Analysis of the Impact of COVID-19 on the Current Farmer's Market Business Model and Research on its Transformation in Smoke-Free Environment

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Objectives: The ban on smoking creates a good smoke-free environment for the traditional farmer's market. However,the suddenly spread COVID-19 has greatly impacted the business model of the traditional smoke-free farmer's market.Methods: In order to realize the effective transformation of the current farmer's market, this paper uses the business model canvas of Osterwalder and Pigneur to compare and analyze the traditional smoke-free farmer's market and the smart farmer's market. Results:The study found that the new business model promoted by "Smart Farmer" can effectively solve the difficulties and problems faced by the current farmer's market. Conclusions:On the basis of this research, this paper puts forward the main direction of the future transformation of the farmer's market business model, in order to provide a theoretical and practical basis for the intellectualized reconstruction of farmer's market in China.

Key words: smoke-free environment;COVID-19; Business Model; Farmer's Market
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THEBACKGROUNDOFTHE COVID-19

As a semi-closed farmer's market, smoking ban has effectively reduced the virus caused by smoke and dust, and the promotion of smoke-free has created a good business environment for the farmer's market[1,2]. However, the arrival of COVID-19 broke the original benign pattern.

At the end of 2019, a new type of pneumonia caused by COVID-19 broke out in one agricultural and seafood market in Wuhan, Hubei Province. By the beginning of 2020, COVID-19 quickly spread to the whole country and even the whole world[3,4]. Although studies have shown that the seafood market is not the birthplace of COVID-19, it has spread rapidly in the market and has had a serious impact on the country's production, logistics, consumption and operations. At

present, as an important part of the modern urban economy, the farmer's market is the main place for urban and rural residents to supply "vegetable baskets" of commodities, which has strong social and public welfare. However, with the invasion of COVID-19, the problems of the traditional farmer's market are undoubtedly revealed, such as the lack of waste sorting and processing capabilities, weak operation and control capabilities, and poor ability to handle emergencies. At the same time, people's demands for consumption quality and safety continue to increase, it is imperative to reform the business model of the farmers' market[5,6].

The term business model can be traced back to the ancient barter era, but its real birth is accompanied by the emergence of enterprises. The purpose of business operation is to generate profits through production and sales, which ultimately realizes the value added of the enterprise[7,8]. The process of this value's realization is the business model, which means that the business model exists simultaneously with the enterprise. Subsequently, the concept of business model was mentioned in an article published by Bellman and Clark in Operation Research in 1957 and an article published by Jones in The Accounting Review in 1960[9]. However, it was not until the end of the 1990s, with the rise and development of the Internet, that the logic of corporate income was disruptively changed, and a large number of scholars did in-depth research on what is a business model. Although a unified concept of business model has not yet been formed, the connotation that the business model is the logic of corporate value creation has been widely accepted by scholars. At the same time, academia and industry generally accept Osterwarld's nine-element model when analyzing business models. In 2011, Osterwalder and Yves Pigneur published "New Generation of Business Models", which put forward the "business model canvas tool", which further expanded the practicality of the nine elements[10].

In summary, this article will use relevant cases, combined with business model canvas theory, to discuss the traditional farmer's market and the smart farmer's market in categories. First, to discuss the business model of the traditional farmer's market; secondly, to analyze the possible impact and transformation of the current farmer's market business model in response to the intrusion of COVID-19; finally, to put forward proper opinions and suggestions on the construction of the future farmer's market business model.

ANALYSIS OF BUSINESS MODEL OF SMOKE-FREE TRADITIONAL FARMER'S MARKET

The farmer's market was originally called a commercial bazaar, and it was an open business model. However, with the continuous development of society, the farmer's market has moved from the open operation of "road stalls" to "steel greenhouses" and then to "regional wholesale". The semi-open operation of the "market" reflects the changes in daily life in urban and rural areas and the development of market culture. The business environment has also been purified from the initial mess to a smoke-free environment.

