

The Development and Innovation of China's Industrial Economy under the Global Epidemic Situation—The Rise and Development of Fresh Food e-Commerce in China

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Abstract: CoVID-19 began to spread in China in early 2020. Despite the timely response of the Chinese government, which has taken a series of measures to prevent the further spread of coVID-19, including blockade, support and drug research and development, Chinese society has been greatly affected, especially the industrial economy. Many traditional industries, such as real estate, manufacturing, tourism and entertainment industries, have been almost shut down. Faced with the epidemic, innovative measures have to be taken to seek development. But at the same time, the epidemic has also brought opportunities for the rise and development of many emerging industries, fresh food e-commerce is a typical example. This paper describes the development of Chinese fresh food e-commerce, based on the SCP paradigm for fresh food before the outbreak of China electricity which has carried on the brief analysis of industrial organization, ranging from Chinese fresh food e-commerce have encountered difficulties, and discussed the development of the epidemic brought fresh food e-commerce business opportunities and the subsequent development trend was predicted, asa breakthrough point shows the development and innovation of China's industrial economy under the global epidemic situation.

1. The introduction

In early 2020, coVID-19 began to spread in China. Despite the timely response of the Chinese government, which has taken a series of measures to prevent the further spread of coVID-19, including blockade, support and drug research and development, The Chinese society has been greatly affected, especially the industrial economy. Many traditional industries, such as real estate, manufacturing, tourism and entertainment industries, have been almost shut down. Faced with the epidemic, innovative measures have to be taken to seek development. But at the same time, the epidemic has also brought opportunities for the rise and development of many emerging industries, fresh food e-commerce is a typical example.

Many scholars have studied the development of fresh foode-commerce in China. Over the past ten years, the development of fresh food e-commerce business has suffered twists and turns and gone through several development stages^[1](Wang Meiling, Yang Liuyang and Li Zhiqiang, 2019), faced with problems such as immature logistics and transportation^[2](Ou Xuan Yu, 2019) and serious product homogeneity^[3](Li Yaohua, Zhang Youqian and Tan Sheng, 2020) and other difficulties eventually lead to a relatively mature stage^[4](Yu Lu, 2019). But at the same time, Chinese fresh food e-commerce is still facing low market performance and perennial negative profits^[5](Peng Jin and Yang Jinxiu, 2019), etc.

Under the global epidemic, fresh food e-commerce suppliers in China, as a new industry, have a chance to rise and develop. This paper describes the development of Chinese fresh food e-commerce, based on the SCP paradigm of the development process of the former Chinese fresh food e-commerce of epidemic diseases which has carried on the brief analysis of industrial organization, ranging from Chinese fresh food e-commerce have encountered difficulties, and discussed the development of the epidemic brought fresh food e-commerce business opportunities and the subsequent development trend was predicted. Finally, take this as a breakthrough point shows the development and innovation

of Chinese industrial economy and its vitality and vigor under the global epidemic situation.

2. The Development Course of Fresh Food e-commerce in China

Since its emergence in 2006, Chinese fresh food e-commerce has gone through four development stages, namely incubation period, exploration period, development period and maturity period.

2.1 The incubation period

From 2006 to 2009 is the incubation period of Chinese fresh food e-commerce. In this stage, a platform for selling fresh products online initially appeared. The convenience and quickness of fresh food e-commerce make it quickly recognized in the first and second tier cities. For white-collar workers who are busy at work and have fixed working hours, the appearance of fresh food e-commerce saves them from the trouble of exhausting procurement after work. Therefore, fresh food e-commerce has been widely praised among this customer group and has accumulated a certain number of consumers. As the initial attempt of fresh food e-commerce is very successful, the number of enterprises participating in the fresh food e-commerce industry is gradually increasing, the number of online sales platforms is constantly increasing, and the scale of users is also constantly expanding.

