

Live-streaming e-commerce empowers agricultural products: A new engine for rural revitalization

Shuyi Wang *

Department of Lanzhou University of Finance and Economics, Lanzhou China

* Corresponding Author Email: 2783064220@QQ.com

Abstract. Taking the application of live-streaming e-commerce in the sales of agricultural products as a starting point, this paper explores how it empowers agricultural products and contributes to the revitalization of the rural economy. At the same time, the study also points out that the development of live-streaming e-commerce for agricultural products faces challenges such as a shortage of professional talents, unstable supply chains, imperfect laws and regulations, and insufficient industry self-discipline. The research believes that through measures such as carrying out professional training, introducing talent incentives, improving cold chain logistics and supply chain infrastructure, perfecting regulatory systems, and promoting the coordinated development of platforms and the industrial chain, the healthy development of live-streaming e-commerce for agricultural products can be promoted.

Keywords: Live-streaming e-commerce, Agricultural products, Rural revitalization, Influencing factors.

1. Introduction

Rural revitalization is an important project for the great rejuvenation of the Chinese nation and serves as the overarching approach for the work related to agriculture, rural areas, and rural residents in the new era and new journey. In recent years, with the rapid development of the digital economy, live-streaming e-commerce, as a new business model, has gradually become an important engine for promoting rural revitalization. Live streaming of agricultural products is a new marketing approach that sells agricultural products through online live streaming platforms, playing a crucial role in rural revitalization. Consumers can see the appearance and growing environment of agricultural products in real time. Anchors can also answer questions on the spot, enhancing consumers' trust in the products. At the same time, it breaks the geographical limitations of traditional sales, enabling agricultural products to be sold across the country and even in the global market, increasing sales opportunities.

On September 11, 2024, Douyin E-commerce released the "Douyin E-commerce's Data Report on Assisting Agriculture during the 2024 Harvest Festival". It shows that from September 2023 to September 2024, Douyin E-commerce sold a cumulative total of 7.1 billion orders of agricultural and specialty products, a year-on-year increase of 61%. On average, 17.4 million packages of agricultural and specialty products are sold to all parts of the country every day, continuously driving high-quality agricultural and specialty products to "leave the countryside and enter the city". The number of agricultural product merchants on the platform increased by 63% year-on-year, the number of creators in the fields of agriculture, rural areas and farmers increased by 52% year-on-year, and the variety of agricultural and specialty products sold on the platform increased by 170% year-on-year. More and more agricultural product merchants and influencers are connecting with a wider range of consumers through Douyin E-commerce.

With the explosive development of live streaming e-commerce, many scholars have carried out multi-dimensional research on this. Scholars such as Guo Hongdong, Cheng Dong, and Sun Jingle have studied the connotation and essence of live streaming e-commerce. Chai Sen has studied the development status and advantages of live streaming e-commerce of agricultural products. Scholars such as Deng Zhe and Tong Zeng have explored some existing problems in live streaming e-commerce. Peng Li, Li Su and other scholars have studied how to cultivate technical and skilled

talents in live streaming e-commerce from the perspective of colleges and universities. .[6] [7] [8] [9] This article intends to study how live streaming e-commerce empowers agricultural products, the positive impacts of live streaming e-commerce of agricultural products on rural revitalization, and the challenges it faces during the development process, and put forward targeted countermeasures and suggestions, providing a reference for the government to formulate policies and for relevant agricultural business entities to make long-term plans. The combination of live-streaming e-commerce and agricultural products has great potential and is expected to inject strong impetus into rural revitalization and promote the realization of the goals of a strong agriculture, a beautiful countryside, and prosperous farmers.

2. The Internal Logic of Live-streaming E-commerce Empowering Agricultural Products

2.1. Improving Quality

Optimize planting and breeding techniques, and introduce advanced agricultural technologies, such as precise fertilization and green prevention and control of plant diseases and insect pests, to increase the yield and quality of agricultural products.

Strengthen quality supervision and establish a strict quality inspection system. Conduct full-process quality monitoring of agricultural products, from the production source to market circulation. Define specific requirements for agricultural products in terms of appearance, taste, nutritional components, safety indicators, etc., to ensure compliance with relevant standards. For example, when classifying apples, detailed standards should be formulated regarding fruit size, color, sugar content, pesticide residue levels, and other aspects, so that there are standards to follow for the quality of agricultural products.

