On E-commerce Development Mode in Chinese Remote Rural Area in Internet Age

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Abstract. In this Internet era, rural areas in China are involved in this golden age of e-commerce rapid development as the result of the policy of achieving rural revitalization and common prosperity. However, because of the limited factors in human sources, technology and transportation, rural e-commerce development is slow. To help remote rural areas out of dilemma in e-commerce development and establish its connection with the outer world, this paper analyzes the positive and negative factors in rural areas in the process of developing rural e-commerce. By making a case analysis of the e-commerce development in one of Chinese rural area Jingxi, a successful model in rural e-commerce development, this paper has proposed an e-commerce mode that fits Chinese rural areas, the application of which is hoped to facilitate Chinese rural e-commerce development.

Keywords: Internet age, E-Commerce development, Remote rural area

1. Introduction

With the development of electronic information technology and network, electronic commerce has gained more and more popularization among people in most cities in China. With the gradual deepening and reinforcement of Internet plus rural areas strategy, the national poverty alleviation strategy has entered a critical period. China government has implemented poverty alleviation and development policies on agriculture, rural areas and farmers and rural areas have been ushered into the golden era of e-commerce. However, there are still many shortcomings in the development of e-commerce in rural areas in China, especially in remote rural areas where conditions are insufficient to support the development of e-commerce.

To facilitate e-commerce development in rural areas, domestic and foreign scholars have carried out researches on rural e-commerce development in recent years, and their researches mainly focus on aspects of “the rural e-commerce development status”[1]; “influencing factors and countermeasures” [2,3]; “logistics development status advice for it” [4]; and “talent cultivation”[5].

As can be seen from the above studies, most of the current researches on rural e-commerce are limited to the development status and various influencing factors. Rather, few researches have been conducted on the whole rural e-commerce model that can perfectly combine e-commerce with rural areas. In this regard, this paper aims to analyze the problems of developing e-commerce in Chinese
rural areas and find solutions and explore the basic e-commerce mode suitable for rural areas which can contribute to the development of rural economy. A case analysis has been made to illustrate the current situation of rural e-commerce development, helping deeply understand the development situation of e-commerce such as logistics, technology and talents in rural areas, especially in remote rural areas, hoping to enlighten more findings and models in this area.

2. E-commerce in Remote Rural Areas

2.1 Concept of E-commerce
E-commerce is also called e-business. The name e-commerce defines e-commerce as “business communication based on electronic, emphasizing the role of enterprises as the main body of e-commerce market. E-commerce extends the definition of e-commerce to all Business communication within the scope of electronic and network support, including traditional business to business (B2B), customer to customer (C2C), etc. It also includes all activities such as online reading, social networking services (SNS) and instant messaging (IM) into the scope of e-commerce.”[6]

According to Ding (2019), Our government departments also have the official definition of electronic commerce. In the Index System of the China Electronic Commerce Development submitted by office for information technology advancement under the state council in December 2007, electronic commerce is defined as various types of business transactions relying mainly on the Internet through a variety of computer networks and electronic contract (order). In the e-commerce model specification released by the ministry of commerce in April 2009, e-commerce is defined as a business form that relies on the network to conduct trade in goods and services and provide related services”[6].

2.2 Current Development of E-commerce

2.2.1 Positive Aspect. Data from the report on Chinese rural e-commerce development by China Merchants Industrial Research Institute (2019) show that online retail sales in rural areas reached 1.37 trillion yuan in 2018, up 30.4% year-on-year. Online retail sales of agricultural products nationwide reached 230.5 billion yuan, up 33.8% year-on-year. The rapid development of rural e-commerce has opened up a new channel for agricultural products to go up. Meanwhile, with the continuous introduction of relevant policies, the interaction between e-commerce platforms such as Ali, Jingdong and Pinduoduo and rural areas becomes more and more benign. As a result, rural e-commerce plays an increasingly important role in the process of prospering rural areas and enriching the people. [7]

According to the report by China Academy of International E-commerce Center (2019), by June 2018, China’s rural Internet users have accounted for 26.3% of the total, up 1% from the end of 2017. From 2017 to 2018, China’s rural e-commerce is undergoing four transformation processes: from industrial products downward to agricultural products upward, from e-commerce transactions to rural comprehensive services, from focusing on rural economic development to facilitating the construction of beautiful rural areas and from e-commerce public poverty alleviation to sustainable and systematic poverty alleviation. [8]

2.2.2 Negative Aspect. Unbalanced regional development in e-commerce is still an acute problem in China. There is a big gap between the small scale of rural e-commerce and the large scale of urban e-commerce. Rural e-commerce in the eastern region has developed rapidly and won the highest e-commerce sales. On the contrary, e-commerce sales in the northeast and west are very low and their agricultural production has low degree of mechanization and specialization. It still needs to invest more manpower, material resources, and financial resources, which lead to high production costs. The standardization degree of produces is low, which cannot help to forming strong and influencing brands. Infrastructure, especially the logistics distribution system is not perfect, which leads to low distribution efficiency and high cost. Agricultural production and secondly and tertiary industry lacks
of sufficient combination. Interaction of production, processing and market selling needs to be further improved.

