

ANALYSIS OF E-COMMERCE DEVELOPMENT OF AGRICULTURAL PRODUCTS IN PANZHIHUA UNDER THE INFLUENCE OF COVID-19

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ABSTRACT

In recent years, agricultural e-commerce has improved a lot with the support of national policies. During the COVID-19 epidemic, the “no-touching” consumption model was used in agricultural e-commerce, which helped upgrade and optimize the agricultural industry chain. Due to this, agricultural products are prevented from being hoarded. The online sales of agricultural products in Panzhihua City have exceeded 900 million yuan now, showing a steady upward trend. This thesis intends to research the development of agricultural e-commerce in Panzhihua under the influence of the Covid-19 epidemic to analyze the current situation of agricultural e-commerce in Panzhihua, to find the main existing problems, such as the lack of e-commerce professionals and the imperfect construction of logistics infrastructure. Besides, by adopting the method of literature-researching and case-analyzing, some possible ways to help improve agricultural e-commerce of Panzhihua more smoothly will be explored. The significance of this study is to a faster speed of the agricultural economy of Panzhihua and to drive the development of rural agricultural e-commerce in Panzhihua to a higher level.

Keywords: E-commerce; Agricultural Products; The Impact Of The Covid-19 Epidemic.

1. INTRODUCTION

In this section, the research background of the thesis, literature review and the significance of the study will be represented.

1.1 Research Background

In March 2015, Premier Li Keqiang proposed the “Internet +” plan in the government work report for the first time, which aimed at fueling the growth of the rural e-commercial economy. However, the outbreak of Covid-19 in the spring of 2020 threatened the development of the global economy, and the rural e-commercial economy had inevitably been included. Be credited to it, the importance of looking into the development of the rural e-commerce economy from an objective perspective should be stressed.

1.2 Literature Review

There are 138 search results on China National Knowledge Internet, taking the epidemic's impact and e-commerce of agricultural products as keywords, which are 111 academic journals and 11 papers. Domestic research mainly focuses on the problems existing in the development of agricultural e-commerce and the countermeasures.

In China Agricultural Economic Review, H Guo, Y Liu, X Shi and KZ Chen [1] pointed out that e-commerce models played a substantial role in preventing the spread of the epidemic and ensuring the food supply for local residents. Also, they discussed whether and why and how e-commerce

can ensure the food supply for urban residents if social distancing becomes a norm and the transport and logistics systems are hindered. Moreover, they provided a solution that can ensure constant food supply to urban residents under the COVID-19 epidemic and also provides some reference for the maintenance of the food system of urban residents under the impact of a globalization-related crisis in the future. In addition, Hong Tai [2] analyzed the GDP, online consumption, express package, and logistics in the first half of 2021 and put forward the current situation and characteristics of agricultural e-commerce in 2020. It has studied Alibaba, jd.com, China Post, and other websites since half of 2020, analyzed the related problems and trends and studied the future trends and policy recommendations. Moreover, Liu X and Walsh J [3] had researched the development strategies of e-commerce for fresh agricultural products that can guide production, alleviate the contradictions between supply and demand, reduce costs and promote the healthy development of e-commerce for fresh agricultural products in China. At the same time, it also provides a theoretical reference for government departments, e-commerce enterprises, industry practitioners, and agricultural producers.

1.3 Research Significance

This paper firstly analyzes the current situation of agricultural products e-commerce in Panzhihua. Then, it finds out the problems existing during the developing process and puts forward the view that the development of rural e-commerce has ushered in unprecedented new opportunities. Finally, relevant counters on e-commerce of agricultural products are put forward, which has achieved the goal of vigorous development of e-commerce of agricultural products in Panzhihua. Therefore, this paper takes Panzhihua City as the object, combined with Zhang Jing, Zhao Junye, Sun Wei and Dai Yu [4], whose research is based on the analysis and prospect of agricultural e-commerce operation under the COVID-19. This paper addresses the existing problems of agricultural products e-commerce in Panzhihua. It puts forward corresponding opinions to promote the economic income increase for farmers in Panzhihua. Thus, the goal of stimulating the potential of rural development and promoting the transformation and upgrading of the agricultural system in Panzhihua will hopefully be achieved. In this paper, the limitations hope to be broken through and successfully achieve the goal of agricultural products e-commerce as soon as possible.

