

# *Research on Logistics and Marketing in the Development of Rural E-Commerce*

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**Abstract:** Rural e-commerce is a new transaction mode, that is, the use of electronic information technology, farmers can quickly obtain market information they need through e-commerce platform, understand market demand, and carry out large-scale production and management. Logistics is the core of e-commerce. Rural e-commerce plays an important role in rural development. Under the background of Internet, rural e-commerce is developed to sell rural agricultural products, forming a relatively complete industrial chain, increasing residents' income and improving farmers' production and living conditions. The paper presents research on logistics and marketing in the development of rural E-Commerce.

## 1. Introduction

The development of e-commerce continues to accelerate. Under the background of e-commerce in rural tourism, abundant local tourism resources, property resources and unique cultural resources create creative business activities and increase the income of local villagers [1]. Even continuously explore new industries to optimize the local economic and industrial structure.

Rural e-commerce is a kind of commercial activity that peasants use the network, and it is also an electronic transaction activity. With the popularity of the Internet, farmers begin to enter the network market. Farmers trading their own special agricultural products on the Internet can not only let more people know the local characteristics, but also make a lot of money [2]. The nature of rural e-commerce use electronic, informational and modern means to obtain benefits, reduce sales costs, extend the industrial chain of agricultural products.

In the development of rural e-commerce, the authors point out that the focus of regional development of rural e-commerce is market innovation. The key to solve the problem is to improve the agricultural products [3]. The development of rural e-commerce is mainly based on solving the problems of commodity, logistics, insurance, talent and so on.

According to business data monitoring, with the popularity of the Internet in rural areas, the number of rural netizens in China has increased rapidly. By the end of 2020, the size of rural netizens in China was 309 million, accounting for 31.3% of the total netizens.

China is a large agricultural country, which involves a very large amount of agricultural products logistics every year. The production, packaging, storage, transportation, circulation processing and information processing of agricultural products constitute the flow of agricultural products logistics [4]. Henan Province is not only an important agricultural province in China, but also a major food province in China. It produces one-tenth of the country's food, but only uses one-sixteenth of the country's cultivated land.

In view of the development dilemma of e-commerce mode of rural tourism in our country, some problems of platform website are put forward, such as the system integration resources of website construction, the lack of compound talents with e-commerce and tourism knowledge, the lack of real six functions of traditional rural tourism, "eating, drinking, tourism, entertainment" is not perfect, and the lack of real rural tourism e-commerce. But they have provided a new stimulating scheme for the development of rural tourism in our major cultural tourism province, enabling consumers to feel the charm of Central Plains culture online, travel offline with awe and exploration, and make their own planning according to easy-to-understand website travel strategies.

## 2. Analysis of Rural E-Commerce Development Based on O2O Model

The most important thing of e-commerce is to use modern science and technology and equipment to connect a business transaction mode and method. Without one of them, e-commerce transactions cannot be conducted normally [5]. E-commerce throughout the operation process, including platforms, stores, sellers, buyers, and so on. Merchants put the commodities they need to sell on third parties or platforms for a simple introduction. Buyers will purchase the commodities they need, the buyer will get the commodities smoothly, the seller will sell the commodities smoothly, and the whole transaction process will be completed.

In the development mode, Lin Fang proposed new online and offline development modes based on cloud computing, combining with the development status of rural e-commerce in Hunan Province, and made innovations for rural e-commerce services. In the construction of rural e-commerce platform [6]. put forward the construction countermeasure of rural e-commerce platform which meets the local needs by combining the current situation of e-commerce development in the new countryside of Henan Province, and provide various e-commerce services for peasants, so that they can enjoy the convenience of e-commerce, as is shown by figure1.

