

## Research on the Development Status and Path of Rural E-commerce under the Background of Digital Economy

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### Abstract

The development of Internet technology has driven the rise of E-commerce. With the improvement of rural network infrastructure, E-commerce has come down to rural areas and become an important driving force to promote rural economic development. However, different from cities, the development of E-commerce in rural areas still faces a series of difficulties. How to solve these difficulties has become a difficult problem to be solved at present. Based on this, this paper first analyzes the current situation of the development of rural E-commerce, then summarizes the importance of E-commerce to rural development and the advantages of rural E-commerce, then analyzes the prominent problems faced by the development of rural E-commerce, and finally gives countermeasures and suggestions to promote the development of rural E-commerce, hoping to provide reference for relevant researchers.

### Keywords

Rural E-commerce; Economic Development; Outstanding Problems; Countermeasures and Suggestions.

### 1. Introduction

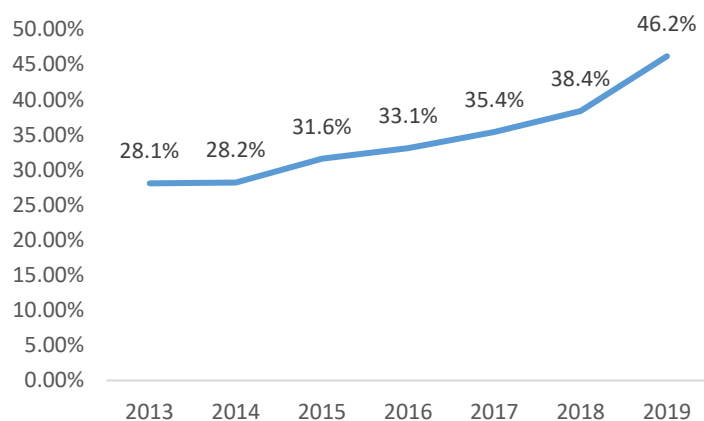
With the development of Internet technology, the digital economy based on information technology has become an important factor to promote China's economic development. Under the background of digital economy, rural E-commerce also shows a vigorous development trend. Many agricultural and sideline products are sold through E-commerce platforms. E-commerce economy plays an important role in promoting rural poverty alleviation, rural revitalization and economic development. Although the development of rural E-commerce in China has made a series of achievements at this stage, there are still many obstacles. How to give full play to the potential of E-commerce and promote the overall improvement of rural economy is the content of this paper.

### 2. Development Status of Rural E-commerce

In recent years, with the development of Internet information technology, E-commerce based on network has also ushered in an upsurge of development. Especially with the popularity of the Internet, E-commerce has gradually expanded to rural areas and become an important driving force to promote the rural economy. Since 2015, our country has issued relevant policies to encourage, support, unblock and enhance the development of rural E-commerce, help rural revitalization and poverty alleviation, and promote rural economic growth. The document emphasizes the need to strengthen policy support, and local governments should issue specific

guidelines to guide the development of rural E-commerce; we should constantly improve the construction of logistics system, and realize the logistics distribution network of "direct mail from village to village" and "network in villages and towns" by 2020; we should strengthen the training of E-commerce talents, implement the "one million talents plan" and provide professional skills training for farmers, which points out the direction for the development of rural E-commerce.

