

Analysis of the Current Situation, Influential Factors, and Countermeasures of Rural E-commerce Development

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Abstract: The development of rural e-commerce is becoming an important driver for the transformation of China's rural economy, and with the rapid development of information technology and the upgrading of the agricultural industry, rural e-commerce is showing a vigorous momentum of development. Traditionally, agricultural products are mainly sold through traditional farmers' markets, which are subjected to geography and channel limitations, resulting in inefficient circulation of agricultural products. This paper analyzes the definition, the status quo, as well as the influencing factors of rural e-commerce development. On this basis, countermeasures for the advancement of rural e-commerce development are put forward.

Keywords: Rural e-commerce; Influencing factors; Industrial clusters; Response

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1. Introduction

With the rise of e-commerce, farmers are directly connected to consumers through the Internet, realizing a direct connection from the production end to the consumption end, greatly enhancing the sales channels and market coverage of agricultural products, and consumers are able to buy agricultural products easily through the e-commerce platform, thereby facilitating the mutual benefits of urban and rural residents. The infrastructure construction, network coverage, and logistics systems of rural areas should be improved. Besides, the digital gap between urban and rural areas should be narrowed, and the branding of agricultural products should be promoted through a series of countermeasures. Rural e-commerce industry clusters should be built through quality assurance and traceability systems, and collaborations between upstream and downstream of the industry chain should be promoted to form a scale effect. Proper scientific and reasonable research can provide strong support for the sustainable development of rural e-commerce, which will help revitalize China's economy.

2. Overview of rural e-commerce

Rural e-commerce, as a product of the deep integration of information technology and the agricultural industry, plays an important role in connecting urban and rural areas, promoting the circulation of agricultural products, and improving the lives of farmers. With the rapid development of science and technology, rural e-commerce in China has made remarkable progress. First of all, rural e-commerce provides farmers with a broader market space by breaking geographical restrictions so that high-quality products from remote areas have the opportunity to enter the urban market. Secondly, the rural e-commerce platform provides farmers with a more convenient sales channel. Through online transactions, agricultural products are no longer limited to traditional marketing. Sellers can now perform consumer docking through the e-commerce platform, reducing the intermediate links, and improving the efficiency of sales. At the same time, consumers are also able to buy fresh, high-quality agricultural products more directly through the e-commerce platform, which is a win-win situation for rural and urban areas. Rural e-commerce also promotes the entrepreneurial employment of rural residents and propels local economic development. However, the development of rural e-commerce comes with some challenges, including insufficient infrastructure, low levels of digital literacy, and bottlenecks in the supply chain of agricultural products. Therefore, in order to achieve the sustainable development of rural e-commerce, it is necessary for the government, enterprises, and society to work together to strengthen infrastructure construction, enhance farmers' digital literacy, and optimize the supply chain of agricultural products, so as to promote the healthy development of the rural e-commerce industry and achieve the overall revitalization of the rural economy.

3. Current situation of rural e-commerce development

Rural e-commerce in China has been developing rapidly. With the advancement of information technology and agricultural modernization, rural e-commerce has gained widespread attention and development in rural areas of China. The popularization of rural e-commerce has enabled rural residents to purchase all kinds of commodities more conveniently, ranging from daily necessities to agricultural products, all of which can be easily accessed through e-commerce platforms. This provides rural residents with more diversified consumption choices and has greatly improved their quality of life.

Secondly, rural e-commerce plays an active role in improving agricultural product sales^[1]. Through the e-commerce platform, farmers can now introduce their agricultural products to a wider market instead of traditional farmers' markets while reducing intermediate links and improving sales efficiency. Rural e-commerce also provides farmers with entrepreneurial opportunities. Many agricultural brands have emerged through the platform, which in turn promote the development of the local rural economy. However, China's rural e-commerce is still faced with a number of challenges: imperfect network infrastructure, low level of digital literacy among farmers, and bottlenecks in the supply chain of agricultural products. Solving these problems requires the joint efforts of the government, enterprises, and society as a whole. China is now continuously strengthening the construction of rural network infrastructure, improving the digital literacy of farmers, optimizing the supply chain of agricultural products, and formulating better policies, which are all key to promoting the healthy development of rural e-commerce. Overall, rural e-commerce is flourishing in China, propelling the development of the rural economy, while also providing more development opportunities for farmers, which is an important driver for the comprehensive revitalization of China's rural areas^[2,3].