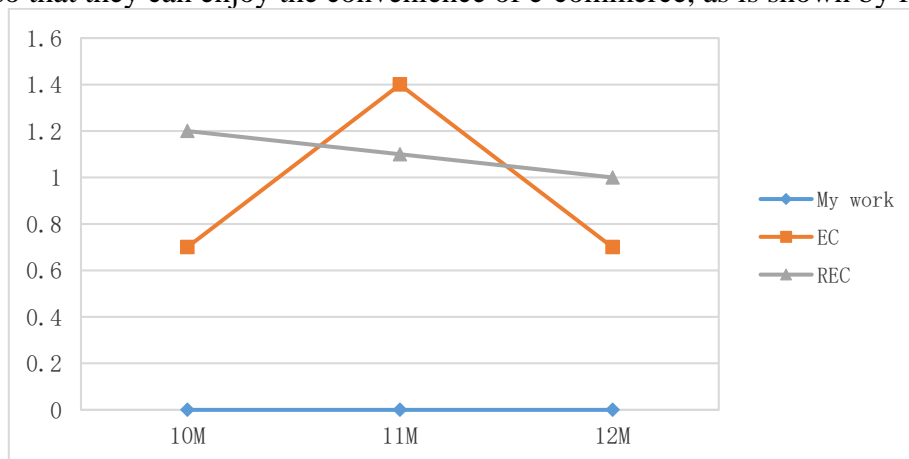


Figure 1: The current situation of e-commerce development in Henan Province

The coverage of e-commerce applications is expanding. The development of e-commerce has advantages and disadvantages [7]. Its advantages are: open and global, creating more business opportunities for businesses; Lowering costs and breaking time and space constraints allow trading to take place at anytime and anywhere, thus increasing efficiency. Buyers can shop at home, and sellers can sell goods at home.

E-commerce is a business model that uses information technology to conduct transactions on the Internet. It should not only refer to shopping, but also add logistics and distribution. The most original concept of O2O was first introduced by Alex Rampell in 2010. The O2O model is a new trading model, with data showing that 8% of US online consumer transactions and 92% offline transactions are online. This model supports online settlement and therefore quickly reaches scale.

E-commerce is a new transaction mode, and its development in Luoyang city has been relatively perfect and mature. However, in the countryside, the B2B is true. College students who go out to school in rural areas do not wish to return to rural development after graduation, but choose large cities with developed economy and perfect information to work in [8]. However, there are still many deficiencies, which are still in the initial stage. This paper analyzes the problems in the development of rural tourism e-commerce in China, as is shown by figure2.

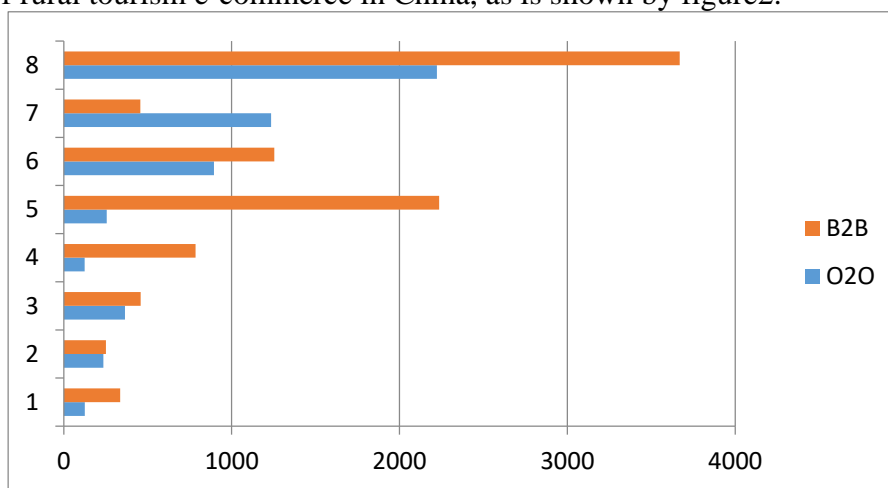


Figure 2: Comparison of B2B and O2O in rural e-commerce

In recent years, each county and district has attached importance to the construction of infrastructure. Although the construction of logistics system is relatively perfect to a certain extent, the logistics problems in smaller villages have not been completely solved. Rural agricultural products have to go through many processes before reaching consumers, but the imperfect logistics system will affect the entire e-commerce transaction process.