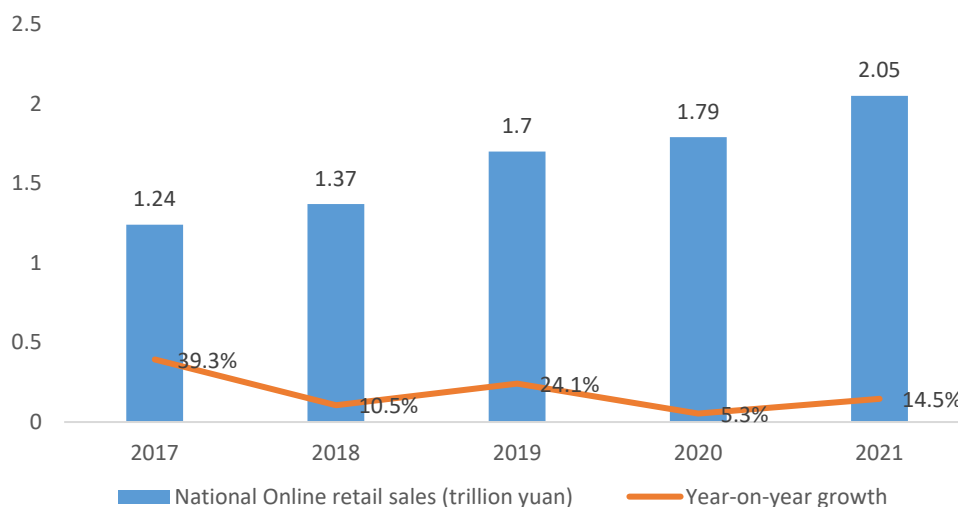
With the support of various national policies for rural E-commerce, the construction of rural infrastructure has been gradually improved. As of June this year, the Internet penetration rate in rural areas has reached 59.2%. The Internet penetration rate in rural areas from 2013 to 2019 is shown in Figure 1. The proportion of optical fiber and 4G in administrative villages has exceeded 99%. In 2020, the penetration rate of durable goods such as refrigerators, color televisions and home computers will reach 30.9%, and the gap with the city will narrow year by year. The improvement of infrastructure will certainly promote the progress of rural E-commerce. In the first half of 2022, the national online retail sales of rural products reached 954.93 billion yuan, a year-on-year increase of 21.6%, and the national online retail sales of agricultural products reached 208.82 billion yuan. Throughout the "13th five-year plan" period, the national rural online retail sales increased from 1.24 trillion yuan in 2017 to 2.05 trillion yuan in 2021, with an average annual growth rate of 19.1%, as shown in Figure 2. The development of rural E-commerce in China has made brilliant achievements. By 2021, there are 7023 Taobao villages and 2171 Taobao towns, as shown in Figure 3. The number of online stores in rural areas across the country reached 15.205 million, and the comprehensive demonstration led to 36 million local entrepreneurship and employment in rural areas, and a total of 6.188 million people out of poverty increased their income.



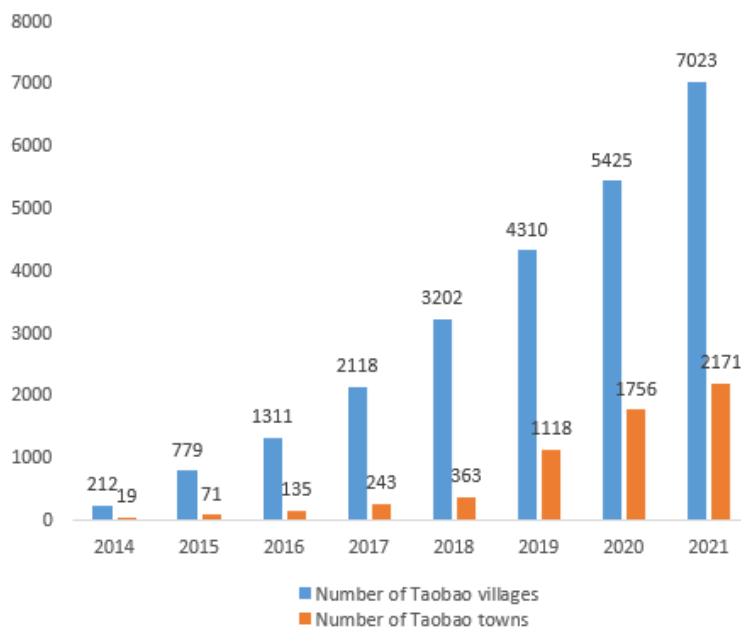
**Figure 1.** Rural Internet penetration in 2013-2019

Source: China Internet Network Information Center, Guosheng Securities Research Institute

Due to the particularity of the rural economic development model, the entry of E-commerce into rural areas needs to be combined with the characteristics of rural economy. At present, the development mode of rural E-commerce includes entering the agricultural E-commerce platform, bringing local high-quality and characteristic agricultural products to the platform for sale or live broadcasting on the E-commerce platform to improve the influence of agricultural products. In addition, it can also create an E-commerce system combining online and offline. Consumers can help farmers in poor areas realize the sales of agricultural products by placing orders online and picking up goods offline through the nearest automatic vegetable vending machine. In addition, based on the product traceability source code formed by information technology, consumers can understand the whole process of planting, processing, sales and distribution of products, ensuring the safety of purchased agricultural products.