2.2 The exploration period

From 2009 to 2012, it is the exploratory period of Fresh food e-commerce in China. The fresh food e-commerce industry has achieved great success in its early stage of development. Relying on the continuous upgrading of Internet technology and mobile intelligent terminal equipment, the industry has shown great business opportunities and vitality. During this period, Chinese Internet technology has achieved unprecedented development, and the concept of "online shopping" has gradually gained popularity. Meanwhile, the constant update of smart mobile terminal devices has also made online shopping very convenient. Many enterprises and platforms believe that this is a huge business opportunity. A large amount of capital is injected into this industry, making the market oversupplied. Meanwhile, due to the simple operation mode, it is difficult for enterprises to make profits, so many enterprises choose to quit.

2.3 The development period

From 2012 to 2018 is the development period of China's fresh food e-commerce. In 2012, "Zhu Orange entered Beijing" attracted the attention of the fresh food e-commerce. Zhu Orange sold 20 tons of Zhu Orange in just 5 days, which aroused hot discussion among the public. In 2013, the "Lychee war in the capital" made people know about the fresh food e-commerce platform "SF Preferred", and once again focused their eyes on the fresh food e-commerce industry. At this point, the fresh food e-commerce business once again entered everybody's vision, has been widely concerned by the consumer. At the same time, with the further development and progress of Internet technology, the fresh food e-commerce industry has begun to appear new business models, and a large number of e-commerce platforms have again poured into the fresh food e-commerce market, and differentiated competition in the market has begun to emerge.

2.4 The mature period

2018 to date is the mature period of Chinese fresh food e-commerce. With the accumulation of more than ten years of experience and the selection of the market, Chinese fresh food e-commerce has gradually entered a mature stage of development. In terms of platforms, "Jingdong Fresh", "Hema Fresh" and "Daily Youxian" have steadily occupied major market shares with their strong resources and financial support. In terms of consumers, the customer groups have been relatively solidify, and they are mostly concentrated in the middle and youth groups in the first and second-tier cities, so it is difficult to have new breakthroughs and changes. However, the coVID-19 outbreak in 2020 has brought new development opportunities and prospects to this relatively mature emerging industry. The user groups radiate from the first and second tier cities like the third and fourth tier cities, and many new enterprises and platforms also start to develop and enter, bringing fresh blood to this

industry.

3. Brief industrial organization analysis of Chinese fresh food e-commerce before the epidemic based on SCP paradigm

Among the many determinants of the market structure, the author will mainly select the three factors of industrial concentration, entry barriers and product differences to analyze the market structure of Chinese e-commerce suppliers before the epidemic. In terms of industrial concentration, before the outbreak of the epidemic, China's fresh food e-commerce enterprises were mainly showed an oligopoly trend, and their main market shares were divided by a few enterprises such as "Jingdong Fresh", "Hema Fresh" and "Daily Fresh", who occupied a considerable dominant position in all aspects of the market. In terms of entry barriers, fresh food e-commerce industry is different from ordinary e-commerce industry, which has high requirements for storage and transportation. Especially, the key technology of "cold chain transportation" has created entry barriers for many enterprises that want to enter this industry. In terms of product differentiation, the degree of product differentiation of fresh food e-commerce is relatively low, and the difference of its products is small. The focus of difference and competition is mainly reflected in product price.

3.1 Analysis on the market behavior of Fresh food e-commerce suppliers in China

In terms of market behavior, before the epidemic, the market behavior of fresh food e-commerce suppliers in China mainly included price behavior, merger and acquisition behavior and cooperation behavior. In terms of price behavior, before the outbreak of the epidemic, Chinese fresh food e-commerce users were mainly fixed users with low public acceptance, and fresh products were relatively differentiated. Therefore, in order to stand out from the competition, each enterprise often took the measures of lowering the price to seize the market share by reducing the price and promoting the sales. In terms of mergers and acquisitions, the fresh food e-commerce industry, due to the particularity of its products, has a great investment in warehousing and logistics. Mergers and acquisitions are conducive to the integration and utilization of market resources, and generally conducive to its development. In terms of cooperation behavior, before the outbreak of the epidemic, there were not many participating enterprises in the industry of fresh food e-commerce suppliers in China, so that there were far more partners than adversaries in the industry for each enterprise. Cooperation is a benign and mutually beneficial method often adopted by these enterprises.

