Problems and Countermeasures of Food Safety Supervision of Online Catering Service Based on Big Data Analysis

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Abstract. With the rapid development of Internet catering service market, network food safety problems emerge in endlessly. The rapid development and continuous improvement of big data technology provide us with help in analyzing online food safety issues. In order to ensure the safety and health of consumers, this paper analyzed the characteristics and problems of food safety supervision of online catering services, and pointed out that at the level of supervision, we should speed up the legislative process of food safety supervision of online shopping based on the existing food safety law. Secondly, the article establishes an industry management credit system through big data technology, so as to improve the level of food safety supervision in the world.

Keywords: Food Safety Supervision, Internet Catering Service, Problems and Countermeasures, Big Data Analysis

1. Introduction
The online catering industry has ushered in a new era, but at the same time it has also produced many new problems, among which the food safety of online catering has become the most concerned and important issue[1]. With the rapid development of Internet catering, it is more and more difficult to supervise the huge and decentralized Internet catering industry. How to ensure the stable and healthy development of the industry and the safe consumption of consumers in the critical period of the transformation and development of the catering industry has become the primary task of the regulatory authorities. Therefore, it is of great practical significance to study the food safety supervision problems and Countermeasures of catering services under the network environment[2].

2. Analysis on the current development of network catering industry
According to CNNIC's Statistical Report on the Development of China's Internet, China's online takeout increased significantly in 2018, with an annual user growth rate of 64.6%. Takeaway platforms and catering platforms began to attach importance to building takeout brands. In 2018, the market size of China's catering industry has reached 823.72 billion yuan, an increase of 75.0% over the same period last year. According to Erie's forecast analysis, the scale of China's catering industry will continue to expand in the next three years, while the growth rate will gradually slow down, as shown in figure 1 below[3].
Figure 1. Forecast of China internet catering market scale and growth rate.

On the other hand, in the critical period of expanding commercial customers on third-party platform, the entry threshold of catering businesses is low, and food safety problems often occur. Takeaway platform is mainly model-oriented, self-operated and crowdsourcing in distribution logistics, with a high cost share, and the maintenance and operation costs of the platform remain high. This part of the cost will be transferred to caterers. For enterprises, the development of Internet operation is imminent, but to a large extent, it is also subject to various constraints of third-party platforms.

3. Characteristics of food safety supervision in internet catering service

Generally speaking, food safety supervision of online catering services has the characteristics of difficult supervision, complex supervision subjects and cross-regional law enforcement, as shown in Figure 2 below[4].

Figure 2. Characteristics of food safety supervision in internet catering service.

3.1. It is difficult for supervision

Food safety supervision of online catering services involves a wide range of areas and is difficult to supervise. Regulators are also required to have good cross-regional cooperation. Therefore, food safety supervision and legislation of online catering services has become relatively complex, involving the release of food sales information, third-party e-commerce platform and quality quarantine and other links. At the same time, due to the characteristics of Internet operation, such as virtual, cross-regional, easily changing network information and asymmetry of network transaction information, it is very difficult to investigate and obtain evidence of food safety cases of online shopping and to protect consumers' rights and interests. All these factors make the supervision of food safety of online catering services more and more difficult[5].

3.2. The supervision subject is complex and mostly cross-regional law enforcement

At present, the functions of food market regulators for online catering services in China are overlapping, and it is often difficult to implement specific regulatory activities in reality. The main body of food safety supervision of online catering service mainly involves industry and commerce, public security, taxation and
other departments. While enjoying the online catering service brings convenience and speed to consumers, it also brings great inconvenience to the filing, evidence collection and law enforcement of illegal transactions. It is no longer a unilateral law enforcement problem in the place where the problem occurs, but a law enforcement problem involving the location of the trading platform, the place where the business is registered and so on. This requires the relevant law enforcement departments to cooperate with each other, cross-regional law enforcement, and jointly protect the legitimate rights and interests of food consumers in online catering services.

4. Problems existing in food safety supervision of internet catering services

4.1. Post-regulatory measures are not strict
When catering service providers set up online stores on the third-party platform of online catering service to carry out catering business, they do not need market access review. In order to seize market share, attract more catering service operators to settle in, relax the requirements of censorship, resulting in the use of expired food business licenses by individual online stores within the platform, and even the use of fake food business licenses. At present, there are fewer punishment cases, complicated punishment procedures and low fines in the implementation of the "Regulations on Supervision and Administration of Food Safety in Network Catering Services". The work of determining the subject of the case, investigating and collecting evidence is different from the traditional cases. Regulators dare not handle cases easily, resulting in a lack of daily supervision and low illegal costs for platforms and operators[6].

4.2. The third-party platform's management ability is not high
Third-party platform providers do not need to obtain the qualification of food operators. Current laws and regulations do not stipulate that they need to implement the main responsibility of food safety. Therefore, the platform only pays attention to the volume of transactions and does not care about food safety management. Managers and practitioners do not have the ability of food safety management, do not carry out food safety knowledge training, do not take food safety measures, do not improve the management of food safety loopholes, resulting in a variety of online catering service food safety problems emerge in an endless stream.

5. Countermeasures to improve food safety supervision of internet catering service

5.1. Perfecting food safety regulation laws and regulations of internet catering service
The law can be used both as a tool to protect legitimate rights and as a tool to regulate the relationship between different subjects. First of all, the special law should clarify which subject is used for food catering service food safety. The legal body of online shopping food quality and safety can be considered in the field of e-commerce. Second is the formulation of e-commerce laws. Considering the particularity of the network environment, different from the traditional food safety law, there should be clear provisions on the source of raw materials, entry threshold and circulation links of food, so as to gradually form an online food safety supervision law and regulation system with e-commerce as the main regulatory body and relevant laws and regulations effectively linking up.

5.2. Establishing industry management credit system
Establish archives for organizations and personnel involved in online catering operations such as third-party platforms and online catering operators, and implement real-name management. Establish a credit evaluation system for online ordering platform to promote industry self-discipline and improve the food safety level of the whole industry. For businesses suspected of illegal acts, concentration of consumer complaints or poor credit records, measures such as adjusting search rankings, temporarily or permanently stopping the provision of platform services can be taken. Publicizing the information of dishonest businessmen on the ordering platform, associating credit records with business license information and personal identity card information, even if the businessmen change the name of the store and reopen, the previous credit records can also be displayed in a prominent position, thus truly playing the role of credit supervision.
6. Conclusion
With the improvement of people's living quality, the health of food safety consumers will be more popular in the future, and the safety of online shopping food will attract more attention in the future. At the same time, with the advancement of computer science and technology, we have more reliable supervision methods. Therefore, at the regulatory level, it is necessary to use big data technology to accelerate the legislative process of online food safety supervision in accordance with existing food safety laws. Second, we must establish an industry management credit system, so as to improve the level of food safety supervision. Laws and regulations are the basis of regulating the network catering service market. Credit system is the prerequisite for the healthy development of the network catering service market. With the promulgation and implementation of the special legislation on food safety of online shopping, the standardization, scientificity and effectiveness of food safety supervision of online shopping will be significantly enhanced in the future, so as to ensure the health and safety of the people.

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