Logistics infrastructure is one of the important conditions for the development of rural e-commerce [9]. If the logistics infrastructure is not perfect, the "going global" of agricultural products cannot be achieved. Although the county has built one county-level e-commerce express logistics park and 155 village level e-commerce service points, compared with 10 towns and 228 villages in Mengjin County, the county has not achieved full popularity, and there are few logistics service facilities for rural e-commerce and agricultural products. Therefore, the cost of transporting goods in and out is high and time-consuming.

### 3. Problems in the Development of Rural E-Commerce Logistics

The infrastructure of rural logistics is the foundation of rural economy and career development. At present, the construction level of rural e-commerce logistics infrastructure in China is low. As

for the "agricultural products coming into the city", in rural areas, fresh fruits and vegetables picked on the same day need to be sold on the same day. However, when farmers go to the wholesale market for external wholesale, they do not have a comprehensive and professional grasp of the fresh-keeping technology of fruits and vegetables. The fresh-keeping and storage facilities in the planting and breeding base are not perfect. When the freshness cannot be maintained, they can only sell at a fair price, and finally sell at a very low price.

At present, China's more developed cities and towns have a high level of science and technology, complete information and rapid economic development, especially in Beijing, Shanghai, Guangzhou and Shenzhen. The infrastructure construction in rural areas away from cities or in coastal areas is relatively perfect, but in rural areas in the central and western regions far away from fast developing cities, the information science and technology infrastructure is not perfect, or even extremely lacking of relevant facilities, receiving information is relatively backward, which cannot meet the needs of e-commerce development, and it is difficult to support the development of rural e-commerce [10].

At present, the county's cold chain logistics facilities are not perfect. The village level, town level and even the county level are lack of refrigerated warehouses and cold chain equipment. Most logistics service stations are just ordinary room temperature storage and packaging functions. In addition, the method of foam box and ice bag is used to keep fresh when shipping goods. The lack of advanced refrigeration equipment and technology makes it difficult to maintain freshness during storage and transportation, which will cause agricultural products to be damaged to varying degrees.

If you want to carry out e-commerce activities, you must have a certain logistics distribution system to accompany, otherwise the products cannot be sold in time. Therefore, rural logistics should be taken as an important task [11]. There are no more professional storage facilities, cold chain equipment, goods transportation tools and other basic logistics construction in rural areas [12]. The storage and fresh-keeping technology of agricultural products is backward, and the cost of cold chain logistics is very high. It is more difficult to implement door-to-door delivery in rural areas, so it is difficult to solve the problem of external sales of agricultural products, as is shown by figure3.

