Furthermore, 30 ordered food delivery twice a week; 25 respondents ordered food delivery three times a week. According to Table 3, respondents who use food delivery frequently (more than 10 times a week) were mostly in first-tier and second-tier cities. In the third-tier cities, the ratio of such respondents was somewhat low. In the fourth-tier and fifth-tier cities, the numbers of such respondents are zero. This finding is consistent with the development of food delivery industry into first-tier and second-tier cities. The food delivery industry growth in third-tier and lower cities is still at the phase of user expansion. Therefore, food delivery users in third-tier and lower cities are considered as potential online food delivery users.

Table 2. Frequency of ordering food deliveries per week

Frequencies	Respondents	Percentage	Frequencies	Respondents	Percentage
1	48	26.1%	8	1	0.5%
2	30	16.3%	9	5	2.7%
3	25	13.6%	10	11	6.0%
4	20	10.9%	12	2	1.1%
5	22	12.0%	13	1	0.5%
6	4	2.2%	14	6	3.3%
7	8	4.3%	15	1	0.5%
total	184	100%			

Source: Created by the author based on questionnaire survey

Table 3. Distribution of respondents by city level (unit: people)

City Level	Female			Male			Total		
	Respondents	High-frequency user		Respondents	High-frequency user		Respondents	High-frequency user	
1	38	6	15.79%	47	7	14.89%	85	13	15.29%
2	13	1	7.69%	24	4	16.67%	37	5	13.51%
3	10	0	0	20	3	15.00%	30	3	10.00%
4	8	0	0	15	0	0	23	0	0
5	4	0	0	5	0	0	9	0	0
Total	73	7	18.92%	111	14	12.61%	184	21	11.41%

Source: Created by the author based on questionnaire survey

1) High-frequency user: ordering food delivery 10 and more times per week

Except for the respondents' attributes, questions in the questionnaire fit a five-segment evaluation model. Options 1-5 are “no impact on ordering food delivery”, “little impact on ordering food delivery”, “cannot say either”, “impact on ordering food delivery”, and “strong impact on ordering food delivery”. The results of statistical analysis are shown at the left side of Table 4. The status of the answer is explained below for each question.

When asked how sales promotion such as coupons affect food delivery orders, the average of evaluations was 3.65. Respondents answered that sales promotions such as coupons have an impact on ordering food delivery. The average of evaluations of the impact of bad weather on ordering food delivery was greater than 3. Respondents agreed that bad weather had an impact on ordering food delivery. When asked how knowledge of food delivery industry affects ordering, the average of evaluations was 2.6. Respondents agreed that knowledge of online food delivery industry had little impact on ordering food delivery.

Food safety risks are classifiable into technical risks (posed by technology, such as heavy metal, radiation, genetically modified foods, etc.) and natural risks (posed by the food itself, such as cholesterol, fat, etc.). When asked how knowledge of food safety risks affects food delivery orders, the averages of evaluations of technical risks and natural risks, respectively, were 2.96 and 2.93. Respondents agreed that knowledge of food safety risks had little impact on ordering food delivery.

For personal habits, respondents agreed that concerns about food safety and taste influence ordering food delivery, the averages of evaluations were 3.85 and 4.24 respectively. Furthermore, respondents agreed that the appearance of food had little impact on ordering food delivery: the average of evaluations was 2.85. Respondents also agreed that good cooking skills and healthy life-styles had little impact on ordering online food delivery services, the averages of evaluations were 2.77 and 2.77 respectively.

Respondents agreed that trust in restaurant hygiene had little impact on ordering food delivery: the average of evaluation was 2.80. Some restaurants have ignored food safety in pursuit of profits. For the current situation and trust of personal information security, the averages of evaluations were 2.81 and 2.92 respectively. Respondents agreed that the protection of personal information had little impact on ordering food delivery.

For trust and credibility of the comment system, respondents agreed that they had little impact on ordering food delivery, the averages of evaluations were 2.93 and 2.74 respectively. By the comment system, customers can evaluate services provided by restaurants and food delivery riders, and can write some comments to give suggestions. Customers can assign one to five stars for the service they received from restaurants and food delivery riders (more stars represent a better evaluation). When ordering food delivery, customers can refer to the restaurant's comments in the comment system. Therefore, some restaurant owners try to register fake accounts to give their restaurant a good reputation and to attract more customers (false propaganda). Such strategies used to defraud customers have been reported by the news media. Some food delivery users have been deceived. Based on this situation, food delivery users know that the comment system might be affected by false information. This might be one reason why respondents' evaluations of trust and credibility of the comment system were not high.

When asked how potential security issues (such as robbery) of food delivery riders affect delivery orders, the average of evaluations was 3.11. Respondents agreed that it had some impact on ordering food delivery. When

asked how trust in food delivery riders and trust in personnel management of food delivery companies would affect delivery orders, respondents agreed that they had little impact on ordering food delivery, the averages of evaluations were 3.47 and 3.20 respectively.