2. THE CURRENT SITUATION FOR E-COMMERCE DEVELOPMENT

E-commerce of agricultural products is essential, and the epidemic has undoubtedly accelerated the pace of e-commerce. Only by analyzing the current situation can researchers find out the problems. The following part is the analysis of the current situation of Panzhihua agricultural products, which can be divided into two main aspects: data analysis and the popularity of broadcasting.

2.1 Increasing Online Transactions

During the worse of the epidemic, agricultural products had their irreplaceable advantages, such as: “contactless selling, timely delivery, and fresh products,” which incredibly ensured people's dietary health and made an outstanding contribution to the epidemic prevention and control.

According to the data released by the official website of the State Ministry of Commerce, the national online retail sales in 2020 were 11.76 trillion yuan. The national rural online retail sales reached 1.79 trillion yuan. In other words, rural online retail sales account for 15.22% of the national online retail sales in total. Online transactions in Panzhihua are also proliferating. In 2020,

Panzhuhua achieved online transactions of 9.863 billion yuan, an increase of 7.19% year on year. Notably, the online retail sales of agricultural products in Panzhuhua reached 358 million yuan, an increase of 31.09% year on year. According to the data released by the official website of the Ministry of Commerce, the online retail sales of agricultural products in Panzhuhua reached 358 million yuan in 2020, an increase of 31.09% year on year. Among them, the retail sales of fruits reached 288 million yuan, accounting for 80.46% of the city's agricultural products' online retail sales. In terms of order volume, during the 2022 Chinese New Year, the average daily order volume of Meituan Buy vegetables was 2 to 3 times higher in Panzhuhua than the time before the festival. “Jingdong Home Arrival” platform-wide sales also increased by 470% year-on-year in Panzhuhua.

In 2021, Pan Zihua achieved successfully online transactions of 11.986 billion yuan, an increase of 21.52% year-on-year, about 8.56 percentage points higher than the other cities around Sichuan province. Its online retail sales have reached 13.19 billion yuan, an increase of 24.94% year-on-year, which shows the significant achievement of e-commerce in recent years. Among them, the retail sales of online agricultural products achieved 858 million yuan, an increase of 41.09% year-on-year. The online retail sales of fruit are worth to be mentioned explicitly because they reached 488 million yuan, accounting for 85.46% of Panzhuhua's agricultural products online retail selling. Panzhuhua has the unique advantage of its geographical environment, and its agricultural products are characterized by excellent varieties and high economic benefits. Moreover, Panzhuhua's amazing quality fruits and quality vegetables have nearly become the favorite agricultural products of the surrounding cities. Residents in neighboring cities are increasingly willing to order fruits and vegetables from Panzhuhua. Affected by the epidemic control, consumers prefer to buy food supplies through Taobao, Jingdong, Tmall, and other e-commerce websites, which also further expands the sales scope of the Panzhuhua's fruits and vegetables, which resulted in increasing the online sales of Panzhuhua's agricultural products. In Pu M, Chen X and Zhong Y's opinion, [5] the purchase of agricultural products through the Internet has nearly become a regular operation under the influence of the Covid-19 epidemic.

2.2 Growing Popularity of Broadcasting

Based on the developing trend of the domestic broadcasting industry, the current live stream e-commerce of agricultural products in Panzhuhua presents a diversified pattern. First of all, according to Shi Xiaonan [6], Taobao, Jingdong, Suning, and some other traditional e-commercial enterprises have been introduced to boost the development of online agriculture. For example, Taobao had once held the “New Agricultural Democracy Broadcasting Competition,” which attracted considerable attention in China. Secondly, the short video platform like Douyin and Kuaishou had also been brought in; with their social attributes, they helped Panzhuhua broaden its selling scale and influence by broadcasting. Thirdly, those third-party organizations, mainly government officials, public figures, news media, and social organizations, have joined the Panzhuhua agricultural e-commerce broadcasting camp. For example, one of the most famous influencers in China—Li Jiaqi, has promoted Panzhuhua's mango and other unique fruits in his broadcasts. These huge operating organizations make the broadcasting of electric business cover all aspects of people's daily life. The multi-platform information can also make it easier for people from other provinces and cities in China to understand Panzhuhua's agriculture. Thus, the overall development of Panzhuhua's agriculture would be enabled.

