

The Realistic Dilemma and Optimization Path of E-commerce for Agricultural Products-Based on Observation of Yunnan Province

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Abstract: It is of significance in the development of local rural economy to develop agricultural product e-commerce, and it is the only way for the promotion of the rural economy under the impact of the epidemic to build a good sales channel for agricultural product e-commerce. This paper analyzes the poor sales problems in the development of agricultural product e-commerce in Yunnan Province based on the survey results of agricultural product e-commerce in Yunnan Province, and proposes corresponding solutions.

Keywords: Prospering agriculture through digital commerce; Agricultural product e-commerce; Solve poor sales

1. Introduction

As a major agricultural country, China always takes the issue of "agriculture, rural areas and farmers" as a fundamental issue that runs through China's modernization construction and the process of realizing the great rejuvenation of the Chinese nation. The central government document No.1 takes the theme of "agriculture, rural areas and farmers" for 20 consecutive years since the new century, from 2004 to 2023, reflecting the "top priority" position of "agriculture, rural areas and farmers". In 2023, the central government document No.1 proposed to thoroughly implement the project of "prospering agriculture through digital commerce" and "Internet plus" agricultural products going out of villages and into cities.

2. Analysis on the current development status of agricultural product e-commerce in Yunnan Province

In recent years, e-commerce for agricultural products in Yunnan has also developed rapidly during the development period of e-commerce for agricultural products nationwide. Under the guidance of the People's Government of Yunnan Province, major e-commerce enterprises have landed in Yunnan, and these large e-commerce enterprises have made positive contributions to the online sales of agricultural products in Yunnan Province in recent years. Since 2017, Alibaba has opened the first batch of 26 agricultural poverty alleviation brand stations, promoting the sales of agricultural products of Yunnan of RMB 11 million, assisting 760 registered impoverished households, and helping 92 agricultural products in 26 counties to be sold online. In 2018, the network sales of 109 landmark agricultural products in Yunnan exceeded RMB 4.4 billion. In 2019, over 50 types of specialty products such as coffee and tea from over a hundred planting bases in Yunnan achieved sales of over RMB 30 million through Taobao's 4-hour live streaming. JD.com has implemented a "one county, one museum, one product" to explore the online sales mode of agricultural products, and has opened up an online sales path for farmers in poverty-stricken areas in Yunnan. Moreover, Kwai, Tiktok, JD, Pinduoduo and other e-commerce platforms have entered the live streaming sales market. More and more officials in Yunnan are also turning their attention to live streaming, promoting their products on official live streaming platforms to endorse cloud products. As of May 2022, Yunnan Province had 114 comprehensive demonstration counties for e-commerce entering rural areas, ranking first in the country in terms of quantity; a total of 113 e-commerce public service centers built (including state and city coordinated projects), 1,132 township service stations, and 7,344 village level service outlets; 105 county-level e-commerce logistics distribution centers, 1,241 township express delivery outlets, with the express

delivery covering 7,356 administrative villages. The rural e-commerce public service system and logistics distribution system are constantly improving, and the channels for industrial products to go to the countryside and agricultural products to enter the city are further unblocked. Although many platforms have actively contributed to the online sales of local agricultural products by taking the advantages of enterprises, and live streaming sales have temporarily solved some urgent issues, some agricultural products with short shelf life still face the problem of poor sales.

Focusing on the poor sales problem of agricultural products in Yunnan Province and solving the practical difficulties of agricultural product production and sales integration, this paper explores countermeasures in current agricultural product online sales, and assists the online sales of agricultural products in poor sales, in order to ensure the stable production and supply of agricultural specialty products in Yunnan Province.

3. Realistic Dilemmas in the Development of Agricultural Product E-commerce in Yunnan Province

3.1. The storage and cold chain logistics facilities for fresh agricultural products are weak

There are some agricultural products with too short harvest period and storage time in some areas of Yunnan Province, and the storage and cold chain logistics facilities for fresh agricultural products are weak. High logistics costs of online sales of agricultural products lead to high production and operation costs. The exposure of these warehousing and logistics issues is partly due to special reasons during the COVID-19 prevention and control period, while others are due to the continued expansion of existing problems.