2.2. Developing the Processing Industry

Develop deep-processed products, process agricultural products into diverse products, extend the industrial chain. Adopt advanced processing technologies and equipment to conduct fine processing of agricultural products, reduce the loss of nutrients during the processing process, and increase the added value of agricultural products. For example, in the processing of edible oil, the low-temperature pressing process can be used to retain more nutrients and natural flavors. In the processing of fruits, cold chain preservation and aseptic filling technologies can be adopted to extend the shelf life of fruit products and maintain their original quality.

Establish strict processing procedures and hygiene standards to ensure the cleanliness and hygiene of the processing process. Processing enterprises should strictly abide by food safety production norms, strengthen the training and management of processing personnel, regularly clean and disinfect processing equipment and places to prevent microbial contamination and the residue of harmful substances. According to the characteristics of agricultural products, select appropriate storage and preservation methods. For perishable agricultural products such as fruits and vegetables, cold chain storage technology should be adopted to control the storage temperature and humidity and delay the aging and deterioration process of agricultural products. At the same time, when using preservatives, antimicrobials, etc. reasonably, the dosage should be strictly controlled in accordance with national standards to ensure the quality and safety of agricultural products.

2.3. Expanding Sales Channels

Carry out publicity and promotion of agricultural products through social media platforms such as WeChat official accounts, Weibo, Douyin, etc., break through geographical limitations, and introduce agricultural products to the national and even global markets. Release content such as the growth process, picking scenes, and cooking methods of agricultural products to attract the attention of followers and establish a brand image. Utilize the e-commerce functions of social media or links with

e-commerce platforms to achieve the conversion of agricultural product sales. For example, showcase agricultural products through short videos and live broadcasts on Douyin to guide viewers to make purchases.

Develop cold chain logistics to ensure the quality of fresh agricultural products during transportation and storage, expand the sales radius, and improve the freshness and safety of products.

3. The Impact of Live-streaming E-commerce of Agricultural Products on Rural Revitalization

3.1. The Positive Impact of Live-streaming E-commerce of Agricultural Products on Rural Revitalization

3.1.1. Expanding sales channels and solving the problem of unsalable agricultural products

Live-streaming e-commerce directly promotes agricultural products from remote areas to the national and even global markets through the Internet, breaking the dependence of traditional offline sales on geographical locations and intermediate links. Farmers directly connect with consumers through live streaming, reducing circulation costs and increasing profit margins. In the live-streaming e-commerce of agricultural products, the combination of "production place + product" is one of the core selling points, which can highlight regional characteristics, enhance consumers' trust, and improve the product's premium ability. Its essence is to transform regional endowments into consumer trust. Through the intuitive display of live streaming, consumers can perceive the uniqueness of "products are nurtured by the local environment", and thus are willing to pay a premium for high-quality agricultural products. Firstly, it can promote economic development and increase farmers' income. The smooth sales of agricultural products enable farmers to obtain a stable income, which is the basis for improving farmers' living standards. Taking fruit cultivation as an example, after expanding e-commerce sales channels, the previously unsalable fruits can be sold, significantly increasing farmers' income and enabling them to improve their living conditions and enhance the quality of life. For instance, the "Golden Production Place Plan" launched by the Douyin platform in 2024 has doubled the sales volume of seasonal fruits during the peak season. The sales of Minqin honeydew melons have increased by 393% year-on-year, Zigui spring oranges have increased by 197% year-on-year, and Shandong Yugu melons have increased by 136% year-on-year, achieving a rapid connection "from the field to the dining table" through live streaming. (The data is sourced from the "Douyin E-commerce's Data Report on Assisting Agriculture during the 2024 Harvest Festival"). Secondly, it can strengthen rural governance and improve governance efficiency. Solving the problem of unsalable agricultural products can enable grass-roots governments and organizations to establish higher prestige among villagers. The government helps farmers solve practical difficulties by actively guiding and providing sales channels. As a result, villagers' trust in the government increases, and they are more willing to cooperate with the government in various rural governance work, thereby improving the efficiency of rural governance.