4. Influencing factors of rural e-commerce development

The development of rural e-commerce is affected by a variety of factors, involving both the conditions of the

rural area itself and the overall social and economic environment. The main factors affecting the development of rural e-commerce include the following: (1) Infrastructure construction: the development of rural e-commerce is constrained by the infrastructure, including network coverage, the e-payment system, and logistics and transportation. The lack of a perfect infrastructure will directly affect the operation of the e-commerce platform and the logistics of the agricultural products. (2) Level of digital literacy: the level of digital literacy of rural residents directly affects their acceptance of e-commerce, and being able to maximize the digital literacy of rural residents is an important factor in promoting the development of rural e-commerce. (3) Policy support: The government's policy support and encouragement for rural e-commerce, including financial support, tax policy, and the construction of rural e-commerce parks, can provide a good development environment and support system for rural e-commerce. (4) Agricultural products supply chain: the smoothness of the supply chain of agricultural products is crucial to the successful operation of rural e-commerce, including harvesting, storage, and transportation. and other links. Problems in these links will directly impact the development of rural e-commerce. (5) Market demand: the market demand for agricultural products and rural specialty commodities is the driving force of rural e-commerce, and it is necessary to fully understand the market demand and adjust the commodity structure of the e-commerce platform accordingly so that the needs of the consumers can be better met. (6) Financial support: The support of financial institutions can reduce the financing cost of entrepreneurs and promote the healthy development of rural e-commerce. The development of rural e-commerce needs certain financial support, including start-up capital and operating capital. (7) Social and cultural factors: social and cultural factors in rural areas will also affect the development of e-commerce, specifically related to the farmers' perception of consumption, ways of trading, and so on. Understanding and integrating the local culture to better meet the consumption habits of farmers can help promote the development of e-commerce. (8) Competitive environment: the intensity of competition in the e-commerce market is particularly important. In regions in which the competition is fierce, e-commerce platforms need to be more innovative and competitive to attract more users and suppliers of agricultural products ^[4,5].

5. Countermeasures for rural e-commerce development

5.1. Strengthening rural e-commerce infrastructure construction

The healthy development of rural e-commerce highly depends on the infrastructure. Good infrastructure is essential to ensure good network coverage, payment system, logistics and transportation for the smooth development of rural e-commerce. Specifically, it is important to improve network coverage to ensure network stability and efficiency in rural areas, so as to ensure smooth transactions and access to information on e-commerce platforms. Besides, the construction of a fast and stable network communication infrastructure, especially in remote rural areas, is crucial to narrowing the digital gap between urban and rural areas, which is the main goal of infrastructure improvement ^[6,7].

In addition to this, in order to facilitate farmers' transactions on e-commerce platforms, it is necessary to build convenient, fast, and secure electronic payment systems. The use of cell phone payments and electronic payment tools should be encouraged in rural areas. The development of financial services that are compatible with trade in agricultural products should also be promoted to make transactions more efficient. The government and financial institutions can promote cashless transactions by building an electronic payment infrastructure that supports rural e-commerce transactions, providing farmers with a convenient alternative payment method.

Compared to conventional industrial planning, the seamless flow of logistics in the entire e-commerce supply chain, spanning from the harvesting of agricultural goods to their delivery to end consumers, significantly impacts the quality and punctuality of products. Establishing efficient and smart rural logistics

systems emerges as a pivotal strategy for enhancing infrastructure. This involves erecting rural logistics hubs, enhancing the cold-chain logistics network, and leveraging cutting-edge logistics technologies. These efforts fundamentally enhance the efficiency of transporting agricultural products, ensuring their freshness, and boosting the effectiveness of rural e-commerce. This, in turn, safeguards product freshness and enhances the competitive edge of rural e-commerce platforms.