3.2 The market performance analysis of Fresh food e-commerce suppliers in China

The market performance of fresh food e-commerce in China will be analyzed from the two aspects of overall industrial performance and overall profitability. From the perspective of the overall performance of the fresh food e-commerce industry in China, the offline consumption in the fresh food market before the epidemic still occupies an absolute dominant position. Although the proportion of online fresh food is increasing year by year, the increment is extremely weak, and it is still in an absolutely weak position in the fresh market, which is not well accepted by the public. However, from the perspective of the overall profitability of Chinese fresh food e-commerce, the whole industry is in a state of negative profit with losses. Only a few enterprises can make profits, and some enterprises are even in a state of huge losses, and the overall state is very bad.

3.3 Summary

To sum up, from the perspective of market structure, Chinese fresh food e-commerce enterprises before the epidemic have a high market concentration and fierce competition among industries. It is very difficult for new enterprises to enter this industry with high barriers to entry. From the perspective of market behavior, the enterprises of fresh food e-commerce suppliers in China tend to compete through price and generally adopt the strategy of low-price competition. In order to integrate the market resources, there are often mergers and acquisitions and cooperative behaviors among enterprises. From the perspective of market performance, the performance of fresh food e-commerce in China is low. On the whole, the proportion of fresh food e-commerce in the industry is small, and

the profit situation is not optimistic. The initial investment is large, but the profit is very difficult, and the development situation is not clear.

4. Dilemma of Fresh Food e-commerce in China

4.1 Serious product homogeneity

The product homogenization phenomenon of fresh food e-commerce is very serious. Chinese fresh food e-commerce business platform for the sale of goods for dairy products, such as fresh fruits and vegetables, fish, eggs and milk products, even if the difference, is only on the basis of the same material to do more marketing and packaging of the so-called "high-end products", does not have significant product differences, different platform and enterprise product content is roughly same, the difference is very small. As a result, consumers only consider the price factor when choosing platforms, which makes it easy to generate vicious price competition among platforms. At the same time, this also leads to the lack of loyalty of consumers to the platform and the low loyalty to the platform choice, which is not conducive to the development of the whole industry.

4.2 High cost of logistics and transportation technology

Because of the particularity of its products, fresh food e-commerce has high technical requirements for logistics and transportation. Most fresh goods are not easy to store and the freshness time is very short. However, if e-commerce wants to occupy a position in the whole fresh food market, it is the freshness of goods must be guaranteed. This leads to the logistics and transportation of fresh goods, which requires much higher technical requirements than the general category of e-commerce products. At present, the "cold chain logistics" that we most often refer to is a very effective technology for the transportation of fresh products. However, the initial input cost of this technology is extremely high, which leads to many companies that want to join this industry are faced with great technical barriers, and for enterprises in the industry, this technology makes their costs extremely high, so that they cannot take advantage of the price, and finally a vicious circle is formed.

4.3 Warehouse storage is difficult

Like logistics and transportation technology, fresh products have high storage requirements for warehouses. For storage, too much storage will lead to direct loss of fresh products, while too little storage will lead to excessive average cost. Fresh products mostly require cold storage away from light, and different products have different temperature requirements, which makes the cost and difficulty of storing fresh products very high. The direct impact of the high difficulty of warehouse storage is the increase of enterprise cost input, which will be directly reflected in the product price, which will make the price advantage of offline commodities very obvious, thus reducing the number of consumers and direct loss of inventory again. In the long run, this will do harm to the development of the whole industry.