3.2. Transportation and agricultural product supply chain management are outdated

Transportation is restricted in most areas of Yunnan. The operational efficiency of agricultural product supply is relatively low; the supply and demand, production and consumption characteristics of different industries have greatly enhanced poor sales effect of products. The research results indicate the loose relationship between different circulation entities and unsmooth information. In several forms of supply chain, the core entities have no obvious effect in leading, managing, and coordinating the entire supply chain due to the numerous links, huge investment, and difficulty for enterprises to fully bear.

3.3. Lack of prevention and control mechanisms for agricultural production disasters and emergencies

From a holistic perspective, the "post event" management is mainly adopted for management and prevention and control of agricultural production disasters in Yunnan Province, that is, operators conduct crop production inspections, artificially identify problems, and establish artificial response strategies based on different types of emergencies. In the operation of this prevention and control mode, it is needed to input a large amount of human resources for on-site investigation. The efficient early warning and prevention cannot be realized because of low timeliness rate of detection of agricultural production disasters and the sudden outbreak of the epidemic.

3.4. Asymmetric local supply and demand of fresh agricultural products

It is the peak season for local sales of some fresh agricultural products in Yunnan before and after the Spring Festival. However, there is a lack of effective coordination with the domestic "O2O fresh e-commerce delivery", resulting in an imbalance between local production and supply and demand, resulting in a backlog of products. There are problems with some fresh local specialties that cannot be sold on a large scale through the internet or consumed locally.

3.5. The marketing channel of agricultural products has great limitations

In the case of poor sales, the marketing channel of agricultural products is relatively simple, the marketing concept is outdated, and the marketing management is lagging behind. Usually, cooperatives and farmers release information by themselves. Large e-commerce enterprises and platforms are not highly involved. Agricultural product bases and cooperatives are in a passive position in the marketing

process, and cannot achieve marketing and online sales on various platforms. Secondly, the "self-inflicted" marketing of agricultural products is more common, achieving sales at ultra-low prices in the short term, but returning to mediocrity after a big promotion, spoiling consumers' consumption habits and causing them to be unwilling to buy agricultural products at normal prices again.

3.6. The supply and demand information of agricultural products is asymmetric, and the participation of social forces is limited

The situation of asymmetric information between the supply and demand of agricultural products is even more prominent. On the one hand, it is impossible to transmit the information on agricultural product sales, and on the other hand, it is difficult to meet the needs of consumers. The market mechanism has not fully played the role of linking supply and demand. Moreover, social attention and public opinion have focused on the development of COVID-19 due to the impact of COVID-19, and the attention and participation in agricultural products in poor sales are insufficient.

3.7. Online popular agricultural products have problems such as poor experience

While online livestreaming has opened up a market for agricultural products, the safety and quality of the products have also attracted much attention. Consumers complain that the quality and safety of some online popular agricultural products cannot be guaranteed. In the era of nationwide short video carnival, problems such as excessive livestreaming publicity, quality problems, after-sales service failure, and inconsistency between livestreaming content and users' actual experience occur from time to time. The above issues arising through livestreaming and other forms are within the regulatory scope of the *Electronic Commerce Law*.

3.8. The brand effect is not obvious, and the consumption stickiness of agricultural products is low

Some agricultural products imitate and are produced into best-selling products, causing certain impacts and threats to the economic development of regions that should have characteristic industries, brands, and products. Moreover, the generalization of characteristic agricultural products has blurred the brand concept in the minds of consumers, thus contributing to the prevalence of fake and inferior products. ^[1]Some regional public brands adopt a primary packaging model in brand design, brand positioning, themes and communication concepts throughout the current stage, not only wasting resources but also affecting consumer stickiness.

3.9. The quality control level of agricultural products is limited, making it difficult to attract more high-quality consumers

There are multiple links from the management of agricultural resources before production to the final market entry of agricultural products, all of which contain potential quality hazards. Taking the fruit industry in Yunnan as an example, the current fruit quality control method is extensive management. Due to incomplete origin information of the fruit planting end, the raw material batches of the production end, fruit inbound and outbound, fruit packaging, transportation and other information archives, it is difficult for consumers to comprehensively and timely grasp the quality situation of agricultural products, resulting to failure to attract many domestic consumers and open the door to cross-border e-commerce.

