Chinese E-commerce Boosts Rural Revitalization: Mechanism of Action, Dilemma Analysis and Improvement Paths

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Abstract: Under the influence of the internet, rural e-commerce has greatly promoted the economic and social improvement. Rural e-commerce has achieved great progress and become an important way to transform the development model of agricultural, promote the integration of rural agriculture, and realize agricultural modernization. It has also become a catalyst and important engine to promote the revitalization of rural areas. This article mainly analyzes the mechanism and difficulties of e-commerce in boosting rural revitalization and proposes perfect strategies for the development of rural e-commerce that based on field research and visits. To achieve the revitalization of rural areas with Chinese characteristics, it should pay special attention to the promoting and leading role of rural e-commerce, continuously and deeply promote the development of rural e-commerce, and make good use of the e-commerce platform as an effective carrier.

Keywords: Rural E-commerce, Rural Revitalization, Agriculture Applied E-commerce Development.

1. Introduction

Rural revitalization is a major national strategy for modernizing agriculture and the countryside. E-commerce is a new driving force and a new model to promote the development of agriculture and rural, and an important way to promote rural revitalization. Rural E-commerce has developed rapidly and has great potential. Under the promotion and encouragement of policies, the infrastructure of rural E-commerce has become more complete, the market scale has continued to expand, the types of trading products have continued to increase, and the product structure has become more complete. It has become an important field for competition and penetration by major E-commerce platforms. The report issued by the Ministry of Agriculture and Rural Affairs shows that, the overall level of digital agriculture and rural development in countryside has reached 33% in 2018, and rural information consumption, production informatization and infrastructure have all developed rapidly. The digital level of agricultural production is 18.6%, and the coverage rate of rural E-commerce sites is as high as 64% [1]. Business big data monitoring also shows that national rural online retail sales will reach 1.79 trillion yuan in 2020, annual growth rate is 8.9% [2].

The rapid development of rural E-commerce has created large number of Taobao villages. As to September 2020, a total of 5,425 Taobao villages have been discovered in 28 provinces across China, increase of 1,115 compared to 2019[3]. E-commerce accelerates the empowerment of agricultural industrialization and digital, and a series of agricultural products that adapt to the E-commerce market, that effectively promoting rural revitalization and poverty alleviation. In addition, the rural consumer market has huge potential. China’s third- and fourth-tier cities and rural areas have nearly 1 billion population. As of December 2020, the number of rural Internet users is 309 million [4]. This means that rural E-commerce consumption capacity has yet to be tapped. Under this prospect, various E-commerce giants (Taobao, JD, Suning, etc.) have penetrated rural areas [5]. The participation of these rural E-commerce companies has increased the coverage of rural areas and has also changed the form of agricultural and rural industries and economic development models.

From 2017 to 2020, the state has also successively introduced a series of policies to vigorously support the development of rural E-commerce. In the future, rural E-commerce will surely develop into an extremely important carrier and form in increasing rural income, resolutely win the fight against poverty and promote rural revitalization [6]. In view of the importance of rural E-commerce in rural revitalization, it’s necessary to re-examine its mechanism of action in rural revitalization, analyze the restrictive factors, grasp the new trend of rural E-commerce development, and make rural E-commerce become a new engine for rural revitalization.

2. The Mechanism of Action for Rural E-commerce in Boosting Revitalization

In recent years, Chinese rural E-commerce has developed rapidly, and the transaction volume and scale of rural Internet sales service market have continued to expand. It has gradually become an important driving force for the promotion of national social consumption and the boost, support and guarantee for revitalization also.

2.1 Rural E-commerce Empowers Rural Revitalization

2.1.1 Rural E-commerce can help the countryside get rid of poverty and become rich

Rural E-commerce has not only increased the wage income, but also increased the sales income of rural people. Through rural E-commerce, the rapid development of the rural collective economy and the common prosperity of local
people have been promoted. For example, some villages in Qingyuan Town, Weiyuan County have gradually formed a distinctive E-commerce development model-self-employed business model with “E-commerce platform plus farmer” [7]. The traditional Chinese medicine industry in Sujiayao Village is very developed. Due to there is no channel for external sale, some vendors only purchased them at extremely low price. Nowadays, farmers sell their traditional Chinese medicine independently or cooperation model by the E-commerce platform. Under the leadership of rural E-commerce, some local villagers transformed into small enterprises and some cooperated with enterprises, which has effectively increased the added value of products. Through interview, we accurately found that, the development of E-commerce in Qingyuan Town has met the villager’s daily needs and helped the poor people get rid of poverty.