5.2. Improving the quality of sales products

Enterprises need to establish a quality management system to promote the standardization and branding of agricultural products, strengthen the quality of testing and certification, as well as technical training for farmers. This approach can effectively improve the overall quality of agricultural products to meet the needs of consumers, thereby promoting the sustainable development of rural e-commerce ^[8,9].

The government, enterprises, and all sectors of society should work together to create a favorable environment for improving the quality of agricultural products. On the one hand, rural e-commerce platforms should cooperate with suppliers of agricultural products and establish a strict quality management system to ensure that the goods sold comply with national and local quality standards. The whole process of production, processing, and transportation of agricultural products can be tracked by establishing a traceability system so that consumers can have a clearer understanding of the origin of the products and the manufacturing environment. This enhances the transparency of the products and the customers' trust in the platform. On the other hand, rural e-commerce platforms can guide farmers to adopt standardized planting and breeding techniques to ensure the stability of the quality of agricultural products. On this basis, it is also necessary to promote the brand-building of agricultural products, cultivate several brands with local characteristics and high quality, and improve the value of agricultural products. In addition, e-commerce platforms can cooperate with local governments and agricultural cooperatives to jointly promote the branding of agricultural products, thereby increasing consumer recognition and trust in the products, thereby boosting the inclination to purchase. In order to improve the quality of agricultural products, a professional quality inspection team can be established to carry out quality testing of the products to ensure the safety, hygiene, and quality of the goods ^[10,11].

5.3. Constructing rural e-commerce industry clusters

In the advancement of rural e-commerce, setting up industrial clusters plays a crucial role in building a complete industrial chain and necessary supporting facilities for development. Through clustering, different entities like enterprises, agricultural producers, e-commerce platforms, and logistics service providers can collaborate effectively. This collective effort forms a synergistic development model for the entire industrial chain, boosting the efficiency of rural e-commerce overall. It ensures that entities within the clusters can share resources, information, and market opportunities, thereby promoting the construction of a robust rural e-commerce ecosystem. In addition, through the construction of e-commerce industry clusters, more enterprises will be attracted to settle in the cluster, providing more employment opportunities for farmers. Building upon this foundation, entrepreneurial opportunities in agricultural products processing, logistics, transportation, and other related sectors can be provided. This approach promotes the diversified development of the agricultural economy ^[12,13].

On the one hand, in the industrial cluster, various enterprises and organizations can jointly carry out research and development to promote the continuous innovation of rural e-commerce technology. By sharing advanced technology and management experience, the overall technical proficiency of the industry can be elevated, propelling rural e-commerce toward digitization and intelligence. This collaborative innovation

mechanism facilitates the sustainable growth of the rural e-commerce sector while enhancing the collective core competitiveness. Concurrently, within industrial clusters, all stakeholders can pool their resources to achieve economies of scale, enhance productivity, lower costs, and bolster the market competitiveness of agricultural products. The formation of these clusters also facilitates centralized consultation, the establishment of industry standards, and the promotion of the sound and orderly development of the rural e-commerce industry^[14,15].

6. Conclusion

In summary, rural e-commerce provides new development opportunities for China. However, its development is still facing challenges in various aspects such as insufficient infrastructure, low level of digital literacy, and bottlenecks in the supply chain of agricultural products. To this end, the challenges should be addressed through multiple means, such as strengthening infrastructure construction, including network coverage and the logistics system; and improving the digital literacy level of farmers, formulating supportive policies, promoting the standardization and branding of agricultural products, and constructing rural e-commerce industry clusters. These measures aim to enhance the operational landscape of rural e-commerce, elevate the quality of agricultural products, and fortify market integration. Their objective is to steer the rural e-commerce industry towards a healthier and more sustainable trajectory, injecting fresh vitality into the overall revitalization of the rural economy. It is imperative for the government, enterprises, and all segments of the community to collaborate in promoting the implementation of these measures, thus realizing the sustainable prosperity of rural e-commerce.

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