The changes of the times and the development of cities make continuous decline of old things and emergence of new things. With the continuous changes in people's consumption demand, the business model of the farmer's market has also changed. The traditional farmer's market generally contains two links: wholesale and retail. This paper will use Osterwalder's nine-element model to analyze the traditional farmer's wholesale market and the vegetable market. Due to the limitation of not being able to go out for research during the epidemic, the research cases selected in this article are all from Jingzhou, Hubei Province. The Lianghulvgu Agricultural Product Trading and Logistics Center is used as the representative case of agricultural wholesale; the Xinsheng Market on Hangkong Road is the representative case of the farmer's market. There reasons are as follows: Firstly, the author lives in Jingzhou at present, who can obtain more first-hand information about the surrounding market from different channels; secondly, most of the author's personnel relationship network is in Jingzhou, which further improves the availability of data; thirdly, Jingzhou acts as an important agricultural city, its farmer's market has a certain degree of representativeness, whose conclusion could be suitable in many other cities.

Lianghulvgu Agricultural Product Trading and Logistics Center (hereinafter referred to as Lianghu market), is established by Lianghulvgu Logistics Company Limited, which is a designated agricultural product wholesale market by the Ministry of Agriculture. Lianghu Market covers an area of 533,333 square meters, with a total investment of 800 million yuan and a construction area of 400,000 square meters. The market was put into operation in 2008, covering supporting services in vegetables, fruits, dried foods, grains and oils, cold storage, non-staple food, warehousing and logistics inspection and testing, electronic settlement, comprehensive services, and e-commerce. The market has played an important role in commercialization, specialization and scale production of agricultural production, forming a large circulation pattern of agricultural products, promoting the adjustment of agricultural structure, increasing production and income, and ensuring the supply of "vegetable basket" and "rice bag" for urban residents. It has become the hub of the national agricultural product circulation system, the key node to promote the connection of production and marketing, and the effective carrier to ensure the food supply of urban residents. By 2019, the scope of sale in agricultural products will cover more than 400 counties in 28 cities across the country. Market transaction volume and transaction value have maintained a growth rate of over 9% for three consecutive years. In 2019, the transaction volume and transaction value exceeded 8.6 million tons and 52 billion yuan respectively, ranking in the forefront of the national agricultural product wholesale market.

As an entity wholesale enterprise, the Lianghu Market provides platform support for the production and marketing of agricultural products on the basis of ensuring the basic living conditions of urban residents. The following is a detailed analysis of the business model of the Lianghu markets (see Figure 1):

Value Proposition（VP）: The value proposition of the Lianghu market is to provide retailers with affordable prices and diversified agricultural products. The market attaches great importance to the regional division of products, so that customers of different categories can find the product information they need in a short time, and merchants of different categories can carry out targeted operations.

Client Subdivision (CS): The target customers of the Lianghu Market are supermarkets, vegetable markets and various retailers. At present, there are serious problems such as slow sales of products on the supply side and rising prices of sales terminals. As a supply and marketing platform, the wholesale farmer's market has effectively realized the docking of production and sales.

Customer Relations (CR) : The customer relationship in Lianghu market is established on the basis of the private services of offline entities, and private services are provided to customers who wish to obtain consulting assistance.

Distribution Channels (DC): The distribution channels in the Lianghu markets mainly adopt offline and online operations. The offline method mainly connects enterprises, self-employed individuals, and a small number of retail consumers; the online method mainly uses China Green Valley, which was launched in 2013, to create a brand-new B2B transaction model. This online mode is still in the process of continuous exploration.

Key Resources（KR）: In order to support the huge trading volume and warehousing volume, the Lianghu markets have built huge "logistics distribution centers". The market has a storage area of 80,000 square meters and a professional warehousing logistics management team to provide merchants with nearby safe and convenient services and meet the warehousing needs of all kinds of goods.

Key Partner (KP): The partners in the Lianghu markets are all over the country. In 2019, the transaction volume and transaction value exceeded 8.6 million tons and 52 billion yuan respectively, ranking the forefront of the national agricultural product wholesale market.

Key Business (KB): The Lianghu Market has a cold storage capacity of 10,000 tons, a labor service team of 1,000 people, hundreds of trunk logistics vehicles, and several financial service institutions and express companies, which effectively guarantees the effective operation of the agricultural batch market.