4. Explore new paths for the development of e-commerce in agricultural products and assisting in rural revitalization

4.1. Establish a rural cooperative site model, strengthen the construction of cold chain warehousing and logistics infrastructure, and improve the informationization level of rural logistics

Central government document No.1 of 2020-2023 has mentioned the content of logistics construction, especially the central government document No.1 of 2023 has proposed the content of accelerating the improvement of county rural e-commerce and express logistics distribution system. **About cold chain warehousing**, first of all, efforts should be made to address the cold chain warehousing construction for large-scale fresh agricultural specialty product resources, to achieve the preservation of non-durable fresh agricultural products to a certain extent, as well as staggered sales of

surplus fresh agricultural specialty products, increasing the sales unit price of local peasants' products. Secondly, based on the actual situation of rural cooperative sites, cold chain warehousing outlets and cold chain vehicles can achieve resource sharing, save costs, to alleviate the pressure of operating costs and expand profit margins. For logistics infrastructure construction, there are certain steps to be taken. Firstly, it is crucial to integrate resources from logistics enterprises, e-commerce enterprises, and financial institutions in order to establish rural cooperative sites. Through equity, we can contribute capital, provide warehousing outlets, logistics equipment, and bring in our management experience. The goal here is to prevent redundant construction and optimize the allocation of resources to achieve flexible competition. Secondly, we must actively focus on expanding logistics outlets in rural areas and promoting the modernization of rural circulation. A key aspect of this is encouraging network operators to proactively enhance rural broadband connectivity and make mobile networks more accessible by investing in network infrastructure and reducing traffic fees. This approach ensures the smooth functioning of real-time supervision systems for rural logistics information.

4.2. Strengthen the construction of agricultural product supply chain, promote the quality of agricultural product sales, and issue a notice on the national epidemic prevention and control mechanism to ensure stable production and supply of agricultural products for all levels of departments

The local government can appropriately relax mechanical measures such as setting up checkpoints, flexibly grasp the current situation for control, and provide services for the production and supply recovery of fresh agricultural products. Further strengthen the supply chain management. The pain of the supply chain is an industry consensus in agricultural product e-commerce, and it is urgent to vigorously strengthen the management of the agricultural supply chain system. Moreover, it is needed to accelerate the process of agricultural industrialization and effectively integrate individual farmers, and develop a supply chain model with different core entities into a truly value-added agricultural product supply chain starting from the existing agricultural product supply chain, through organizational integration, information integration, and resource integration, in order to reduce agricultural product loss and improve agricultural product circulation efficiency. In addition, it is needed to explore the development of efficient and high-quality agricultural product processing enterprises, create a supply chain centered on processing and distribution, and promote organizational innovation in the agricultural product supply chain.^[2]

4.3. Relevant departments should prepare contingency plans in advance to carry out the construction of smart agriculture

Relevant departments can make emergency plans and sort out and count the information of products in poor sales in response to the content of "accelerating the application of modern information technologies such as the Internet of Things, big data, and smart weather in the agricultural field" mentioned in the central government document No.1. For agricultural products with sales risks, it is needed to have a deep understanding of the production and operation status of production enterprises, peasants' cooperatives and other enterprises, and get known the situation of harvesting, sorting, packaging, transportation, sales, commercial inventory and government reserves in advance, and ensure production and sales coordination within and across regions.^[3] The relevant departments shall organize each county to conduct investigations on the types and stock of agricultural specialty products that are experiencing poor sales. They should also analyze the inventory and quality of agricultural products in agricultural production areas, paying particular attention to poverty-stricken areas. Additionally, they need to analyze the ecological, biological, and geological hazards identified through crop production monitoring. Furthermore, it is essential to establish a digital case library for disaster prevention and control based on typical cases of disaster prevention and control. This will help in effectively addressing the ecological and geological challenges faced in crop production. The case library can improve the efficiency of disaster identification, monitoring, and processing.

4.4. Establish an O2O model within the region to promote the online sales of agricultural products

Some agricultural specialty products have production without quantity assured, and the scale is small. The impact of COVID-19 has led to poor sales situations, and local sales models can solve this problem. Emergency statistics will be conducted on the poor sales situation of agricultural products in various regions, mainly sorting out the supply and demand data of fresh food and other products to find the "right solution". Secondly, it is necessary to coordinate the resource forces of various departments

such as the government and enterprises, and open up green channels for such agricultural products. [4]First of all, local supermarkets consume and communities consume, and secondly, enterprises can connect with farmers to integrate and sell the products of the farmers and the companies. Relying on the comprehensive life service platform of "Shopping Mall+ Group Shopping Business Circle +Life Service +Intra-city Distribution", such as Freshippo, Ele.me, JD Daojia, etc., to help the sales of local fresh agricultural products. Provide solid support for the online sales of agricultural products in poor sales under the COVID-19, and also contribute to the local economy.