3. IMPACT OF THE COVID-19 EPIDEMIC ON AGRICULTURAL E-COMMERCE

The impact of the epidemic on agricultural products is both positive and negative. In the early stage, it is mainly negative. But by contrast, it is important that the epidemic promotes the development of e-commerce of agricultural products in the later stage. As the epidemic is currently in the normalization stage, this paper discusses the role of the Covid-19 epidemic in promoting the e-commerce of agricultural products.

3.1 Promotion of Agricultural E-commerce by Government

The government of Panzhihua consistently improves its consciousness of agricultural e-commerce. To respond to the call of the government, these agricultural enterprises have been learning from the excellent e-commerce industry about some operating methods, such as building their own portals or e-commercial platforms by relying on popular e-commerce trading platforms like Taobao, Jingdong, Tmall, and some other channels that made for online marketing of agricultural products. The establishment of the Pan Zhihua “Kangyang Eshop” e-commerce platform has allowed more than 100 enterprises to share their creations and ideas, helping them progress together and develop further.

First, the government makes great efforts to build live bases to help Panzhihua boost its agricultural industry. Such as the Sunshine Miyi broadcasting base and the Chinese promotion of the Panzhihua broadcasting base are the two kinds of well-known broadcasting bases in Panzhihua. These broadcasting bases made the online agricultural sales of Panzhihua increase dramatically. The government also successfully declared a provincial demonstration live base among these broadcasting bases. Moreover, the government has made efforts to promote the construction of an electric business demonstration county project in Yanbian County, which has accelerated the improvement of the rural electric business service system in Panzhihua. Furthermore, Panzhihua's government has strengthened cooperation with some famous enterprises such as Jingdong and Tencent and strongly supported the development of favorite agricultural product brands such as 26 Degree Orchard.

In the 13th City Service Industry Development Plan of Panzhihua, the municipal government put forward the concept of an “e-commercial development belt.” The plan to develop the agricultural products has been advocated. The government hoped to further improve the agricultural e-commerce of Panzhihua through measures like establishing service platforms and introducing some favorable policies.

In terms of the quality of agricultural products, the government has invested in constructing a 10,000 million tons cold-chain logistics center in Yanbian County. By 2017, nearly five precisely agricultural-demonstrating bases and more than ten quality-tracing bases had been established. In terms of improving services regarding information, the government has strengthened cooperation with various information institutes and actively invoked the development of different service-oriented applications and information platforms to further promote the e-commerce of agricultural e-commerce.

3.2 Promotion for the Rapid Development of Real-Time E-commerce

Qi Yu, Qin Cunjing, Guo Yuxin, Zhang Jin, Jiang Haitang and Zhou Xiaofu had pointed out that the prevention and control requirements during the Covid-19 epidemic led to the closure of large agricultural products trading markets. [7] Taobao, Jingdong, Suning, and other e-commerce platforms have responded to the policy of poverty alleviation by launching “action to help

farmers”. Panzhihua mobilized resources from all sides to help buyers and consumers of agricultural products from the nearby region directly participate in e-commerce sales. After the epidemic was effectively controlled, local e-commerce enterprises accelerated the resumption of work and production and strengthened the connection between suppliers, logisticians, and online merchants. Sellers also used Jitterbug, Racer, Taobao Live, WeChat, and other forms to promote the positive energy of epidemic prevention, advertise unique products, and promote the export of agricultural products, driving agricultural cooperatives and processing enterprises to speed up the progress of resuming work and production.