4.2 Binary Logistic Regression Analysis Results

Binary logistic regression analysis was used to assess valid responses from 184 people (SPSS, ver. 25; IBM Corp.). As dummy variables, high-frequency users and low-frequency users were set as dependent variables. Based on statistical analysis results, the frequency of online food delivery orders per week can be converted to high-frequency users and low-frequency users. According to the cumulative frequency of ordering online food delivery every week (with 50% as the dividing standard), the low-frequency users (orders per week: 1-3 times) were set as 0; the high-frequency users (orders per week: 4 times or more) were set as 1 (Table 2).

Table 4. Binomial Logistic Regression Analysis

Variable	Statistic Results		Binomial Logistic Regression Analysis		
	Respondents		B	S.E.	Sig.
Gender (male=1)	111		0.311	0.465	0.504
Age: under 18	21		-1.935	1.464	0.186
Age: 19-25	126		-0.202	1.171	0.863
Age: 26-30	29		0.017	1.149	0.988
Age: over 30 (standard)	8		--	--	--
Occupation (student=1)	120		1.163	0.831	0.161
Living expenses: under 1500 CNY	65		1.330	1.087	0.221
Living expenses: 1501-2000 CNY	39		0.157	1.066	0.883
Living expenses: 2001-4000 CNY	32		3.643	1.040	0.000 ***
Living expenses: 4001-7000 CNY	28		1.700	0.921	0.065 *
Living expenses: over 7001 CNY (standard)	20		--	--	--
(Factors affecting ordering food delivery)	Mean	S. D.			
Living situation when ordering food delivery	2.98	1.099	-0.299	0.216	0.166
Sales promotion (such as coupons)	3.65	1.159	-0.145	0.183	0.428
Hot day	3.45	1.039	0.633	0.250	0.011 **
Cold day	3.53	1.008	0.777	0.291	0.007 ***
Rainy day	3.56	1.144	0.208	0.250	0.405
Snow day	3.29	1.201	-0.026	0.255	0.918
Knowledge of food delivery industry	2.60	0.831	0.175	0.310	0.573
Concerns about food safety	3.85	0.793	-0.411	0.303	0.175
Concerns about the appearance of food	2.85	0.872	0.434	0.279	0.120
Concerns about food taste	4.24	0.732	-0.672	0.323	0.037 **
Cooking skills	2.77	1.036	-0.443	0.242	0.067 *
Healthy life-style	2.77	1.032	-0.195	0.215	0.365
Knowledge of food safety-risk (technical)	2.96	0.928	0.386	0.350	0.270
Knowledge of food safety-risk (natural)	2.93	0.964	0.462	0.351	0.188
(Evaluation of food delivery)					
Current situation of personal information	2.81	0.876	0.415	0.388	0.285
Credibility of the comment system	2.74	0.865	-0.149	0.357	0.676
Potential security issues (such as robbery) of	3.11	0.880	-0.775	0.294	0.008 ***
(Trust in food delivery)					
Trust in restaurant hygiene	2.80	0.802	-0.744	0.350	0.034 **
Trust in personal information security	2.92	0.878	-0.555	0.398	0.163
Trust in the comment system	2.93	0.853	0.474	0.354	0.180

Trust in food delivery riders	3.47	0.677	0.779	0.419	0.063 *
Trust in personnel management of food	3.20	0.841	-0.152	0.385	0.694
Constant			-2.824	2.835	0.319
*: P<0.1; **: P<0.05; ***: P<0.01; accuracy of the regression equation (Predicted): 76.6%					
Hosmer-Lemeshow Test: 0.10, Cox&Snell R ² : 0.387, Nagelkerke R ² : 0.519					

Source: Created by the author

Respondents' attributes might affect the ordering of food delivery services. In this study, respondents' attributes include gender, age, living expenses, and occupation (student or worker). These attributes were converted to dummy variables. For gender, male was 1 and female was 0. For position, student was 1 and worker was 0. For living expenses, dummy variables were processed based on people with 7001 yuan or more. For age, dummy variables were processed based on people over 30 years old.

In this binary logistic regression analysis model, respondents' attribute and factors that affect ordering food delivery were analyzed as explanatory variables. The analysis results are shown at the right side of Table 4. To confirm the model fitness, Hosmer-Lemeshow testing was used. The test result is 0.10, which is greater than 0.05. Therefore, the model fit well. The discriminatory predictive value indicating the accuracy of the regression equation was 76.6%.

Respondents with living expenses of 2001-4000 yuan are more likely to order food delivery than respondents with living expenses of over 7001 yuan. According to the 2021 China Statistical Yearbook, the PCDI in 2021 was 32188.8 yuan. The monthly PCDI was 2682.4 yuan, which was almost identical to that of the respondents with living expenses of 2001-4000 yuan. Therefore, it can be inferred that online food delivery services are used widely by people of the average income group. This group has a high probability of becoming high-frequency users of online food delivery. Furthermore, respondents with living expenses of 4001-7000 yuan have a significant difference at the 10% probability level. They ordered food delivery more frequently than respondents with living expenses of over 7001 yuan. Therefore, it can be inferred that online food delivery services are also used widely by these group.