At the same time, due to the good prospects and low threshold technology of rural E-commerce, plenty of villagers choose this industry. In addition, through the development and utilization of rural ecological resources, on the one hand, the added value of rural natural capital is increased, thereby enhanced the development of rural economy. On the other hand, this measure also provides a great many of jobs for villagers and can solve the employment problem. At present, rural E-commerce can recruit rural farmers. So that, more farmers can work on the spot, earn wages, and meet their basic needs. Besides, rural E-commerce is not restricted by time and space. It can open the wholesale sales and logistics channels of local agricultural products and increase the sales income of local farmers [8].

2.1.2 Rural E-commerce optimizes the rural industrial structure

First of all, rural E-commerce has promoted the transformation and upgraded of the original rural industries. Rural E-commerce companies can borrow cloud computing, big data, the Internet of Things, artificial intelligence (AI), etc., and use big data to push the industry for transformation. Some E-commerce platforms also cooperate with the government. For example, Alibaba’s “Taobao Xingnong plan” directly controls the entire process from the source of production, promotes high-quality development of agricultural, and effectively promotes the transformation and upgrading of the original industries. Then, the rapid development of rural E-commerce is bound to promote the cluster development of supporting industries. Research has revealed that the operation of E-commerce companies must have packaging, printing, carton processing, packaging etc. delivery must to go with express, warehousing, processing and storage inseparable. In addition, the development of the rural E-commerce is also inseparable from market promotion, data analysis and so on. The life service industry has also developed under the mutual gathering of a large quantity of people, logistics, and information flows. For example, Chengguan Village in Weiyuan, Gansu, started from selling traditional Chinese medicine, which drove the development of the logistics industry, and promoted the development of rural tourism such as homestays and farmhouses. Finally, rural E-commerce promotes the integrated of rural primary, secondary and tertiary industries. “Internet +” plays the role of interconnection. The use of rural E-commerce can build a modern agricultural industry, production and management system, and cultivate the development of new industries, new formats and new models in rural areas.

2.1.3 Rural E-commerce promotes structural reforms on the agricultural supply-side [9]

Big data can help villagers obtain and analyze the production information of agricultural products in real time, and guide farmers to transform to high-quality and high-efficiency management; Rural E-commerce can also understand the changes in agricultural production and consumption areas, and improve the matching of agricultural production and sales areas through information analysis technology of big data to avoid excessive fluctuations in the market price of agricultural products. We can obtain the production process of agricultural products in time through big data, and then grasp the relationship between production factor input and management by big data correlation analysis to improve the efficiency of agricultural input use. Besides, rural E-commerce can use big data to conduct agricultural production, operation and analysis, so that, the production and consumption of agricultural products are truly connected. The agricultural producers and managers can understand market needs more, and then carry out targeted product innovation, process simplification and cost reduction, and improve the overall efficiency of the supply-side. Moreover, government can also use big data analysis to timely grasp the market situation, understand the changes of producers and consumer needs. And then formulates corresponding policies to guide farmers, enterprises, business entities on the production side to optimize and adjust the agricultural structure, and accurately assist the structural reform of the agricultural supply-side.

2.1.4 Improving rural governance and promoting the construction of modernized rural areas

Rural E-commerce can not only drive rural economic reforms, but also lead the socialization and organization of rural areas. Rural E-commerce introduces modern business concepts and models and Internet knowledge into the countryside, which in turn affects rural governance and government affairs. E-commerce can improve the efficiency of management and service innovation, which starts from the needs of farmers, by the collaboration between E-commerce and farmers. The existing human and material resources were gathered and released, and the reform of the rural grassroots organization system was formed. In addition, the development of rural E-commerce forces the transfer and tilt of public service resources to the countryside, then promotes the innovation of grassroots services and management. Moreover, rural E-commerce promotes the harmonious development of rural areas. The rural E-commerce can provide more jobs, so that the surplus rural labor can be employed, which solve the problem that a large number of unemployed people in the village. As of the end of 2020, rural online sales have driven more than 50 million rural jobs. The elders in rural areas can
participate in the handicraft production of the E-commerce platform and meet their own needs. In addition, “Taobao Village” and “Taobao Town” need develop together. Villagers can find a more rational and close new villager relationship type in the process of joint management and development to make the relationship between villagers more harmonious.

2.2 The Effect Mechanism of Rural E-commerce on Rural Revitalization

2.2.1 The logical starting point

Breaking through the time and space restrictions during the flow of resources and elements through the internet connection mechanism. Along with the “Internet plus rural E-commerce” institutional arrangements and the implementation of contracts, the production, processing, circulation and marketing of rural agricultural products are incorporated into the supply chain system with rural E-commerce. This can reduce the links of circulation and overcoming the dilemma of information blockage, directly connect the agricultural industry in remote rural areas with the large markets in developed areas, that transforms natural ecological resources and high-quality agricultural products resources into economic resources, and promote agricultural upgrading, rural development and farmers’ income. Compared with traditional methods, E-commerce not only introduces agricultural production factors, but also improves the rural market economic environment. The rural economy in remote areas is subject to various constraints which suppresses its own development and difficult to break through. The investment and development of rural Internet infrastructure, and the entry of rural “Internet +” businesses into the development of rural E-commerce have enabled the comparative advantages of remote rural areas to be brought into play.