At the same time, Tik Tok, live streaming, and other new forms of agricultural product sale industry have more room for improvement. Many farmers have become anchors who move the process of producing, processing and sorting agricultural products onto their mobile phones, which not only hyalinize the products but also solve the problem of consumer stickiness very well. At present, in Panzhihua, the cost of vegetables produced and distributed through industrialization can already be comparable to that of farmers' markets. There is a trend for large chain fresh food supermarkets to substitute local farmers' markets, represented by the creative measures for online purchase and delivery of Meituan YouXuan and Yonghui Supermarket.

3.3 Promotion for the Digital Transformation

The digitization of agricultural products e-commerce in Panzhihua is done from the pre-production, production, and post-production channels of agricultural products to explore the digitization of agricultural products, transactions, digitization of the supply chain, the digitization of various scenarios, management, and governance. Panzhihua's county-level e-commerce service center should be transformed into a digital service center. Furthermore, in the supply chain, the county-level e-commerce service centers can become the guidance centers of the rural supply chain.

The epidemic directly led to the problems of stagnant circulation and unstable prices of agricultural products in Panzhihua. At the same time as digital e-commerce broadcasts, these problems are also largely solved by the digitally presented logistics guarantee information. Because of this, the epidemic directly accelerated the digitalization process of agricultural products in Panzhihua. Speeding up the digital transformation of agricultural e-commerce is the inevitable tendency. Agricultural e-commerce should play a more significant role in the post-epidemic period.

The Covid-19 epidemic accelerated the digitization of agricultural cultivation in Panzhihua to some extent. A large number of activities and training were moved from offline to online. With the methods such as online teaching of agricultural e-commercial knowledge and digital solutions demonstration, the skills and solutions would be sent to farmers and be helpful for farmers and enterprises to strengthen their business concepts and professional expertise and abilities.

The digitalization of agricultural e-commerce in Panzhihua has a comprehensive process, including pre-production, production, and post-production of agricultural products. It explores the digitization of transactions, the digitization of the supply chain of material distribution, the digitization of various scenarios, the digitization of mixed management, and the digitization of governance. Being affected by the Covid-19 epidemic, each county-level e-commerce service center in Panzhihua City has been transformed into a digital service center. In the supply chain, each county-level e-commerce service center in Panzhihua City has become the guidance center of the rural supply chain.

Significant strides have been made in accelerating the digital transformation of agricultural products; e-commerce is an inevitable trend for developing agricultural products in Panzhihua. Firstly, the digitization of agricultural products provides new services for consumers and explores a variety of new service types such as non-contact transaction services, non-contact payment services, non-contact material distribution, and supply chain services. Secondly, digitization has also increased the sales of specialty agricultural products in poor areas of Panzhihua, which in turn has increased the income of farmers in impoverished areas. Thirdly, digitization provides an innovative path for developing cross-border e-commerce for specialty agricultural products. Finally, digitization has accelerated the promotion of supply chain reform, promoting the transformation of Panzhihua's agricultural products to realize the digitization of Omni-channel, Omni-scene, a national chain, and Omni-customer group. Due to this, the construction of an efficient, green, and intelligent production sales selling system for the online sales of agricultural products in Panzhihua has been contributed.

4. PROBLEMS WITH AGRICULTURE E-COMMERCE DEVELOPMENT

The increasing popularity of e-commerce means that more problems are exposed. Compared with developed cities, such as Shanghai, there are still a wealth of issues that need to be solved in Panzhihua. The following contents mainly focus on the problems existing in the e-commerce of Panzhihua agricultural products in the emergence stage.

4.1 Poor Rural E-commerce Infrastructure

With the continuous development of the e-commerce industry, the following problems have been exposed in Panzhihua: the lack of talents in various aspects such as network construction and maintenance, information collection and release, market situation analysis, and feedback. However, in Sichuan province, the large and medium-sized enterprises, the conventional e-commerce enterprises, and even individual online merchants, there are different degrees of talent shortage. According to that, it is safe to draw the conclusion that in Panzhihua, there are still many weak links in both rural network infrastructure and e-commerce supporting facilities. Liao Cuiju had pointed out that most e-commerce platforms lack professional operation teams and cannot provide consumers with quality consumption and service experience coupled with limited local market development capabilities. [8] They cannot capture the rapidly changing market demand in a timely manner.