**Figure 2.** National Rural online retail sales and growth from 2017 to 2021  
 Source: Ministry of Commerce, West China Securities Research Institute



**Figure 3.** Trend of the number of Taobao villages and towns in China from 2014 to 2021  
 Sources: AliResearch, Zheshang Securities Research Institute

### 3. Importance of Developing Rural E-commerce

#### 3.1. Expand Sales Channels of Agricultural Products[1]

In the past, farmers mainly sold their agricultural products by placing them in the market, or wholesale their agricultural products to wholesalers and shopping malls. The emergence of E-commerce has changed the way that farmers can only sell agricultural products offline through the traditional way, so that farmers can open stores online or broadcast live on a platform to publicize and sell their agricultural products, and widened the channels for farmers to sell agricultural products.

#### 3.2. Accelerate the Circulation of Agricultural Products[2]

E-commerce based on Internet information technology has accelerated the circulation of agricultural products. In the past, agricultural products can only enter from farmers to final

consumers through one level of wholesalers, which will inevitably lead to the rise of costs and the slow speed of circulation. E-commerce can let farmers know the market supply and demand information in time, let agricultural products circulate directly from farmers to consumers who need it, and reduce the circulation links, which not only helps to improve farmers' income, but also ensures the freshness and safety of agricultural products.

### 3.3. Promoting the Transformation of Consumption Patterns[2]

E-commerce has changed the sales channels of farmers' agricultural products. Similarly, it has also changed the ways and channels for farmers to buy other consumer goods. In the past, most farmers consumed through offline physical stores, but now even in rural areas, they can consume anytime and anywhere through convenient and fast networks, so that farmers have more choices in consumption.

### 3.4. Improve the Urban-rural Dual Structure and Narrow the Development Gap between Urban and Rural Areas [2]

The development of rural E-commerce has effectively shortened the gap between urban and rural development in China. In the past, there was a huge gap between urban and rural areas in economy, education and employment. The development of E-commerce enables farmers to see the outside world through the network, understand the latest market information, and solve the problem of poor rural information circulation, so that farmers can better arrange their production activities, make their labor achievements more effective, promote the increase of rural employment and the development of rural economy, and shorten the gap between urban and rural development.

### 3.5. Help Targeted Poverty Alleviation and Promote Rural Economic Development

Through E-commerce, agricultural products have broader sales channels, farmers have more convenient and fast consumption methods, and solve the employment problem of some farmers. For particularly poor areas, we can get rid of poverty by excavating local characteristic industries. Rural E-commerce has driven the overall improvement of the rural economy, improved the income level of farmers, and played a key role in the country's targeted poverty alleviation.

## 4. Advantages of Developing E-commerce in Rural Areas

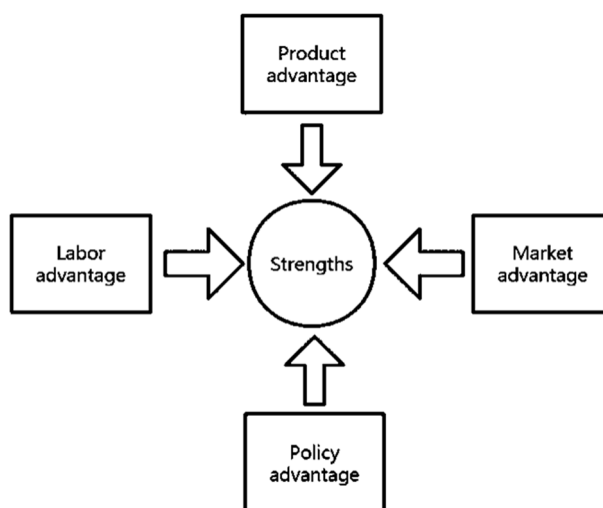


Figure 4. Advantages of Developing E-commerce in Rural Areas

#### 4.1. Product Advantages [3]

The vast land and abundant resources, long agricultural culture, rich natural resources and a wide variety of agricultural products in rural areas have laid a material foundation for the development of rural E-commerce. Through E-commerce, farmers can not only sell their own characteristic vegetables, fruits and other agricultural products to the people of the whole country, but also develop scenic spots in rural areas with cultural heritage and historical records, so as to attract people from all over the country and promote the development of local economy.