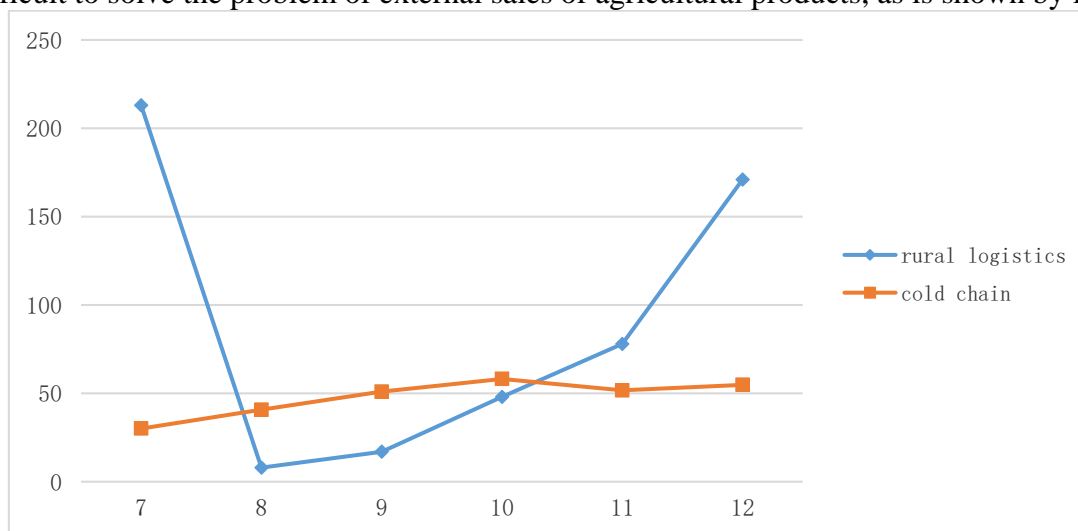


Figure 3: Development of Rural E-Commerce Logistics

The development of e-commerce must rely on a sound and perfect logistics system. China's logistics system is in development, and express delivery can be received in rural areas that are not very remote, but in remote rural areas, logistics is not perfect, and many can only be delivered to the township level[13]. To develop rural e-commerce, most of which are agricultural products, it is necessary to ensure the freshness of the commodities and the requirements for fast and fresh

preservation, but it also requires a high cost and perfect logistics system. In rural areas where the economy and technology are relatively backward, it is difficult to develop a very sound and perfect logistics system.

The mode of transportation is also relatively simple. In the process of transportation, it may have to pass through several villages and towns. It is very normal for express delivery to be missed or lost in this process. And for products like fruits, consumers want to taste fresh, but these products can't be left for long. If they are squeezed and collided again, they will easily go bad. Therefore, the requirements for logistics transportation will be higher [14]. Therefore, the development of logistics is also very important.

In some rural areas, there are some dirt roads, and road construction is difficult, so there are also difficulties in the construction of village level logistics stations [15]. Some express delivery can reach the township level at most, and farmers can only pick up goods in the town if they do online shopping; The poor road conditions in some rural areas lead to difficulties in transportation. Farmers want to buy seafood products online. Due to the long transportation time and incomplete refrigeration and fresh-keeping technology, the logistics cost of goods transportation tools entering the city is also high.

Cold chain transportation is a very good way for rural e-commerce logistics in terms of transportation methods, but the development of cold chain technology is not optimistic in both rural and urban areas. First, there is no good technical equipment to meet the product quality requirements during transportation; Second, the information equipment needed in cold chain transportation is in a state of waiting for development. For example, the positioning system, real-time monitoring, intelligent temperature control and other aspects of transportation. The investment to achieve "agricultural products into the city" is a part of this, and the cost of technology development and technical personnel training is also very large.

#### **4. Research on Logistics and Marketing in the Development of Rural E-Commerce**

Farmers' ideas have a great impact on rural e-commerce. Farmers live in fast-paced areas far away from urban development, and it is difficult to accept the development of e-commerce in rural areas [16]. Only when farmers correctly understand the importance, practicality and popularity of e-commerce, and accept the Internet to develop economy, can they develop rural e-commerce more smoothly.

First, we should promote the construction of rural logistics distribution system. The government should increase capital investment, accelerate the construction of village level service points in villages where village level service stations have not been popularized, and achieve full coverage of rural e-commerce services. The second is to promote the construction of rural cold chain logistics facilities. Because of its special properties, agricultural products need to be preserved at low temperature and kept fresh. For example, the edible fungi, fruits and vegetables rich in Mengjin County need to ensure the logistics to the village and home, which is convenient, fast and timely.

With the development of society, more and more people begin to attach importance to green and healthy health life. This is a great opportunity for rural economic development. In rural areas, the air is fresh, the environment is beautiful, there is not as much car exhaust as in big cities, and there are not as many preservatives for vegetables, melons and fruits. Under these conditions, the economic development space in rural areas is still very large, as is shown by figure4.