In Panzhihua, in more than 30% of rural areas, agricultural production bases have a perennial problem of inadequate network facilities. The technology and equipment are also outdated. Some villages and towns do not have broadband and fiber-optic projects, so farmers cannot access the network. Some villages that are connected to fiber-optic broadband still lag behind the cities in terms of network speed and stability due to insufficient bandwidth and poor network quality. Moreover, the modern logistics and distribution system in Panzhihua is not perfect, the cold chain facilities are not enough, and the problem of interruption of the chain during transportation and distribution is also prominent. The inadequate supporting infrastructure of the electric business in Panzhihua has hindered the development of the local agricultural broadcasting business.

4.2 Lack of High-Quality Agricultural E-commerce Talents

The lack of professional talents has always been a problem for developing rural e-commerce in Panzhihua. In rural areas, 31% of people lack knowledge and skills in e-commerce economics, 20% of them lack entrepreneurial learning, and another 14% do not have the ability to design an online shop. Due to the fact that the systematic training of e-commerce talents in Panzhihua is still a brand new subject, several difficulties, such as the urgent lack of professional talents in rural e-commerce. Besides, according to Ma Shitong, Xing Zhiliang, Ye Yanan, Zhu Fengzhong and Li Qiuyue, [9] agricultural e-commerce operators are used to using previous experience to solve problems and are unwilling to gain new knowledge and information, which is obviously not applicable to the process of agricultural modernization, not to mention a long-term solution. Especially in the face of the Covid-19 epidemic, the lack of e-commerce talents is particularly acute, and the need for e-commerce talents is more urgent than ever. Professional e-commerce talents are needed to respond to the outbreak. Therefore, it seems notably important for professional e-commercial talents to broaden the online selling channels of agricultural products in Panzhihua.

In some rural areas of Panzhihua, due to poor environmental conditions, underdeveloped transportation, and backward economic conditions, the rural labor force of young and strong people is still in exodus. Moreover, there are different degrees of hollowing out. Sun Xiaolong, Liao Xiaojing, Ge Candi and Li Yinqiu who had researched on opportunities and challenges of China's agricultural technology and economic development in the post epidemic era, pointed out that older and female laborers left behind in rural areas to work in agriculture are unable to become the new generation of agricultural e-commerce operators due to their low level of education, low quality of skills, and difficulty in accepting new things such as online e-commerce transactions. [10] However, the modernization of agriculture and the revitalization of the countryside require the construction of agricultural information platforms and agricultural product databases. All of this requires the involvement of high-quality professionals. In addition, due to the complex living environment, lack of infrastructure, and relatively backward economy in rural areas, even if all universities in Sichuan Province offer e-commerce majors, the willingness of these highly qualified e-commerce graduates to return to rural areas is low. All these have led to a lack of professional talents for agricultural products e-commerce in Panzhihua.

4.3 Laggard Standardization and Branding

The results of the Panzhihua government's policies on e-commerce for local agricultural products are evident and have enormously contributed to the development of Panzhihua's e-commercial agriculture. However, it is obvious that there are some existing problems of leading local enterprises: the lack of strength of some well-known brands. At this stage, although 26 degrees orchards are excellent private enterprises with strong brand awareness as the leading enterprises, there are still some tiny enterprises and cooperatives owning the problem of a backward degree of professionalism of rural e-commerce personnel, and these problems need to be solved in time.

Unlike other industrial products, it is more challenging to have a very standardized product identification for agricultural products. Coupling with regional and variety management model differences, there is still a large gap between the quality of products produced by different agricultural producers. Agricultural product labeling is not standardized, so consumers are easily misled. Moreover, many agricultural products flow into the market without formal testing and quarantine and lack safe packaging, which makes it difficult for consumers to defend their rights

and reduces the impression of Panzhihua's agricultural products in the minds of consumers. At the same time, Panzhihua agricultural e-commerce generally has a single product category, monotonous marketing methods, poor content design, and other problems. Especially for the e-commercial platform, there are also defects of serious homogenization, lack of industrial support, immature supply chain, and poor sustainable supply ability. There are not many marketable online products, the platform also lacks long-term planning and overall layout, and the brand value of the platform is not enough.