#### 4.2. Market Advantages [3]

With the development of economy and the improvement of people's living standards, more and more people no longer only pay attention to what to eat, but also require to eat green and healthy. Healthy and green organic agricultural products are more and more loved and sought after by urban people. At the same time, with the improvement of rural infrastructure, the development of E-commerce in the Internet era has reached the countryside, which makes the desire of urban people to eat green and healthy things come true. People can buy fresh organic agricultural products through mobile phones.

#### 4.3. Policy Advantages

The state and local governments realize that the development of E-commerce plays a key role in releasing the vitality of rural economy, promoting rural employment and realizing poverty alleviation and prosperity in rural areas. Therefore, they attach great importance to the development of rural E-commerce and have successively issued a series of policies and measures to promote the development of rural E-commerce. The notice on carrying out the comprehensive demonstration of E-commerce in rural areas in 2019 emphasizes the need to expand the coverage of E-commerce in rural areas, improve the development level of rural E-commerce and expand rural consumption. Local governments have also actively responded to the call of national policies, jointly building a comprehensive experimental zone for agricultural products and cultivating the development of rural E-commerce.

#### 4.4. Labor Advantage

Rural areas have always had a large number of idle labor force, some of which are caused by their low ideological consciousness, unwilling to bear hardships and stand hard work and unwilling to struggle; there are also some reasons for being unable to do heavy work due to their own health problems; Another part is ambitious and wants to work hard, but due to staying in the countryside all year round, they can't see suitable business opportunities. E-commerce provides all aspiring farmers with a way to get rich and lead them to the development of E-commerce through centralized training.

### 5. Prominent Problems in the Development of Rural E-commerce

#### 5.1. Lack of Professional E-commerce Talents

Professional technical personnel resources are the key factor for the healthy and sustainable development of an industry. The whole process of E-commerce is carried out in the virtual cyberspace. Even the most realistic pictures and videos cannot fully ensure that they can win the trust and choice of consumers. Therefore, some marketing and publicity means need to be used to promote products, and professionals who understand Internet operation are needed. However, most farmers engaged in rural E-commerce have limited knowledge and learning ability, and cannot be proficient in operation in a short time. As an aspiring youth in the new era whose learning ability is at the peak, college students' relevant knowledge learned in colleges and universities is too theoretical and lack practical ability. Therefore, they can't get

started quickly when participating in E-commerce work, but need a period of special training. In addition, influenced by the social situation, their employment concept and face, some young people choose to exercise themselves in big cities after graduation, rather than return to the countryside to participate in rural construction.

## **5.2. Farmers' Ideological Tradition**

Due to the influence of information circulation and knowledge level, most farmers have weak Internet awareness and lack correct understanding of the operation mode of E-commerce. In their traditional concept, the Internet is invisible and untouchable. Therefore, whether as a seller or buyer, they will worry that the other party's non-compliance will lead to the loss of their products or money. Their acceptance of new things is very low. Many people subconsciously don't believe that E-commerce can lead them to get rich or facilitate their lives. The national policies on E-commerce cannot be well implemented. Therefore, in rural areas, it is difficult to drive farmers to develop E-commerce. All links need to hire professionals to connect, which greatly increases the cost of developing rural E-commerce and seriously hinders its development.