Source of Revenue (R$): The income sources of the Lianghu market mainly come from rents, entry fees, management fees and parking fees. In terms of rent:

the vegetable market charges 50-60 yuan per square meter, the fruit market charges 60-70 yuan per square meter, and the dry goods market charges 50 yuan per square meter; the entry fee: the vegetable market charges 60 yuan per ton, the fruit market charges 63 yuan per ton; management fees: 100 yuan per day for temporary rental of greenhouses for foreign vehicles; parking fees: 50 to 100 yuan per vehicle for trucks of different sizes.

Cost Structure (C$): The main cost of the Lianghu market comes from personnel management salary expenses, site management fees and so on.

As the back-end industrial chain of the wholesale market, the vegetable market is more closely connected with first-line consumers, directly guaranteeing the supply of the "vegetable basket" for urban and rural residents, and has a strong social and public welfare nature. Hangkong Road Xinsheng Market (also known as "Hangkong Road Vegetable Market") belongs to JingzhouXinsheng Market Service Company Limited. The market mainly operates bazaar services, and provides convenience services for surrounding community residents, shops, hospitals and other groups.The following will conduct a detailed analysis of the business model of this market (see Figure 2):

Table 1

Canvas of the business model of the Lianghu market

<table>
<tr><td rowspan="2">KP：
Partners have suppliers and sales terminals all over the country</td><td>KB：Provide a reliable sales platform for all kinds of business merchants</td><td rowspan="2">VP：
Provide retailers with diversified agricultural products at affordable prices</td><td>CR：Private services of offline entities</td><td rowspan="2">CS：
Supermarkets, vegetable markets and various retailers</td></tr>
<tr><td>KR：Huge "logistics distribution center"</td><td>DC：The main method is offline entities, combined with a small number of online platforms</td></tr>
<tr><td colspan="2">C$：Rent, entrance fee, management fee, parking fee, etc.</td><td colspan="3">R$：Staff management salary expenses, site management expenses</td></tr>
</table>

As the back-end industrial chain of the wholesale market, the vegetable market is more closely connected with first-line consumers, directly guaranteeing the supply of the "vegetable basket" for urban and rural residents, and has a strong social and public welfare nature. Hangkong Road Xinsheng Market (also known as "Hangkong Road Vegetable Market") belongs to JingzhouXinsheng Market Service Company Limited. The market mainly operates bazaar services, and provides convenience services for surrounding community residents, shops, hospitals and other groups.The following will conduct a detailed analysis of the business model of this market (see Figure 2):

Value Proposition (VP): The value proposition of this market is mainly based on convenient locations, affordable prices and diversified supply of agricultural products to cater to the needs of surrounding customers for products. As a government project, the vegetable market has a prescribed radiation range, generally a radius of five kilometers, to ensure the demand for fresh agricultural products by urban residents.

Client Subdivision (CS): The main target customers of this vegetable market are surrounding residents, shops and Jingzhou First People's Hospital.

Customer Relations（CR）: The customer relationship in this market is established on the basis of the private services of offline entities, and private services are provided to customers who wish to obtain consulting assistance. Mainly reflected in the communication and coordination between a single vendor and ordinary consumers.

Distribution Channels (DC): The sales channel in this market is mainly the traditional face-to-face sales method. At present, a small number of customers often use WeChat orders and follow-up delivery methods.

Key Resources (KR): The core resources of this market are the convenient location and the supply of fresh agricultural products. The Hangkong Road vegetable market occupies the core business circle of Jingzhou City, with many surrounding residents, and there is a large demand for products.

Key Partner (KP): The important partners of this market are the agricultural product wholesale market and agricultural product producers. A large part of the supply of agricultural products in the Hangkong Road Vegetable Market comes from the Lianghu Market, and a part comes from the supply of agricultural products by ordinary farmers.

Key Business (KB): Various markets are distributed regionally, and the stalls in each market are effectively managed. The Hangkong Road vegetable market is divided into a raw vegetable area, a poultry area, a meat area and a dry goods area, which provides convenience for target customers to find products and manage the market's stalls.

Source of Revenue (R$): The income sources of the vegetable market mainly come from rent, management fees, etc.