4.4 Lack of consumption concept

The shopping concept of fresh food e-commerce has not yet been popularized in the whole public life. In third and fourth tier cities, people know little about the concept of fresh food e-commerce. In traditional Chinese families, the purchase of fresh products is mainly carried out by the elderly, who usually cannot keep up with the trend of the society and are not skilled and accustomed to the use of the Internet and mobile intelligent terminal devices. At the same time, in third tier and fourth tier cities, there is usually no direct fresh storage point, and it takes 1-2 days for logistics transportation. Such a time difference is often contradictory with people's fresh purchase demand, so people will doubt the freshness of online fresh products and choose more rapid offline purchase methods.

5. The Development Opportunities of Fresh Food e-commerce in China under the Impact of the Epidemic

5.1 Change of consumer concept

At the beginning of 2020, the coVID-19 broke out, and the Chinese government adopted a certain policy of blockade to all regions in order to prevent and block the further spread of the epidemic. Meanwhile, in order to reduce the possibility of infection, most people choose to stay at home and refuse to go out, while the catering industry is almost closed. In the case of contradiction between people's purchase demand and the actual situation, "fresh food e-commerce" this industry into people's eyes. Most people choose to order fresh food door-to-door instead of going out to buy vegetables. Meanwhile, large and medium-sized supermarkets in various provinces and regions have opened their own online purchasing channels. For a time, both the number of enterprises and the number of consumers are greatly increased. As a result, people feel the convenience of online fresh food, consumption concept has changed.

5.2 The formation of consumption habits

Due to the online purchasing channels opened by many supermarkets and the impact of the epidemic, people chose to buy fresh products through online shopping for a long time, which greatly promoted the development of fresh food e-commerce in China. On the other hand, in the months affected by the epidemic, many residents have felt the convenience and freshness of purchasing fresh products online, and have formed the consumption habit of purchasing fresh products online. This allowed a large proportion of consumers to remain even after the outbreak ended, and gradually established a sense of dependence with the fresh food e-commerce suppliers. This is a good development and opportunity for Chinese fresh food e-commerce, and provides a possibility for the further development of fresh food e-commerce in the future.

5.3 Increased technical capital investment

After the outbreak of the epidemic, as people's travel was restricted, almost all their daily needs came from online shopping, which raised the requirements for logistics technology. There are two main aspects to increase the investment in technical capital. One is that due to the impact of the epidemic, many products that do not need logistics transportation have to be purchased in this way, which raises the requirements of logistics companies themselves, and logistics companies will increase the investment in technical capital. On the other hand, the epidemic has increased the number of fresh food e-commerce consumers. Many enterprises have observed such a business opportunity and are willing to invest in logistics, warehousing and other aspects in order to enter the industry. These two factors increase the investment of technology capital in the whole industry, which is conducive to the development of fresh food e-commerce suppliers in China.

5.4 Supply partners proliferated

The epidemic has brought the industry of fresh food e-commerce, which was not mainstream at first, into the public business. The acceptance of online fresh food purchasing by consumers has also made many people see the business opportunities. Therefore, many enterprises and capital began to try to enter this industry. At the same time, the number of supply partners docking online shopping platform also increased significantly. The increase in the number of supply partners increases the richness and differentiation of fresh food e-commerce products, and the increase in supply points also reduces the difficulty of warehousing and logistics, enabling fresh food e-commerce companies to radiate and influence from first and second tier cities to third and fourth tier cities. All these have created extremely favorable conditions for the development and popularization of fresh food e-commerce business in China.