4.4 Low Level of Modern Logistics and Backward Logistics Infrastructure

According to Wang Yuying, Ni Lili and Shen Jun [11], logistics is the most challenging part of agricultural e-commerce. The government wants e-commerce to be in a virtuous cycle of development, so the whole process of production, storage, transportation, and sales cannot be separated from a sound and efficient cold chain logistics system. Panzhihua, as the western region of Sichuan, is not economically developed enough, and the development of science and technology is relatively backward, resulting in a lack of scientific refrigeration equipment. This makes it difficult to transport fresh agricultural products and realize their value. Although Panzhihua has an abundance of agricultural products, the production of fruits in all seasons is considerable. However, if the logistics problems are not solved well, the excellent outcomes will not be able to be used to their full potential.

The mango industry in Panzhihua is highly valued by the government and has a particular brand influence, but the development of the industry is limited due to the closed traffic. The problems faced by Panzhihua at present mainly exist in the weak professional service capacity of logistics, low concentration of the industry, and lack of a systematic logistics management system. Besides, the transport efficiency does not meet the requirements, and there is no unified cold chain logistics process. As the logistics infrastructure in Panzhihua is relatively backward, the logistics technology and equipment are not complete enough, and the road condition is poor, which leads to the high cost of logistics operation in Panzhihua.

5. THE COUNTERMEASURES

Given the current situation and problems of the e-commerce of agricultural products in Panzhihua, the sales of agricultural products have to adapt to economic development and market demand. This chapter put forwards the following countermeasures to alleviate the problems that have been mentioned and improve the market competitiveness of agricultural products in Panzhihua.

5.1 Enhancing Brand Connotations

Enterprises in Panzhihua should sustain the development of agricultural e-commerce to increase the sense of achievement. It is necessary to strengthen the construction of e-commercial infrastructures for fresh agricultural products. The cultural connotation of regional products should also be enriched. Furthermore, the importance of creating well-known brands of agricultural products should not be ignored. At the same time, it is necessary to innovate the packaging design based on local characteristics according to the unique geographical indication connotation of regional agricultural products. It's indispensable to improve agricultural products traceability system, give extraordinary cultural heritage to the products, and promote them through various network media platforms. By these measures, Panzhihua's agriculture products can be created into a unique brand with market competitiveness. Yun Lianjing, Zheng Xiuguo, Ma Jia suggest that

local enterprises could combine with famous regional figures, historical and cultural allusions to make it more innovative both in marketing and promotion through storytelling and content with the help of new media marketing methods. [12] Taking broadcasting of agricultural products as a cultural or artistic means of communication, consumers can receive cultural infection in the process of watching and generating regional cultural identity, thus the sales can be enhanced. Panzhihua City has a wide area of agricultural products production area and abundant agricultural products, which provides inherent advantages for the brand building of agricultural products.

To promote the brand construction of agricultural products in Panzhihua City, first of all, the standardization of its agricultural products needs to be encouraged. This step will extremely improve the incomes of farmers and effectively trace the source of the product when there is a quality problem. Secondly, it is necessary to consult the suitable foreign methods according to the characteristics of agricultural products themselves, analyze and classify products scientifically, and formulate relevant production and management standards. Thirdly, with the help of public publicity platforms such as agricultural fairs, local enterprises should increase the publicity of existing agricultural brands, enhance the brand awareness of agricultural producers, and promote the establishment of brands.

5.2 Establishing Training Systems for Rural E-commerce Professionals

Panzhihua city can use the pattern of “trust-driven and demonstration-driven” to improve the efficiency and reliability of farmer training. New types of professional farmers are gradually becoming the leading force in modern agricultural development, and the productive power of farmers should be given high priority. Farmers' cooperatives can be developed and strengthened by forming direct links between farmers' cooperatives and farmers. Wenlong Zhang found that the new modern farmer can be educated in the cooperatives, and the farmers' planting techniques and Internet sales concepts can be enhanced to improve agricultural production efficiency. [13] It can be done as follows:

Firstly, the government should actively organize Panzhihua agricultural system, and business sector personnel to carry out e-commerce training, and strive to build a composite talent team with experience and professional knowledge of e-commerce.