Cost Structure (C$): The cost of the vegetable market mainly comes from market maintenance, personnel salaries, etc

Table 2

Canvas of the business model of the Hangkong Road vegetable market

<table>
<tr><td rowspan="2">KP：
Agricultural wholesale market and Producers of agricultural products</td><td>KB：Regional distribution, effective management of stalls in each market</td><td rowspan="2">VP：Provide diversified agricultural products at affordable prices for surrounding customers in convenient locations</td><td>CR：
Private services of offline entities</td><td rowspan="2">CS：
Residents in surrounding towns</td></tr>
<tr><td>KR：Convenient location and supply of fresh produce</td><td>DC：Face-to-face sales</td></tr>
<tr><td colspan="2">C$：Rent, management fee</td><td colspan="2">R$：Market maintenance, staff salary</td></tr>
</table>

Based on the above analysis, whether it is a wholesale farmer's market or a retail market, the traditional business model is adopted. This type of operation has been the main form of guaranteeing the supply of residents' "vegetable baskets" in the past and up to now. However, with the outbreak of COVID-19, the business model of the traditional farmer's market cannot adapt to the needs of the current market, so there is an urgent need to transform and upgrade the traditional business model. The following will focus on the impact and transformation of COVID-19 on the business model of the traditional farmer’s market.

THE IMPACT AND TRANSFORMATION OF THE CURRENT SMOKE-FREE FARMER'S MARKET BUSINESS MODEL

The impact of the current smoke-free farmers' market business model

Before the outbreak of COVID-19, the traditional smoke-free farmer's market provided many conveniences for people's lives, and it was the main place for people to demand and supply fresh agricultural products for a long period of time. The traditional farmer's market has relatively poor sanitary conditions, difficulty in market operations, and inability to monitor food safety. The farmer's market, which has poor hardware and software facilities and lacks standardized management, is increasingly unable to meet people's needs for quality and safety of consumption, and it is imperative to transform the business model of the farmer's market. As a result, there are star-rated farmers' markets, chain-branded farmers' markets, agricultural plus super-model farmers' markets, and supermarket-based farmers' markets. However, the promotion process of the new farmer's market is not so smooth, such as the emergence of financial problems, management problems, and information transformation issues, resulting in a low proportion of the promotion of the new farmer's market.

After the outbreak of COVID-19, the problems faced by the traditional farmer's market have reappeared. At the same time, the traditional face-to-face offline operation method cannot adapt to the production and life during the current epidemic. Therefore, the business model of the farmer's market is imperative and urgent. In this paper, Osterwalder et al. proposed a new generation of business model theory, and used the business model canvas analysis method to analyze the changes in the business model of the farmer's market. The impact on the business model of the traditional farmer's market shows changes of main characteristics in three parts: customer relationship, key business and source of income, the other factors have not changed significantly.

Customer Relations (CR): Traditional farmers market provides only a simple field buyer-seller relationship. However, with the emergence of COVID-19, Wuhan, a farmers market demonstrated the safety, health and other issues more and more attention. Thus, in order to solve this series of problems, and maintain its good customer relations, we should vigorously promote agricultural wisdom, and product origin can be traced back, for our target customers present an open and transparent market.

Key Business (KB): Regardless of whether it is a wholesale market or a retail market, the key business of the traditional farmer's market is to provide effective business premises for target customers to ensure effective offline operations. However, with the incursion of COVID-19, the offline market was completely closed, causing a large number of online platforms to emerge in a short period of time. Online platforms have the irreplaceable advantages of offline exchanges, such as reducing large-scale personnel gathering, expanding the scope of transactions, more comprehensive understanding of product information, and open and transparent product transactions.

Source of Revenue (R$): The income sources of the traditional farmer's market mainly come from fixed rents and management fees. This operation method effectively protects the income of the farmer's market. However, this method is not sufficiently motivated and cannot effectively respond to changes in the external environment. For example, due to the outbreak of the COVID-19, a large number of farmer's markets are closed for operation. If traditional fixed collection methods are adopted, it will inevitably increase the difficulties for market operators. However, in order to protect the interests of the farmer's market and reduce the pressure on market operators, the income model should be changed to a transaction commission system, that is, the more transactions, the more rents.