3.1.2. Increasing the Added Value of Agricultural Products and Facilitating Brand Building

prosperity of the industry and increase the added value of products. Through brand building, unique brand images, cultural connotations, and quality guarThe brand building of agricultural products is closely related to rural revitalization. Firstly, it can promote the antees are given to agricultural products, enabling them to be distinguished from ordinary products in the market, thus achieving high quality and high prices and improving the economic value of agricultural products. For example, Wuchang rice has created a well-known brand relying on its unique geographical environment and strict planting and processing standards. Its price is much higher than that of ordinary rice, bringing higher income to local rice farmers.

Secondly, it can contribute to ecological livability and guide green production. The brand building of agricultural products often coincides with the protection of the ecological environment. Consumers' demand for green, environmentally friendly, and organic agricultural products is

constantly increasing. In order to meet market demand and maintain their brand image, branded agricultural products will pay more attention to the protection of the ecological environment, adopt green production methods, reduce the use of fertilizers and pesticides, and promote ecological planting and breeding models. This is conducive to protecting the rural ecological environment and realizing the sustainable development of agriculture. For instance, the brand of jasmine tea in Hengxian, Guangxi, focuses on the ecological protection of jasmine planting bases during its development process. It adopts green production technologies such as biological pest control, which not only ensures the quality of tea but also protects the local ecological environment.

3.1.3. Promote industrial integration and drive rural employment

The development of live-stream e-commerce for agricultural products not only boosts the development of the primary industry such as the cultivation and breeding of agricultural products, but also promotes the integrated development of the secondary and tertiary industries, including the processing, packaging, and logistics of agricultural products. This has extended the industrial chain and enhanced the added value of agricultural products. For example, the "live-stream village" in Suichang, Zhejiang, has driven the development of local logistics and warehousing.

The increase in employment opportunities has attracted young people to return to their hometowns to start businesses and trained "new rural" anchors, such as "Zhang Classmate" and "Sichuan Peaches Sister". Meanwhile, it has provided jobs such as sorting and packaging for rural women and the elderly left behind. This has increased farmers' income, enabling them to have more funds to improve their living conditions, such as housing, education, and medical care, and has improved their quality of life, thus promoting the realization of the goal of rural revitalization.

3.2. The constraints of the development dilemmas of live-stream e-commerce of agricultural products on the implementation of the rural revitalization strategy

3.2.1. Shortage of professional talents and imperfect talent cultivation system

Live-stream e-commerce of agricultural products requires compound talents who understand the characteristics of agricultural products, master agricultural knowledge, and are proficient in live-streaming techniques, and familiar with e-commerce operation and marketing. However, in reality, such professional talents who understand both agriculture and e-commerce live-streaming are extremely scarce. Excellent live-stream anchors for agricultural products not only need to have good language expression skills and a sense of the camera, but also need to have an in-depth understanding of relevant knowledge of agricultural products, and be able to vividly introduce the features, advantages, and consumption methods of products to the audience. Nevertheless, currently, the number of such professional live-stream anchors for agricultural products in the market is limited, and it is difficult to meet the growing demands of the live-stream e-commerce industry for agricultural products. The professional settings in universities are lagging behind. The relevant professional settings in some universities fail to keep up with the development pace of the live-stream e-commerce industry of agricultural products. There is a disconnection between the curriculum system and teaching content and the actual work requirements. The knowledge and skills that students learn at school are difficult to be directly applied to the actual work of live-stream e-commerce of agricultural products.

3.2.2. Unstable supply chain

Agricultural products have the characteristics of seasonality and periodicity, and their production and supply are greatly affected by factors such as natural conditions and market demand. In case of sudden situations like natural disasters and the epidemic, the output and supply of agricultural products may be severely affected and fail to meet the sales demands of live-stream e-commerce. The fresh nature of agricultural products requires efficient cold chain logistics and timely distribution. However, currently, the cold chain logistics infrastructure in rural areas is relatively weak, and the logistics distribution system is not perfect, resulting in problems such as rotting and deterioration of agricultural products during transportation, which affects the product quality and sales.