Secondly, the school-enterprise cooperation should be encouraged to guide the province's foremost universities, colleges, and universities and local e-commerce business cooperation and carry out professional areas of order-type talent training. Taking the market demand as their first concern, government should strengthen the construction of a talent information base to retain local talents and introduce some outstanding talents.

Thirdly, to improve the online agriculture of Panzhihua, the e-commercial training program must be introduced. At the same time, it would be necessary for government to invite some domestic experts and scholars as well as business leaders of the electricity in developed provinces. Panzhihua's government could provide a series of rural e-commerce training to relevant personnel of the agricultural system, such as large enterprises in various counties and large farmers of agricultural products so that they can master basic e-commerce knowledge and become more proficient in online trading activities.

Fourthly, the government needs to encourage and support e-commerce parks to carry out incubation work, forming a number of rural e-commerce practical talents, and offering the rural e-commerce practitioners with business premises, business guidance, funding and credit, skills training, warehousing and logistics, and other supporting services.

5.3 Optimizing Products Standards and Quality Control

In order to get better online commodities, a series of ecosystem construction needs to be established in Panzhuhua, such as quality control, application of traceability technology, brand building, and packaging design promotion to improve the product quality and safety of agricultural products for e-commerce. However, the cold chain logistics after the impact of the epidemic is still facing many new challenges because the integrated cold chain logistics system from the origin to the place of sale has not yet been formed.

Affected by the Covid-19 epidemic, agricultural enterprises in Panzhuhua need to promote the integration of information continuously. At the same time, they should also modernize their agricultural e-commerce. First of all, relevant enterprises should take advantage of the implementation of the “Internet + agricultural products” and “digital countryside” strategy to speed up the expansion of agricultural products e-commerce market. It is necessary to speed up the construction of agricultural product cold chain logistics information infrastructure and build agricultural product sales networks and urban and rural service centers.

Secondly, those enterprises should strengthen the backbone network construction of agricultural logistics and promote the construction project of cold chain logistics facilities so that the agricultural warehousing and preservation can be ensured. Meanwhile, they also need to support new business entities such as family farms to develop cold storage and conservation. Besides, the circulation of green and high-quality agricultural products with the integration of e-commerce innovation and entrepreneurship should be focused on.

Thirdly, by strengthening the branding of exceptional agricultural products and adequate supervision to ensure the food safety of the production process, those enterprises can realize the traceability of the whole industry chain from the base planting, processing, and sales to the table. In doing this, they can finally form an all-channel, all-process, all-industry visualization protection system from the field to the table.

Finally, by improving the remote monitoring and quality tracing system, the quality self-inspection behavior of farmers and agricultural product producers will be greatly encouraged. In particular, The preventive and control measures against major animal diseases should be significantly strengthened and strictly controlled. At the same time, the agricultural enterprises should strengthen biological and physical protection to guarantee the source safety of agricultural product quality. Meanwhile, a push-back mechanism should also be introduced to clarify the access conditions and primary responsibilities of the agricultural products e-commerce market. Lastly, they should support agricultural products e-commerce to enhance brand values such as channel qualification, supply quality, green grade, and service quality so that the core competitiveness of agricultural products quality and safety in Panzhuhua can be formed.

5.4 Implementing Standardization and Branding

The government of Panzhuhua must thoroughly study various standards of fresh agricultural products and try to experiment and summarize a unified quality standard system. They should constantly regulate the quality, packaging, specifications, and categories of fresh agricultural products. Only by continuously strengthening the management and control of quality can enterprises improve the visibility of agricultural products and thus promote the development of agricultural e-commerce. Specific measures are as follows.