The transformation of the business model of the smoke-free farmer's market——smart farmer

Based on the above analysis, the arrival of COVID-19 has impacted the traditional farmer's market and accelerated the formation of a modern smart farmer's market. Throughout the

promotion process of the national smart farmer's market, it was found that the smart farmer's market operated by Sinxin Information Technology was relatively successful. Therefore, the following will use Sinxin Information Technology as a typical case to analyze its internal business model operation using the nine-element model, and provide the future for the smart farmer's market. Promotion provides strong theoretical and practical support.

"Sinxin Information Technology" is a comprehensive service platform for agricultural product circulation big data under Shenzhen Shenxin Information TechnologyCompany Limited. In the process of promoting the circulation of agricultural products on the Internet, it bears the mission of upgrading the Internet + traditional agricultural trade innovation model. Agricultural product service platform of Sinxin Information Technology, which provides efficient agricultural products trading and food safety solutions for the agricultural market, reduces intermediate circulation links, reduces operating costs, promotes farmers' income, and solves food safety issues. The smart farmer's solution promoted by "Sinxin Information Technology" is mainly to implement the traditional farmer's market transformation Internet + smart vegetable market. Markets that are successfully transformed include Daomaoxiang Market in Hangzhou, TianhongFumin Market in Tianjin, and Longsheng Market in Guilin, Guangxi, etc. The successful transformation of these types of markets through the "Sinxin Information Technology" service platform all have similar business models. The following nine-factor analysis methods will be used to discuss their successful business models in depth, which will be conducive to the promotion of smart farming in the future.（see figure 3）

Value Proposition (VP): To provide consumers with a standard, intelligent, convenient, efficient, and modern characteristic farmer's market. Strive to incorporate new elements such as fashion, culture, creativity, characteristics, and brands, integrate tourism, leisure, shopping, catering and other industries, innovate business formats, and transform the farmer's market from a traditional agricultural product shopping place to a modern consumer service platform, thereby enhancing business service capabilities and food safety environment. Make the farmers' market a window of the city and a window of culture.

Client Subdivision (CS): Smart Farmer's target customers are "post-80s" and "post-90s" consumer groups, hoping to provide them with the ultimate consumer experience. As "millennials", they have gradually become the main force of consumption. They pay more attention to lifestyle and shopping experience, and they cannot win their hearts only by relying on products. Smart Farmers adopt the "Internet +" model, paying more attention to safety and health, as well as interaction and experience. The farmer's market is greatly integrated into culture, creativity, brand and other elements, providing scene-based consumption, and creating a different smart farmer's market.

Customer Relations (CR): As a platform for the supply and marketing of agricultural products promoted by the Internet, the smart farmer's market needs to handle the relationship between government departments, market managers, vegetable vendors, and consumers. With government departments, it is necessary to provide fair transactions, electronic licenses, price supervision, and the food supply and the marketing ledger; with market management, it is necessary to establish food safety management responsibilities, improve services, and increase revenue channels; With vegetable vendors, it is necessary to realize convenient and fast transaction flow, and reduce the risk of counterfeit currency, residual currency and finding wrong money; With consumers, it is necessary to realize a convenient payment method and obtain traceability information by scanning the QR code of the small ticket.

Distribution Channels (DC): In the future, Smart Farmers will mainly adopt online operations, learn about relevant product information through the Internet and big data, and adopt online orders.

Key Resources (KR): Use Internet technology to build a smart platform. In the process of promoting the smart farmer's market, scientific and technological means are used to collect transaction data, and through the "one cloud, multi-terminal" smart system, the farmer's market management, service and supervision information network, work standardization, and modern management network platform are

realized. Relying on traceable electronic scales, the smart farmer's market realizes weighing cash register, data collection, product traceability and scan code payment. It is connected with the smart farmer's management system to achieve comprehensive collection of market transaction data, forming a central database of urban vegetable markets, and using the data sharing, statistics, analysis, and uploading provide a basis for urban management decision-making, ensuring urban food supply, ensuring food safety, and stabilizing and stabilizing food prices.

Key Partner (KP): The important cooperation of intelligent farmers' market is mainly to connect the two ends of supply and marketing. On the supply side, contact with agricultural producers of agricultural products to ensure the quality of agricultural products supply channels; on the marketing side, with supermarkets, vegetable markets and other terminal retail links that high-quality and high-quality agricultural products can reach the required consumers.