3.2.3. Imperfect laws and regulations and insufficient industry self-discipline

As an emerging industry, the live-stream e-commerce of agricultural products lacks sound relevant laws, regulations and supervision systems, with some gaps and loopholes in supervision. In aspects such as product quality, advertising promotion, intellectual property protection and consumer rights protection, there is a lack of clear and specific provisions and standards, making it difficult to effectively supervise and punish some illegal behaviors. At present, the live-stream e-commerce industry of agricultural products lacks a unified industry self-discipline organization and standardized standards, and the behaviors of various market entities lack effective constraints and guidance. In order to pursue economic interests, some merchants and anchors engage in bad behaviors such as malicious competition, brushing orders and fabricating false reputation, and data fraud, which disrupts the market order.

4. Policy Recommendations for Promoting the Healthy Development of Live-stream E-commerce of Agricultural Products

4.1. Deepening the Talent Cultivation Mechanism of Live-stream E-commerce of Agricultural Products

Carry out professional training. The government organizes training courses for live-stream e-commerce of agricultural products, covering live-streaming skills, marketing knowledge, and agricultural product knowledge, etc., and provides free or subsidized training for new agricultural business entities, farmers, etc. Introduce talent incentives. Introduce talent introduction policies, and provide entrepreneurial subsidies, housing benefits, etc. for college students and professional talents who return to their hometowns to engage in live-stream e-commerce of agricultural products, encouraging them to take root and develop in rural areas. Collaborate with universities and vocational colleges, and establish a "Live-stream E-commerce Entrepreneurship Park" in agricultural colleges, providing technical support and resource matching.

4.2. Improving the Supply Chain and Infrastructure

Improve the cold chain logistics. Increase investment in the construction of cold chain logistics facilities for agricultural products, support the purchase and upgrading of facilities and equipment such as cold storage at the production sites and refrigerated transportation vehicles, and improve the freshness preservation capacity and transportation efficiency of agricultural products. Integrate logistics resources of postal services, [JD.com](https://www.jd.com), SF Express, etc., and reduce the distribution costs in remote areas. Open up a "green channel" for fresh agricultural products to prioritize ensuring the transportation timeliness.[2]

Promote the blockchain traceability technology to achieve the whole-process traceability from planting to sales (for example, scan the code to view the growth environment and inspection reports of agricultural products). The government, in conjunction with platforms, establishes an "Agricultural Product Quality Certification Database" to combat counterfeit products from the origin.

Cover village-level service stations. Set up "E-commerce Comprehensive Service Stations" in townships, providing one-stop services such as live-streaming equipment, product packaging, and agency operation.

4.3. Regulating the Market Order and Standards

Improve the supervision system. Establish and improve the supervision system for live-stream e-commerce of agricultural products, clarify the responsibilities of various departments, strengthen the supervision of live-stream content, product quality, transaction behaviors, etc., and increase the punishment for illegal and irregular behaviors. Formulate the "Business Specification for Live-stream E-commerce of Agricultural Products", requiring anchors to clearly indicate key information such as the origin, specifications, and shelf life of products, and prohibit false propaganda (such as passing

off non-Yangcheng Lake hairy crabs as Yangcheng Lake hairy crabs). The platform establishes a "White List of Honest Merchants of Agricultural Products" and gives priority to recommending compliant operators.

Strengthen quality inspection. Improve the quality inspection system for agricultural products, strengthen the sampling inspection of agricultural products sold through live-streaming, and require anchors and merchants to provide product quality inspection reports to protect the rights and interests of consumers. For varieties with a low qualified rate of sampling inspection, formulate a "one product, one strategy" tackling and governance plan according to the characteristics of planting and breeding, the hidden risks of drug residues, etc., highlight strict crackdowns and management, severely punish the illegal use of banned drugs, strictly control the excessive residues of conventional drugs, and transfer serious cases to the judicial department. The agricultural and rural departments, in conjunction with market supervision agencies, conduct random sampling inspections of agricultural products sold through live-streaming and announce the list of unqualified products. Establish a "blacklist" system and restrict the traffic or ban the accounts of anchors or merchants who violate the regulations multiple times.

Standardize and brand agricultural products. Promote the grading standards of agricultural products (such as the grading of fruits by size and sweetness) to avoid vicious competition at low prices. Support the brand registration of "one village, one product" to prevent trademark infringement.