## **5.3. Imperfect Construction of Logistics System**

The development of E-commerce is inseparable from a perfect logistics system. Due to the special geographical location of rural areas, the living of the population is relatively scattered, and the average area responsible for each express point is large, which makes it difficult for rural users to get express as easily and quickly as urban users. The distribution goal of "the last kilometer"[4] is difficult to achieve in rural areas, which will reduce farmers' desire for online consumption. Instead of taking express so far, it is better to buy it directly in physical stores. Moreover, the infrastructure construction in rural areas is backward and there is no complete logistics chain, which will lead to some urgent logistics information not being processed in time, affect the logistics service level and hinder the development of rural E-commerce.

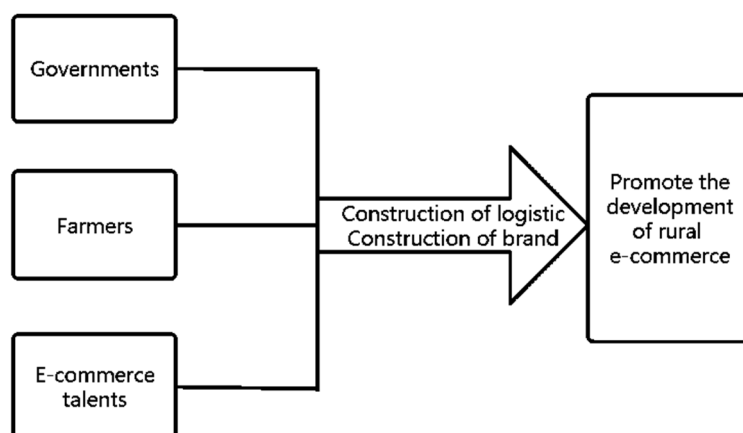
## **5.4. Lack of Brand Awareness**

The management of agricultural products generally lacks brand effect, resulting in the lack of core competitiveness of products. This is mainly because the operation of agricultural products in China is "small and scattered", mainly small-scale production of one household. Without the effect of organization and scale, it is difficult to form brand awareness. At the same time, most agricultural products can be seen everywhere without characteristics. In addition, without additional services, the characteristics of agricultural products themselves are difficult to make them have brand effect. Agricultural products without brand effect have no core competitiveness, which will affect the development of rural E-commerce.

## **5.5. Insufficient Government Support**

Although the state attaches great importance to the development of rural E-commerce, it has issued a series of policies and measures to provide a strong guarantee for the development of rural E-commerce. However, some local governments did not issue relevant local supporting measures according to the requirements of national policies and local characteristics, but complied with the trend of the development of E-commerce era, and did not have targeted and specific policies to support the development of local E-commerce.

## 6. Countermeasures and Suggestions to Promote the Development of Rural E-commerce



**Figure 5.** Some countermeasures and suggestions

### 6.1. Improve the Rural E-commerce Talent System

Talent resources are the key to the good development of rural E-commerce. In order to promote the development of rural E-commerce, we must improve the talent system. First of all, we should build a perfect talent training mechanism. All localities should purposefully strengthen the training of relevant talents according to their actual situation, establish training bases in cooperation with enterprises, regularly train farmers involved in the development of E-commerce, improve their professional knowledge and skills, and provide relevant training to other personnel involved in the development of E-commerce, so that they can operate and manage skillfully. We should also cooperate with colleges and universities. It is suggested that colleges and universities build a reasonable curriculum system, coordinate the relationship between theoretical knowledge learning and practical operation, and cultivate a group of high-quality E-commerce talents. Secondly, we should build a perfect talent introduction mechanism, take corresponding incentive measures to guide college students to return home and start a business, provide them with good employment opportunities, and encourage them to participate in the construction of rural E-commerce.

### 6.2. Strengthen the Publicity and Guidance to Farmers

Farmers are the main body of rural E-commerce development. Only by encouraging all farmers to participate, can the development of rural E-commerce usher in spring. First of all, we need to guide and train the relevant departments and leading cadres in rural areas. First, let the leading cadres move, understand the relevant knowledge and skills of E-commerce, and formulate policies and measures in line with the local development characteristics, to expand the influence of E-commerce and further guide the participation of farmers. Secondly, for farmers who participate in the development of rural E-commerce, certain rewards and financial support shall be given according to the degree of their participation, to help them solve the problems encountered in the development process and attract more farmers to participate. Thirdly, relevant departments should often publicize E-commerce knowledge to farmers through TV, mobile phones, newspapers and other media often used by farmers, solve their doubts, tell them the importance of E-commerce development for promoting rural economic development and improving rural living standards, and subconsciously affect and drive farmers to participate in E-commerce development.