2.3 The Reasons for Present Situation

2.3.1 Favorable Factors. The first favorable factor is National policies support rural e-commerce vigorously. As proposed in the No. 1 Document of the central government in 2018, rural e-commerce is used to promote the development of rural industries and achieve rural revitalization. Domestic e-commerce platforms focus on rural areas. Because the prospect of rural e-commerce is very clear, all kinds of network enterprises are optimistic about this market.

The second favorable factor is that business giants such as Alibaba, Suning and Jd.com are speeding up the distribution of rural e-commerce. With the increase of national income and the improvement of quality of life, the demand for green and healthy agricultural and sideline products in rural areas has gained great increase. Agricultural productivity as well as the quantity and variety of agricultural products increased. The Internet penetration rate rose and rural Internet users increased.

Additionally, rural areas have a large population base so their market potential is also huge. Farmers’ incomes have increased and their consumption and purchasing power get a rise.

2.3.2 Negative Factors. The development of e-commerce in rural areas is restricted by some negative factors.

Some farmers are confined to traditional concepts and a large number of agricultural products are still sold in offline mode. Lacking of education and awareness of e-commerce, farmers don’t know how to operate e-commerce process.

The operation of e-commerce is difficult in rural areas. With a large number of rural populations working in cities and intellectuals generally unwilling to live in rural areas, there is a lack of highly skilled and knowledgeable personnel to carry out e-commerce operations.

And some other negative factors are not minor. The geographical location in rural areas is relatively remote and the infrastructure is imperfect, so the transportation is inconvenient, which leads to the high cost and low efficiency of logistics distribution. Scattered production and not unified management make product quality uneven. This cannot help to form a strong brand. The rural second and third industries have a poor foundation and lack of labor force so that the primary industry is difficult to combine with them. Because of low level of mechanization in rural areas, production costs are difficult to reduce.

All the positive and negative factors in rural areas analyzed above have exerted great influence on e-commerce development in rural areas, and hence the current situation, with the following case analysis illustrated as an example.

3. Case Analysis of Rural E-commerce in Jingxi
The following is a case analysis of e-commerce development in Jingxi, a town located in a remote and poor area in China. The case analysis would provide a vivid example of the developing situation of e-commerce in rural areas in China and is hoped to set a model for the other rural areas to adopt proper strategies in developing their e-commerce.

3.1 Restricting Factors

3.1.1 Lack of Professionals. Jingxi is located in Guangxi, and for a long time, the rural education in Baise of Guangxi is relatively backward. The low cultural quality of farmers directly affects their information quality. They have doubts about e-commerce and online payment. E-commerce professionals and related technical personnel are difficult to cultivate, difficult to introduce and difficult to retain.
3.1.2 Lack of Brand and Industrial Chain. Farmers in Jingxi produce primary agricultural products that are sold through traditional channels. Small and micro enterprises also sell products through traditional channels without deep processing and product branding. As popular souvenirs, Zhuang brocade and embroidery balls are handicrafts with intangible cultural heritage. But only two companies produce and sell Zhuang brocade and embroidery balls. These two handicraft processing enterprises are still stuck in the scale and business model of the original small workshop. Due to the limitation of orders and the shortage of business personnel, Jingxi’s handicrafts have not formed an influential brand, and the beneficial resources have not been made good use of.

3.2 Construction Situation

3.2.1 City(county), Township, Village: Three-level Ecommerce Service System. According to Huang (2019), people in Jingxi build an e-commerce public service center at the county (city) level to serve local governments, enterprises and farmers and build an online and offline integrated public service system. The center is equipped with e-commerce training center, QR code center, e-commerce business incubation base, O2O product exhibition area and county tourism information center. And “they have built 20 township (town) e-commerce service stations, which are the transfer stations connecting village-level and city-level e-commerce service centers and also provide e-commerce services for local villagers.”[9] Jingxi has built 180 village-level e-commerce service points, which provide e-commerce services for local villagers and solve the problems of online shopping, so as to provide villagers with living convenience to the greatest extent.