First of all, the producers should strictly follow the government standards, and consciously check the quality of production, processing, logistics, storage, and other aspects, so that they can improve their paramount awareness and ensure the quality of fresh produce. According to Zhou J, Fei Han, Kai Li, this can enhance the acceptance of the product, ensuring product quality and increasing the repurchasing rate.[14]

Second, in Panzhihua City, the local enterprises should seize the opportunity to establish their own brand. For achieving this process of branding, professional services are naturally indispensable. Therefore, it is necessary to improve the pre-sale communication of agricultural products, confirming whether the speed and way of delivery are fast and convenient enough and whether the feedback after the sale can be handled in time. Establishing professional service standards is one of the crucial measures to establishing branding and enhancing brand reputation.

In addition, Panzhihua agricultural products should make more efforts to control product quality and standards, establish a unified standard system for agricultural products, establish online marketing brands and cultivate a good brand image.

5.5 Improving the Logistics System Construction

In order to meet the needs and preferences of consumers and retailers, and to improve their quality of service, the whole Panzhihua agricultural products logistics horizontal chain must operate effectively. The following strategies must be considered:

First of all, Panzhihua agricultural products' logistics process should have refrigeration, freshness, and moisture-proof equipment. Therefore, it is essential to increase the capital investment in agricultural products' refrigerating technology to improve the freshness of agricultural products in the process of logistics and distribution. Secondly, Ming Zhou expressed that increasing the construction of logistics infrastructure needs to be emphasized. [15] For example, the government can strengthen and improve the structure of highways and expand the breadth and depth of road networks. Thirdly, the Panzhihua government can encourage the development of enterprises related to the production, processing, transportation, and sales of agricultural products in Panzhihua by introducing financial policies and other measures to improve the ability of enterprises to resist risks.

Finally, the collaboration and management of the city's enterprises and agricultural product growers should also ensure the smooth flow of green channels during the maturity of Panzhihua's agriculture. In addition, the government should reasonably plan and design the logistics network of agricultural products in Panzhihua. In the meantime, the enterprises should keep abreast of customers' needs and fully and quickly understand the changes in market data.

6. CONCLUSION

6.1 Summary

This study set out to find out the problems existing during the development of e-commerce of agricultural products in Panzhihua. Research has shown that the e-commerce of agricultural products is developing rapidly, especially during the Covid-19 epidemic. The second main finding is that the main reason why the development of e-commerce in Panzhihua is lagging behind that in other regions is the underdevelopment of logistics and transportation. These experiments confirm that if the city wants to improve the e-commerce of agricultural products, it must speed up the construction of a logistics system and the training of professionals. This paper has provided a deeper insight into the analysis of the development status of agricultural products e-commerce

under the influence of the Covid-19. Furthermore, the contribution of this study has been to show new ideas for the development of agricultural products in Panzhihua City, and the corresponding measures hope to improve by leaps and bounds agricultural products e-commerce. This paper analyzes the demand for the agricultural products e-commerce industry in Panzhihua City and its advantages aimed at increasing the online sales of agricultural products in Panzhihua City. Then, the article also explores the problems existing in the e-commerce of agricultural products. The lack of e-commerce professionals has led to the low level of e-commerce in agricultural products and missed many excellent development opportunities. The inadequate infrastructure makes it impossible for agricultural products to be transported to other places in large quantities. In addition, enterprises do not pay attention to the brand concept, resulting in the local brand influence being less good than in other regions. This paper proposes some effective countermeasures to deal with problems. From the government's point of view, an e-commerce talent training system and infrastructure should be established. From the perspective of enterprises, product awareness should be improved, and live broadcasts should be used.

6.2 Research Limitations

It is unfortunate that this study did not include specific agricultural products that are limited by the lack of information on it. It is not easy to count all the data on specific agricultural products. In addition, the universality of these results is subject to certain limitations. For instance, whether there is a real need for professionals in counties with good e-commerce development.

Considerably more work will need to be done to identify the development opportunities therein and reasonably respond to the opportunities and challenges brought by the Covid-19 epidemic to e-commerce. More information on concrete products would help to establish a greater degree of accuracy on this matter. The findings of this study have a number of important implications for the future practice in Panzhihua agriculture.

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