Key Business (KB): Based on the above analysis of core resources, it can be seen that the smart farmer's market has established an efficient supply chain system using powerful Internet technology, effectively realizing online and offline integrated operations. In terms of supply chain construction, thoroughly open up "logistics, capital flow, and information flow" to achieve the full traceability of food safety. In terms of integrated online and offline operations, offline transactions are mainly used for online promotion, which effectively guarantees the smooth flow of products from the source to the sales link.

Source of Revenue (R$): At present, many smart farmers' markets still adopt the income model of "rent + commission + management fee", which adopts an income method that fluctuates with the increase or decrease of income. With the application of new technologies such as the Internet, cloud computing, and big data, the farmer's market can charge corresponding fees in accordance with the dynamics of the market. The invasion of COVID-19 has caused a large number of farmer's markets to fail to operate normally, and the fixed collection of corresponding fees will inevitably cause some pressure. The dynamic income method can enable the market to obtain a good operating environment.

Cost Structure (C$): The cost of the smart farmer's market mainly includes infrastructure construction costs, platform operating costs, and labor costs. Currently, the most important cost mainly lies in platform operations. At present, the smart farmer's market mainly promotes smart information services, and mainly adopts new technologies such as the Internet, cloud computing, and big data to establish a smart information platform. Therefore, the current cost application is mainly reflected in the construction of market intelligence systems.

Table 3

Canvas of the smart farmer's business model

<table>
<tr><td rowspan="2">KP：
Connect supply and sales</td><td>KB：Establish an efficient supply chain system to achieve integrated online and offline operations</td><td rowspan="2">VP：Provide a standard, intelligent, convenient, high-performance, and modern characteristic farmer's market</td><td>CR：Establish relationships between government departments, market managers, vegetable vendors, and consumers</td><td rowspan="2">CS：
The younger generation of consumer groups such as "post-80s" and "post-90s"</td></tr>
<tr><td>KR：Internet technology builds a smart platform</td><td>DC：Online marketing</td></tr>
<tr><td colspan="2">C$：
"Rent + Commission + Management Fee"</td><td colspan="3">R$：Infrastructure construction costs, platform operating costs, labor costs, etc.</td></tr>
</table>

In summary, the smart farmer's market after upgrading the traditional farmer's market has brought great convenience to our lives. Under the mutual promotion of national policies and market demand, the construction of smart farmer's market has also begun to be fully promoted. The smart farmer's market fully embodies the real-time, open, and transparent information, which brings convenience to the market and relevant functional departments for market management and supervision, and at the same time brings a new kind of consumption to end consumers Experience.

CONLUSION AND OUTLOOK

The farmer's market in a smoke-free environment provides people with basic means of living. However, from the "SARS" in 2003 to the "COVID-19" in 2019, the catastrophe caused by wild animals repeated 17 years later. During this period, my country has been advancing on the road of rectifying and regulating the farmer's market. After the test of the epidemic, it shows that the intelligentization process of the farmer's market is still too slow. In order to prevent the tragedy from repeating again, the "vegetable basket" project of the intelligent transformation of the farmer's market should be placed in an important position to improve people's livelihood.

Based on the above analysis, the outbreak of COVID-19 has promoted the transformation of the business model of the smoke-free farmer's market. The following will summarize and analyze the business activities of the farmer's market and the new trends that will be formed in the future business model. Finally, it puts forward corresponding countermeasures and suggestions for the farmer's market under the impact of the current epidemic, providing a theoretical and practical basis for the intelligent transformation of the farmer's market in the future.

The impact of COVID-19 on smoke-free farmer's market operations

1.The restrictions on the movement of people have caused the farmers' market to fail to operate normally and the market transaction volume has decreased. The Chinese New Year is an important time for people to visit relatives and friends, have dinner parties, and are also the hottest moments in major farmer's markets. However, the outbreak of COVID-19 coincided with the Chinese New Year, restricting the movement of

people, causing major farmers' market entities to be unable to operate normally; the city closure announcements in various regions led to a decrease in the trading volume of farmers' markets.