4.5. Adopt diversified marketing strategies to broaden marketing channel

It is required to take the advantages of marketing and online marketing, rely on the connection with departmental and major internet and e-commerce platforms, collect information on trapped farmers and agricultural products in poor sales through the platform, and achieve information symmetry between supply and sales. The simultaneous marketing of information of agricultural products in poor sales on various internet platforms helps to quickly consume the agricultural products in hindered sales. Secondly, let good products speak for themselves, think of more ways to promote and popularize them, and let consumers experience the sweat and hardships of peasants in agricultural products. It is needed to respect nature and pay reasonable prices, which is the path of sustainable development.

4.6. Mobilize social forces, and enhance the promotion and recommendation of agricultural products in poor sales

Social forces have launched the Love for Agricultural Products Action, transmitting the information of agricultural products in poor sales through instant messaging tools such as Weibo, QQ, WeChat, and livestreaming platforms, calling on more consumers to pay attention to and purchase agricultural products. For example, Yunnan Agricultural University recently carried out the practice activity of recommending famous, special and high-quality products from home, which played a positive role in promoting the characteristic agricultural products of Yunnan Province. In terms of publicity, relevant departments can play a certain role by writing soft articles and short videos on the government's official website and Weibo about the current agricultural products in poor sales in Yunnan. Moreover, consumers can participate in instant messaging tools to post buyer shows, promote the advantages of the product, and encourage more consumers to subscribe.

4.7. Standardize the livestreaming agricultural product industry and promote the revitalization of rural industries

The livestreaming form has brought some new ideas to rural e-commerce and also strengthened the confidence of some peasants in increasing their income and becoming rich. The focus now is to standardize the livestreaming industry, and there are several aspects that need to be strengthened. The first is to strengthen legal awareness and strict supervision. The behaviors suspected of cheating consumers should be dealt with in accordance with the law, and those sold under the guise of peasants should be included in the regulatory list to further regulate this industry. The second is to accelerate the standardization and branding construction of agricultural products. The third is to focus on cultivating local talents, strengthen the cultivation of local peasants, and tap into local talented rural youth with lofty ideals. This has a more long-term significance for the revitalization of rural talents.

4.8. Establish a brand, expand channels, and increase customer stickiness

Establish a brand of agricultural products, attach the green mountains and waters of Yunnan to the packaging of agricultural products, and form a cognitive connection. Improve the quality standard system of characteristic agricultural products, enhance the geographical indications of agricultural products, and create a local brand of characteristic products. Brands can also better control the quality. No matter whether it is online platform or offline physical store, it will also produce great brand effects.[5] It is needed to carry out all-round network promotion, add new content to the entire network, and intersperse livestreaming. Occupy a brand position in the hearts of consumers with quality assurance, industry chain guarantee and brand unity.

4.9. Establish a smart agricultural product traceability system to promote the upgrading of agricultural product consumption

It is needed for agricultural product e-commerce to accelerate the integration of informatization and agricultural modernization, and accelerate the construction of a quality traceability system throughout the process. Relying on the key laboratory of crop production and smart agriculture of Yunnan Agricultural University, a smart agricultural product traceability system has been established in combination with the first block chain platform in China promoted by People's Government of Yunnan Province. Several national and provincial digital agriculture pilots have been developed in our province to provide scientific quality assurance for production management and circulation management, and create a safe and secure environment for the quality management of agricultural products for customers.

5. Conclusion

Fast social progress stimulates people's increasing demand for agricultural products, especially green fresh agricultural products that will occupy a lion share in market. However, an urgent issue to be solved is how to deliver good-quality agricultural products to consumers' tables in the fastest way. In summary, focus should be placed on development of e-commerce in rural areas, in order to speed up transporting plateau specialty agricultural products of Yunnan to other provinces and other countries, contributing a distinctive Yunnan dish flavor to people of the whole country and even the world.

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