### 6.3. Improve the Logistics System in Rural Areas

Developing rural E-commerce and improving the construction of logistics system is the most important aspect. First of all, we should establish a three-level linkage logistics system of county, township and village[5]. The construction of county-level logistics system is the core of the construction of rural logistics system and the key to get agricultural products going out and industrial products into the countryside. Township level logistics service center is the link connecting county-level and village level logistics services. Generally speaking, township is the place where farmers go to the market and have a large flow of people. Farmers can take the express delivery when they go to towns. Therefore, the construction of township level logistics system is of great significance to reduce the burden of village level logistics services. Village level logistics is the closest logistics center to farmers and the last link of the whole rural E-commerce logistics. The construction of village level logistics system plays a key role in whether the "last kilometer" and "door-to-door" services can be realized. For villages with scattered residents, multiple logistics express companies can cooperate to plan the specific area of each express to reduce the distribution cost. Secondly, we should improve and upgrade the cold chain transportation system, reduce transit links, save distribution time, and ensure the freshness of agricultural products in the hands of consumers. Finally, for some poor rural areas, the backward infrastructure such as roads leads to the low efficiency of express delivery, which requires relevant departments to improve the infrastructure such as roads and networks and do a good job in the basic guarantee of the development of rural E-commerce.

### 6.4. Focus on Brand Building of Characteristic Agricultural Products

Brand building is an important step for products to seize the market and realize sustainable development. The government should guide and support local farmers to enhance their awareness of brand building of agricultural products. First, we should explore the local characteristic agricultural products and characteristic industries, and build local brands according to the characteristics. Having characteristics is the first step to build brands. Secondly, we should carry out standardized construction of products, process and package agricultural products, broaden the industrial chain of agricultural products and increase the added value of agricultural products, which is conducive to building the brand of agricultural products. Finally, we should strengthen publicity and marketing, formulate differentiated sales strategies, expand the influence of products through webcast and short video, and promote our products.

### 6.5. Strengthen Government Support

The government plays an exemplary and leading role in the development of rural E-commerce. If farmers want to do well, the government must take the lead. Local governments should refine the specific implementation measures of various policies in accordance with the relevant provisions of national policies and in combination with local characteristics. At the same time, regular lectures should be held to strengthen farmers' awareness of E-commerce, solve problems and disputes in the application of E-commerce, and encourage farmers to participate in the development of E-commerce. All links of rural E-commerce development need the active participation and support of the government. The government should clarify its leading role, play its own role and drive the development of rural E-commerce.

## 7. Conclusion

In recent years, with the development of network information technology, E-commerce in rural areas has gradually developed. The development of E-commerce in rural areas has many advantages, such as rich products, a large number of labor force, the support of national policies and the pursuit of healthy and green food by modern people. The development of E-commerce plays an important role in expanding the sales channels of agricultural products, accelerating



the circulation of agricultural products, promoting the transformation of rural consumption patterns, narrowing the development gap between urban and rural areas, helping targeted poverty alleviation and promoting rural economic development. However, at present, there are still some obstacles in the development of rural E-commerce, such as the lack of professional E-commerce talents, farmers' traditional ideas, unwilling to accept new things, imperfect logistics system construction, farmers' lack of brand awareness, insufficient government support and so on. Therefore, all localities should recognize their own problems and formulate corresponding measures in combination with local characteristics to promote the development of local E-commerce.

## Acknowledgments

This study was funded by the Teaching and Research Fund Project of the Education Department of Anhui Province (2020jyxm0017), "First-Class Course" of Anhui University of Finance and Economics (acylkc202008), the Teaching and Research Fund Project of the Anhui University of Finance and Economics (acxkjs2021005, acyljc2021002 and acjyyb2020011), Humanities and Social Science Fund of Ministry of Education of China(20YJA790021).

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