3.2.2 City (County), Township, Village: Three - level Logistics System Construction. Jingxi has one county (city) level logistics center and 20 township (town) level logistics centers. The construction of logistics system is to support the downturn of rural consumer goods and the uptrend of agricultural and sideline products. In the early stage of building a second-level logistics distribution center in Jingxi, most express companies only deliver products in the urban area. Only post-express can deliver packages to the village. County-level logistics centers can provide logistics business handling areas, product sorting, processing, packaging and other standardized processing areas for social logistics enterprises in the city. The municipal logistics center has the capacity of logistics distribution within 48 hours. This solves the “last kilometer” problem of rural logistics.

3.2.3 Brand Cultivation and Quality Assurance System. It has a product quality testing center and a QR code center. At present, the famous products in Jingxi include: Jingxi big fragrant waxy, Jingxi embroidery ball, Zhuang brocade, navel orange, big fruit hawthorn, etc. In 2017, the people’s government of Jingxi introduced Lecuntao company and it was responsible for brand building and promotion of products with special features. It upgrades the products which have been a little famous to constantly strengthen the competitiveness of the brand.

3.2.4 Talent Guarantee System. Jingxi is located in a remote and poor area. Most of the post-80s and post-90s people who have learned about Internet go to economically developed areas to seek jobs. The government has increased efforts in e-commerce training, which mainly aims at returning rural migrant workers, e-commerce enterprises, farmers’ professional cooperatives, entrepreneurial college students and government workers. According to Huang (2019), the number of participants is about 3000, which shows the talent guarantee system has positive influence and attained great achievements.

3.2.5 E-commerce Platform. System Many small and micro enterprises in Jingxi have their own WeChat small program and WeChat public account. Businesses registered on Meituan include many enterprises such as catering, hotel, and tourism and life service. The government introduces experienced e-commerce enterprises through investment attraction. E-commerce enterprises cooperate with featured enterprises dealing with agricultural products or small e-commerce enterprises managing
agricultural products and farmers’ professional cooperatives. Farmers’ professional cooperatives and small e-commerce enterprises engaging in agricultural products cooperate with farmers. Cooperatives and small e-commerce enterprises are responsible for technical support, product acquisition and sales of farmers’ products. E-commerce enterprises that attract investment from the government are responsible for the integration, brand building, brand promotion and sales of featured products in the county.

Most of the small enterprises in e-commerce incubation bases have their own production bases and sell products through their own sales channels. For example, they sell farms and households through Taobao, a widely used Micro store in a certain scale.

According to the statistics of Huang (2019), the efforts of all parts in developing e-commerce in Jingxi have achieved ideal results and enhanced the development of service and logistics sites in county-level and township-level e-commerce. Seen from Figure 1, the number of e-commerce service sites is 180, the number of township level service sites is 20, and the number of county level service sites is about 5. There are about 30 township level logistic sites and 5 county level logistic sites. This kind of fishnet-like distribution of e-commerce sites in different levels is economic, convenient and efficient in business operation.

The above case analysis of e-commerce development in Jingxi shows both positive and negative aspects in developing e-commerce in rural areas in China. And seen from the situation of Jingxi, the great potentials of developing e-commerce in Chinese rural areas is affirmative. But the problem of unbalanced development of e-commerce in rural areas should be solved. By concluding the present situation, inspired by Jingxi e-commerce development, a corresponding e-commerce mode would be explored in the following part.

![Figure 1. The Number of E-commerce Service and Logistics Sites (According to Huang, 2019)](image)

4. Exploration of E-commerce Mode in Rural Areas in China

The general principle of this mode is to (1) combine online and offline sales, (2) absorb products locally and then deliver to other places, and (3) decentralize and circulate resources within a county.

This mode consists of upstream construction, logistics construction and platform construction.

With technical support and industrial integration as an integrated whole, as is shown in Figure 2.

In upstream construction, the company will struggle through large-scale, specialized production to form unified quality products. The professional workers will choose the required products and send them to quality testing center. Then products that pass quality inspection will be sent to village stations for distribution.