6. The Development Trend of Fresh Food e-commerce in China in the Post-Epidemic Era

6.1 Community operation mode

If fresh food e-commerce wants to get long-term and effective development, it must be able to solve quick and fresh problems. These two problems have been well solved in the first tier and second tier cities. Users Usually can receive the goods they have bought within an hour after placing an order, and make an appointment for the time, service and humanization. With the development of fresh food e-commerce suppliers to third tier and fourth tier cities, or even townships and towns, if they want to continue to meet the requirements of such convenience and freshness, they can only further increase the logistics input by building warehouses in Guangzhou or carry out community-based operation. The input cost of the former is obviously huge, and it is also unbearable for ordinary enterprises. Therefore, the community-based operation mode will definitely become the mainstream of the development of fresh food e-commerce in the future.

6.2 The market scale shall be further expanded

With the advantages given to the fresh food e-commerce industry by the epidemic, the number of consumers of fresh food e-commerce has increased exponentially. At the same time, with the display of the advantages of fresh food e-commerce and the increase of the number of consumers, the number of enterprises in this industry also has increased. In the case of a surge in the number of enterprises and the number of consumers, the market size of Chinese fresh food e-commerce will be further expanded. In terms of regional radiation, it will gradually spread from first and second tier developed cities to third and fourth tier underdeveloped cities. In terms of consumer group, it will change from the original young group to the diversified group, and the number of consumers will further expand. Therefore, in the post-epidemic era, the market size of Chinese fresh food e-commerce will be further expanded.

6.3 Warehouse management shall be further strengthened

With the further expansion of the scale of Chinese fresh food e-commerce market, the market and consumers' requirements for warehouse storage will be further improved. To seize the hard-won development opportunities and possibilities in the post-epidemic era, fresh food e-commerce companies must make progress in all aspects and make their indicators meet the requirements of the market and consumers. The first one is the management ability of warehouse storage, which will affect the most important "fresh" quality for fresh food e-commerce. The further strengthening of warehouse management capacity is to retain consumers accumulated through the epidemic, enhance consumer stickiness, and finally achieve the goal of further development.

6.4 Further establishment of market barriers

Chinese fresh food e-commerce originally had relatively strict entry barriers, but due to the overall development degree and radiation scope of Chinese fresh foode-commerce suppliers did not reach full prosperity, so during the epidemic period, many enterprises entered the fresh food e-commerce suppliers industry by virtue of capital and geographical advantages. However, with the further increase of enterprises, more abundant funds in the industry, more complete market segmentation, more stable technical support, the quantity of hardware such as storage gradually reaches saturation state, and the overall resource allocation in the industry gradually starts to tend to balance, the market barriers will be further strengthened. Both entry and exit barriers will be better established and the industry will become more mature.

6.5 The auditing mechanism tends to be strict

With the gradual development of fresh food e-commerce in China, the number of enterprises is gradually increasing, the scale of consumers is constantly expanding, the industrial influence and radiation scope are constantly spreading, and the whole industry is gradually becoming mature. In this process, it is inevitable to improve the industry audit standard. Within the industry, complete and

reasonable industry standards shall be formulated, internal reward and punishment institutions and measures shall be established, and representative industry associations with public credibility shall be developed for restriction. At the national level, relevant laws and regulations should be formulated to make clear and complete legal constraints on all possible or existing problems and ensure the healthy and orderly development and growth of fresh food e-commerce by compulsory legal means. The gradual strictness of the audit mechanism is a necessary step for each industry in the process of becoming complete and mature. Only in this way can the industry get reasonable and healthy long-term development.

7. Conclusion

The epidemic has restricted many industries in China, and they have to take innovative measures to seek development in the face of the epidemic. At the same time, the epidemic has also brought opportunities for the rise and development of many emerging industries. The fresh food e-commerce discussed in this article is just one example. Many other industries in China have ushered in new opportunities through development and innovation in this epidemic. Under the impact of the global epidemic, Chinese industries have not given up, but continue to improve and develop themselves, and continue to pursue the development and innovation of industrial economy under the epidemic. I hope the aftermath of the epidemic will be over as soon as possible and China's industrial economy will show greater vitality after experiencing such a baptism.

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