Hot and cold weather have a positive impact on the frequency of ordering food delivery. It can be considered that people are more likely to order food delivery and become high-frequency users in extreme weather. Concerns about food taste have a negative impact on the frequency of ordering food delivery. Online food delivery takes some time to deliver food to the customer. For that reason, the food taste will deteriorate during the delivery process. Because the deterioration of food taste is unavoidable in food delivery, it can be considered that high-frequency users devote more attention to the convenience of food delivery than to food taste.

The potential security issues (such as robbery) of online food delivery riders have a negative impact on the frequency of ordering food delivery. This finding suggests that high-frequency users order food delivery under situations in which they know of the potential security issue for food delivery riders. Furthermore, at the 10% level, trust in online food delivery riders is significant. It has a positive impact on the frequency of ordering food delivery. Overall, respondents can be considered to trust food delivery riders.

Trust in restaurant hygiene has a negative impact on the frequency of ordering food delivery. Some restaurants practice good kitchen hygiene, but the eating place environment has inadequate hygiene. Therefore, the results suggest that many customers tend to order food delivery at home or at work instead of dining in restaurants. Good cooking skills have a negative impact on the frequency of ordering food delivery at the 10% probability level. People with high cooking skills are more inclined to cook their own meals.

5. Conclusion

For this study, we performed binary logistic regression analysis using data from 184 respondents. The proportion of respondents aged 19–30 accounts for more than 80%. The customers in this age group mainly include college students and white-collar workers, which accords with the current market segment. We analyzed factors that affect the ordering of food delivery services. Food delivery is used widely by the average income group. Bad weather and the convenience of food delivery are the main drivers for ordering food delivery. Concerns about food taste and good cooking skills have a negative impact on the frequency of ordering food delivery. For the evaluation of current situation and trust in food delivery, some room remains for improvement. To attract more people to use food delivery, some new recommendations are made based on the results of the empirical analysis.

Empirical testing proved that food delivery is widely used by the average income group. In other words,

low-income and high-income people are potential online food delivery customers. Empirical testing proved that hot weather and cold weather have positive impacts on the frequency of ordering food delivery. Therefore, we can enhance the impacts of bad weather with the use of discount promotions to increase sales. By providing promotions and services for bad weather periods to mitigate the impact of weather on revenues, people who rarely or never use food delivery services are likely to be attracted. For example, going out to a restaurant to eat on a snowy day can be very troublesome. The slippery roads might lead to a traffic accident. Some people want delicious food, but they are unable to cook by themselves. At such times, online food delivery services can be helpful. A person can get delicious food by ordering online food delivery, and just wait at home for a while. If there are discount promotions during the snow day, people can eat cheaper. In this way, even people who have never used online food delivery services will want to try them. According to empirical tests, people who pay more attention to food taste have a lower frequency of ordering food delivery. In addition, people with better cooking skills tend to cook for themselves.

Empirical testing suggests some shortcomings of the current online food delivery industry. Trust in restaurant hygiene has a negative impact on the frequency of ordering food delivery. A possible reason is that, in the process of using food delivery services repeatedly, high-frequency users gradually discover difficulties of online food delivery, which are expected to decrease their trust in restaurant hygiene management. Furthermore, some restaurants have ignored food safety in pursuit of profits. At some restaurants, kitchen hygiene is good, but the hygiene of eating places is inadequate. Therefore, many customers order online food delivery because they know of the restaurant hygiene problems. The potential security issues (such as robbery) of food delivery riders has a negative impact on the frequency of ordering food delivery. It suggests that high-frequency users order food delivery under the situation that they know the potential security issues of food delivery riders.

According to empirical tests, trust in food delivery riders has a positive impact on ordering food delivery. Therefore, increasing customers' trust in food delivery riders can increase the frequency of food delivery and increase loyalty to online food delivery services. To improve trust, food delivery apps should improve comment system for evaluating food delivery riders into more detailed systems. Current food delivery apps only show comprehensive evaluation of food delivery riders' services. It is also necessary to add evaluation items such as the cleanliness of clothes, service attitude and food delivery speed. If online food delivery apps can show detailed evaluations of this delivery rider after a customer has ordered food delivery services, customer trust in food delivery riders will increase.

Although this study was conducted in conformance to scientific principles in theoretical derivation and empirical research, some limitations exist. Sample data examined for this study were obtained mainly from students and workers. Although they are the two most active groups in China's food delivery market, this sample is still under-represented in China's overall food delivery market. Future research can distinguish and compare the two groups to help platforms implement better-targeted expansion strategies. In addition, the same questionnaire and study can be conducted again in a few years, without COVID-19 countermeasures or when it the disease has been controlled completely. Comparing and analyzing changes in the factors that affect people ordering food delivery in different periods will be of great help for the development of online food delivery services.

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