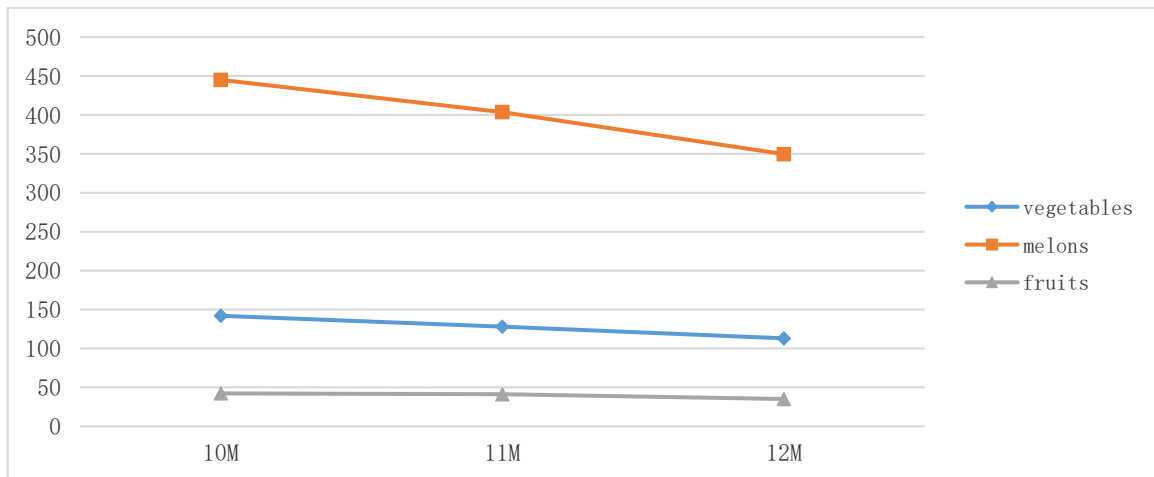


Figure 4: Preservatives for vegetables, melons and fruits

The construction of network technology equipment and transportation network in rural areas is relatively backward, and most rural roads are narrow and not smooth, making it difficult for large cold chain logistics transportation equipment to enter the agricultural product base; The construction of cold chain equipment required for the storage and freshness preservation of agricultural products is not perfect enough, which hinders the external sales of agricultural products and seriously restricts the efficiency of rural e-commerce logistics circulation. Therefore, the government should increase investment to improve rural cold chain logistics infrastructure, strictly implement the rural transportation construction policy, and the external circulation of agricultural products will be completed once the roads are opened.

With the Internet as the medium, it is our common goal to make e-commerce and rural tourism go hand in hand and develop together. It is suggested that the government should set up a small program for tourism in Luoyang, in which all scenic spots in Luoyang are introduced, which will greatly promote the overall coordinated development of rural scenic spots.

Rural infrastructure is of great significance to rural e-commerce, but Pang Village is in a state of relatively lacking and imperfect infrastructure. Therefore, it is urgent to improve relevant infrastructure in order to develop e-commerce smoothly and successfully in rural areas. First of all, the government should increase the investment in the construction of Pangcun's network infrastructure, actively promote the construction of rural infrastructure, attach great importance to the progress of network construction, and provide financial support for farmers to enjoy a convenient electronic trading environment. Secondly, we should improve the network speed of Pang Village and reduce the cost. Other villagers believe that broadband costs are high, so they should reduce the frequency of Internet and e-commerce use. Therefore, the government should encourage and cooperate with the three major operators to provide support for rural areas, improve network speed and reduce related costs, so that farmers can afford broadband Internet, as is shown by figure 5.