In logistics construction, companies will recruit villagers to deliver orders within a county. They deliver packages from the village site to the town level site. Then packages are divided into two parts. One part will be delivered to other towns and another is delivered to county express agency. Actually, the villagers can receive and send packages only at the village site.
In platform construction, we can develop small program consists of rural agricultural and sideline products into famous electric business platforms such as Taobao and Jingdong. Electric goods collected from villages can be sold online in this small program. When consumers open the small program they can approach agricultural and sideline products nearest to them or know where products they want are. This program should also provide live purchasing function to establish contact with consumers through Unmanned Aerial Vehicle (UAV) photography, so that consumers can purchase products with confidence.

As for the technical support, we will enhance training for villagers’ knowledge and technology of e-commerce. And companies will attract e-commerce talents and relevant technical personnel to help the operation of the platform.

Industrial integration will improve the second and third industries by building factories for processing agricultural products and increasing ecotourism projects. Consumers come to the countryside to participate in the harvest of agricultural products, which can increase consumers’ confidence in what they will buy.

5. The Impact of This Mode
The rural e-commerce mode proposed above can be applied in e-commerce practice in Chinese rural areas. The unique small program of agricultural and sideline products enables more people to pay attention to the products in rural areas and makes the products unknown in many remote areas shine, which is conducive to solving the difficult problem of agricultural products ascending. Online purchasing and on-site purchasing can increase product sales, enhance product influence and strengthen brand. Villager distributors can solve the problem of the “last kilometer” of logistics distribution (The last kilometer of e-commerce logistics refers to the last part of the journey that goods are delivered to customers through certain distribution methods after the goods purchased by consumers through e-commerce are transported to urban distribution centers. [10] ). Also they can strengthen the flow of resources in the county and villages around and increase the amateur income of farmers. Large-scale and specialized production can improve product quality and form scale effect, which is conducive to brand building. Increasing the secondary and tertiary industries can provide employment, increase the added value of products and increase the income of villagers and also help attract and retain talents. Sufficient e-commerce training and professional e-commerce talents are conducive to expanding product sales and improving product influence.

6. Conclusion
China’s rural e-commerce is booming. But a large part of rural areas, especially remote rural areas have been affected by their backward conditions, and it is difficult to develop e-commerce there. And the restricting factors in rural areas have caused unbalanced development of service and logistics sites

![Diagram of Rural E-commerce Model](image)

**Figure 2.** Diagram of Rural E-commerce Model
in county-level and township-level e-commerce, with many rural areas still in the initial stage in developing e-commerce.

Taking the development of rural e-commerce in Jingxi as an example, this paper has analyzed and summarized both positive and negative factors in developing e-commerce in rural areas in China. Many rural areas have the same problems of e-commerce development to the rural areas in Jingxi. And by generalizing Jingxi experience, this paper has found a relatively universal mode of developing rural e-commerce in China. The application of this model is hoped to help remote rural areas embark on the path of e-commerce, help with the fast developing of e-commerce in rural areas in China, and promote the development of Chinese rural areas in this Internet age.

Research on rural e-commerce is a big trend and there will be more research perspectives in the future. With the continuous support of the state and the continuous improvement of rural infrastructure, more and more people will turn to the research on the exclusive platform of rural e-commerce, independent of Taobao, Jingdong and other e-commerce platforms, which is conducive to promoting the development of rural e-commerce economy and carrying out targeted poverty alleviation more effectively.

References
[1] Xiang, jie, Development status and countermeasures of rural e-commerce in deeply impoverished areas, China Market. 27 (2018) 195-196.
[2] Wang, Wenjia, Factors influencing the development of rural e-commerce and countermeasures-a case study of the less developed areas in central China, Business Economics Research. 12(2019) 129-132.
[3] Li, Caicai, Research on influencing factors and countermeasures of rural e-commerce development under the background of quasi-poverty alleviation, Anhui Agricultural Science. 46(2018) 209-211, 214.
[4] Zhu, Shiyou, The impact of rural e-commerce development on the logistics industry and the construction on rural logistics system, Price Monthly. 03 (2016), 75-78.
[5] Jiao, Mengqin, Discussion on training mode of rural e-commerce talents based on supply-side structural reform of education, Rural Economy and Technology. 28 (2017), 261-262.
[6] Ding, Dayong, Development and prospect of e-commerce in the era of internet of things, Management Observation. 38 (2018), 79-80.
[7] Information on http://m.askci.com/news/chanye/
[8] Information on http://www.sohu.com/a/
[9] Huang, Wuyong, Discussion on the development of rural e-commerce in county area-jingxi city as an example, Friends of Getting Rich Farmers. 12(2019 ), 213-214.
[10] Liang, Xueshuang, Research on the “last mile” of e-commerce logistics, Modern Economic Information. 06 (2015), 174.