2.Affected by uncertain factors such as traffic control and purchase channels, the risk of agricultural product price fluctuations has increased. During the COVID-19, the prices of most agricultural products showed a phenomenon of "decreasing production areas and increasing sales areas". Constrained by factors such as poor traffic, shortage of manpower, and difficulty in dispatching transportation vehicles, the market prices of agricultural products are sluggish. According to relevant investigations, unsalable agricultural products occurred in Shandong, Anhui, Hainan and other places where the epidemic was lighter, while in Hubei, where the epidemic was severe, there was a significant increase in agricultural product prices.

3.E-commerce has become the current marketing force. During COVID-19, due to poor channels, production and sales could not proceed smoothly. At this time, online transactions played an important role in the period. According to relevant investigations, it is found that the online ordering method with various small programs has become the main form of current transactions. Among them, the WeChat direct sales market, which has a fixed customer base, has the highest acceptance. At the same time, many consumers have been "electrically shocked" after the outbreak of COVID-19, and supermarket distribution and e-commerce fresh food sales have increased significantly. After the COVID-19, the convenience, speed, and safety brought by online shopping will continue to affect or change the way people consume in the future.

New trends in the formation of the business model of the smoke-free farmer's market under the influence of COVID-19

1.Realize the digitalization of farmer's market operation and management. Use the Internet, cloud computing, big data and other technical means to establish a smart farmer's market, and then realize that the transaction data can be checked and recorded.Through the smart information platform, consumers can comprehensively browse the menu information at a glance, and at the same time can make purchases according to their needs, which is convenient and fast; at the same time, the entire market information is open and transparent, and farmers can adjust prices based on market changes to maximize their benefits.

2.Strengthen supply chain management and realize the visualization of food safety traceability supervision. The traditional farmer's market adopts a "separate governance" approach, while the smart farmer's market uses its own integration advantages to establish an exclusive supply chain in the market industry, thoroughly open up "logistics, capital flow, and information flow", and then realize comprehensive monitoring. At the same time, we will vigorously implement the information transformation of the farmer's market and the industrial chain, and effectively realize that every link from sales to dinner table, breeding, processing, and sales can be traced and verified, and food safety can be guaranteed to the maximum extent in terms of procedures. At the same time, we will vigorously implement the information transformation of the farmer's market and the industrial chain, and effectively realize that every link from sales to the table can be traced and verified, and food safety can be guaranteed to the maximum extent in terms of procedures.

3.Open up online and offline business channels to realize comprehensive intelligent interaction. From the perspective of online development, actively develop online transactions and logistics breeding, with freshness, speed, convenience, and safety as the main goals, combined with e-commerce and distribution platforms, to establish direct supply direct sales, online ordering, chain distribution and other models; From the perspective of offline transactions, in order to meet the shopping needs of different consumers, offline operations will still be the main way of transactions for a period of time.

With the innovative application of modern technologies such as the Internet, cloud computing, and big data, the smart farmer's market established with smart management systems, smart logistics, and O2O e-commerce platforms will be a new trend in the formation of future farmer's market business models.

Countermeasures and suggestions to deal with the current impact of COVID-19

1.Vigorously promote Internet operations to ensure timely and orderly supply of materials. At present, due to the impact of COVID-19, a large number of farmer's markets are closed. In order to ensure an orderly supply of basic agricultural products, the Internet has played an important role in it. Internet operation effectively isolates face-to-face communication between people and avoids the possibility of virus transmission. At the same time, the Internet platform provides online trading venues for both supply and demand parties, effectively ensuring the orderly supply of various materials during COVID-19.

2.Actively coordinate supply and sales channels to ensure the smooth flow of agricultural products. The first is to implement a linkage mechanism between commerce, development and reform, market supervision and other departments to coordinate market supply and demand, and promote the rapid and orderly circulation of basic agricultural products; the second is to coordinate the supply of agricultural products and materials from abroad, strengthen communication and coordination with key cities and key regions, and mobilize and transport the areas in short supply of supplementary materials.

3.Construct an emergency management mechanism and improve crisis management capabilities. The first is to strengthen crisis early warning, conduct effective inspections of the major quality and safety of agricultural products, and conduct effective supervision of illegal sales; the second is to strengthen crisis management. Construct a crisis management system with a smooth information network, sufficient material reserves, mature scientific and technological research and development, and strong promotion and support.

Conflicts of Interest Disclosure Statement

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