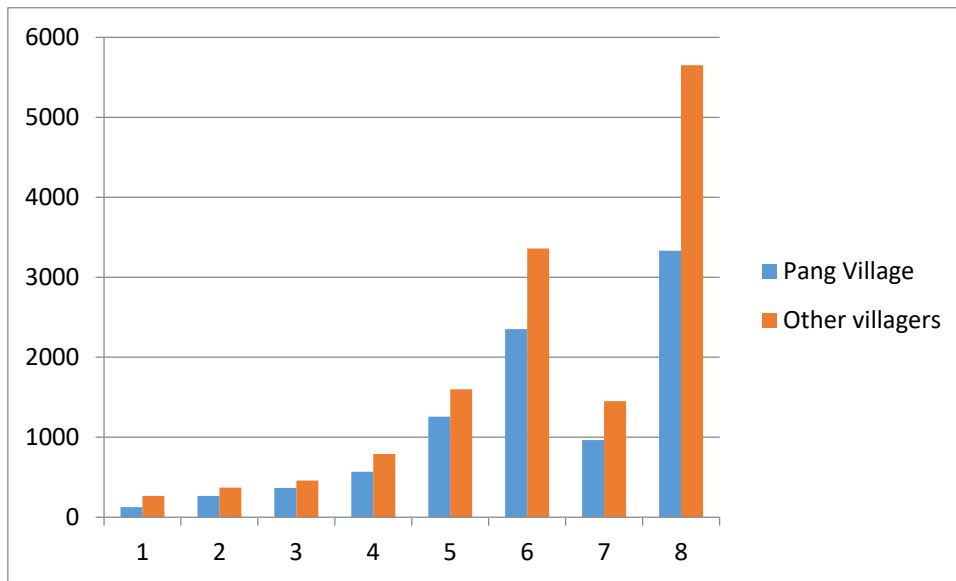


Figure 5: Pang Village and Other villagers in a state of relatively lacking and imperfect infrastructure

The construction of cold chain logistics has high cost and large investment. It is far from enough to rely on the power of farmers alone. The government should promote investment promotion to improve the construction of rural logistics infrastructure, build and develop refrigeration storage centers, constantly improve the express service network, establish more logistics companies, and carry out third-party distribution, which is conducive to further improving rural transportation, cold chain, distribution and other related infrastructure, Accelerate the development of rural logistics industry, so that fresh products can reach the hands of consumers in the "best state", to ensure faster progress and development of rural e-commerce logistics.

Logistics transportation is an essential part of e-commerce. To speed up the construction of logistics infrastructure, we should strengthen the cooperation with logistics companies in Neixiang County and establish a complete logistics transportation system. Build efficient logistics turnover warehouse, conduct centralized distribution of online shopping goods at township and village level service stations, ensure online shopping is delivered home, and sort, package, fresh-keeping and other processing of online agricultural products. Welcome well-known warehousing, logistics and express enterprises to enter the countryside and improve logistics distribution services. The lack of information visualization in traditional logistics has led to low logistics efficiency, product loss and other problems, making the development of rural e-commerce logistics relatively slow.

The lack of e-commerce talents is a major constraint to the development of rural e-commerce. There is a gap between the existing talents in Town and their professional level, whether in terms of knowledge or experience, while e-commerce professionals in developed areas are reluctant to go to the countryside. Therefore, the introduction of e-commerce talents is the top priority to promote the rapid development of e-commerce in Town, but it is also the difficulty of e-commerce development.

## 5. Conclusions

Rural geographic location and transportation construction restrict the development of rural e-commerce logistics. Due to inconvenient transportation, logistics transportation costs are high and business volume is small. Logistics enterprises generally set the express delivery stations at the lowest level to the township level with convenient transportation, which is difficult to fully cover

the village, so the logistics cost of rural agricultural products going out and industrial products entering the village is high.

Due to the lack of refrigeration and fresh-keeping technology in rural areas, the deterioration and decay of fresh products are likely to occur, resulting in low transport efficiency and high cost of products. Therefore, it is particularly important to improve the cold chain logistics system in rural areas, improve the updating speed of cold chain logistics information, so that farmers can quickly understand agricultural product market information through the network information platform, and consumers and buyers can effectively obtain agricultural product logistics information, The sales volume of fresh agricultural products will be expanded by expanding the sales channels of agricultural products. We should also strengthen the construction of a three-level express service system at the county, township and village levels, and promote the express service to the village to ensure the satisfaction of farmers' online shopping, so that rural e-commerce can be further developed.

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