4.4. Promoting the Collaborative Development of Platforms and the Industrial Chain

Provide platform traffic support. Encourage platforms such as Douyin and Taobao to set up a "Live-streaming Zone for Rural Revitalization", and give traffic preferences to live-streaming rooms of agricultural products. Reduce the commission ratio for agricultural product categories to reduce the operation costs of farmers.[1]. Adopt the "Live-streaming + Industrial Belt" model. The government, in conjunction with platforms, builds regional live-streaming bases for agricultural products (such as the live-streaming center of the Guangxi Luosifen industrial belt) to centrally promote characteristic products.

Integrate cross-border resources. Promote the integration of "live-streaming + tourism + culture". For example, when selling navel oranges in Gannan, link with the local red tourism routes for publicity.[3]

5. Conclusion

The wave of live-stream e-commerce has swept in, opening up a brand-new channel to the vast market for the sales of agricultural products, and becoming the well-deserved "new engine" in the process of rural revitalization. It has broken the shackles of regions, time and space, enabling agricultural products from the fields to reach consumers' dining tables across mountains and rivers. It has reshaped the production and sales chain of agricultural products, endowing traditional agriculture with new vitality in the digital era. Moreover, it has built a bridge between the countryside and the city, promoting the two-way flow of resources and the integrated development of urban and rural areas.

However, empowering agricultural products through live-stream e-commerce is not a smooth journey. Problems such as low standardization of products, bottlenecks in logistics and distribution, and a shortage of talents still exist. Nevertheless, every challenge contains opportunities, and every breakthrough propels the industry to a higher level.

Looking ahead, with the continuous innovation of digital technology and the increasing improvement of rural infrastructure, the combination of live-stream e-commerce and agricultural products is bound to burst out with even greater vitality. It can not only open up broader sales channels for agricultural products and help farmers increase their income and get rich, but also inject a continuous stream of impetus into the upgrading of rural industries and cultural dissemination. It is believed that with the coordinated efforts of multiple parties, the "new engine" of live-stream e-

commerce will surely continue to exert its power, driving the giant ship of rural revitalization forward and writing a brand-new chapter of a strong agriculture, a beautiful countryside, and prosperous farmers.

References

- [1] State Administration for Market Regulation. Interpretation of the Opinions of the Food Safety Office of the State Council on Further Strengthening the Whole-chain Supervision of Food Safety. April 9, 2025. https://www.samr.gov.cn/xw/xwfbt/art/2025/art_b578812a31bf4edba9ee08539bf193ab.html
- [2] Zhao Wende, Zhao Han. Research on the High-quality Development Path of Rural Revitalization Facilitated by the Digitalization of the Agricultural Product Supply Chain [J]. China Business & Trade, 2025, 34(5): 91 - 95.
- [3] Huang Yan. Research on the Path of Rural E-commerce Empowering Farmers' Income Increase [J]. China Business & Trade, 2024, 33(13): 35 - 38.
- [4] Lü Hongjing, Sun Mingkai. Research on the Marketing Path of Agricultural Products through "Short Videos + Live Streaming" under the Background of Rural Revitalization [J]. Journal of Liaoning Agricultural Technical College, 2025, 27(02): 25 - 29.
- [5] Peng Li, Li Su. Research on the Path to Improve the Training Quality of Technical and Skilled Talents in Agricultural Product Live-streaming E-commerce in Higher Vocational Colleges from the Perspective of "Double High" Construction [J]. China Food Industry, 2024,(15): 167 - 169.
- [6] Guo Hongdong, Qu Jiang. Research on the Sustainable Development of Live-streaming with Goods for Rural Development [J]. People's Tribune, 2020(20): 74 - 76.
- [7] Cheng Dong, Wang Zhenshan, Sun Yongbo. The Essence of Live-streaming with Goods: Is It a Disruptive Innovation or an Expansion of the Traditional E-commerce Model? [J]. Journal of Commercial Economics, 2021(5): 86 - 89.
- [8] Sun Jingle. Research on the Normalized Development Strategy of "Live-streaming with Goods" Based on Sentiment Analysis Technology [J]. Journal of Mianyang Teachers' College, 2021(1): 62 - 68.
- [9] Chai Sen. "Live-streaming with Goods" Empowers New Consumption Momentum in the Submerged Market [J]. China National Conditions and Strength, 2020(3): 12 - 14.