2.2.2 The mechanism of rural E-commerce to promote rural revitalization

Internet plus rural E-commerce. Internet can help to accumulate and integrate the transaction data on various platforms by big data, user portraits and other technical paths to realize the exchange of information resources between the supply and demand. Then a reasonable and effective buyer evaluation mechanism can be established cooperate with the platform. The branding of agricultural products, division of specialized production and development of clusters of advantageous and characteristic agricultural products are conducive to promoting the optimization of the production structure and improving the quality of agricultural products supply. The resources integration of supply and demand, and the rebranding of rural areas have been connected to millions of customers through E-commerce platforms. The integration within the industrial chain and the increase in added value will guide individual farmers, family, rural cooperatives and other business entities to establish in-depth cooperation with regional leading enterprises. This can optimize the input of production factors, increase the factor output rate, and better build modern agriculture Industrial system.

3. The Restrictive Factors of Rural E-commerce in Boosting Rural Revitalization

3.1 The Level of Rural Development is Uneven

China’s rural areas has a vast territory and a large population. The economic and social development levels of various regions are still unbalanced. Not only are the urban-rural gaps large, but the development differences within the rural areas are also becoming increasingly prominent. There are obvious differences in economic, social, and cultural conditions. At present, some rural areas are in a period of poverty alleviation, and infrastructure construction is being promoted. Some rural areas are in a period of stable development. In addition to carrying out necessary activities stipulated by the higher-level government, they are lack initiative, relevant projects in the village and vitality in development. However, some rural areas actively responded to the call of the state, promote rural revitalization, and accelerate the conversion of old and new kinetic energy in rural areas. Facing the different development status of rural areas, the idea of using the Internet to revitalize rural areas cannot be actively applied to all rural areas due to the inconsistent level of infrastructure. In 2019, the rural online retail sales in the eastern region accounted for 76.6% of the national rural online retail sales [10]. The central, western and northeastern regions accounted for only 12%, 9.4% and 2% respectively. Besides, the year-on-year growth rate of rural online retail sales in the eastern region still ranked first, at about 19.8%. In terms of provinces, in the eastern region occupies six seats, and only Sichuan Province in the western region is included in the “Top 10 National Rural Online Retail Sales in 2019” list. In addition, the total rural online retail sales in Zhejiang Province alone accounted for 36.8% of the national rural online retail sales.

3.2 Rural E-commerce has Insufficient Stimulating Effect, and the Development of Rural E-commerce is Facing Challenges

Although the scale of cross-border E-commerce business in rural areas has maintained rapid growth and the national policy environment is constantly improving, the driving role of rural E-commerce in rural areas is insufficient, and the development of rural E-commerce is facing challenges. It still exists some problems in the development process, such as the single development and promotion form, the small scale of characteristic industries, the backward infrastructure, the difficulty of supporting cold chain logistics, and the shortage of talent supply.

Along with the rapid development and popularization of rural E-commerce, E-commerce has become an important means of online marketing of rural agricultural products. However, the development form of rural E-commerce is single and still stuck in the four basic sectors. It has failed to achieve innovation and breakthroughs. The initial investment is large, but the output of a single point is small, and the profitability is
not optimistic. So, how do the E-commerce platforms go? Relying on the use of our own resources and other advantages, exploring unique E-commerce models, using multi-faceted online sales, changing the original single rural agricultural development model, and creating a diversified industrial economy, has become the breakthrough in the development of rural E-commerce problem.

3.3 The Industrial Regional Chain is Immature, and the Homogeneity of Agricultural Products is Serious

Industrial prosperity is the focus of rural revitalization, but there are problems of development imbalance under the “Internet + agriculture” model. The conversion among rural “Internet + culture”, social governance, and new and old kinetic energy has differences. At the same time, there are problems of lagging and over-reflection in rural E-commerce. The linkage of interests in the industrial chain is imperfect, the “cooperative plus E-commerce” mechanism is imperfect, and it lacks the vitality of economies of scale. The industrial and supply chain have not yet reached mature standards, so rural E-commerce has not yet achieved cross-domain integration. At the same time, with the convergence of rural E-commerce models, various E-commerce platforms that sell physical products have become the leader, the homogeneity of agricultural products is becoming more and more serious that set development obstacles in brand promotion and differentiated competition.

3.4 The Talent Bottleneck of Rural Ideology and Concepts Needs to be Broken Through

Farmers’ risk awareness in transaction is relatively poor. The new E-commerce transaction method only conducts transactions through the Internet. The purchaser has integrity problems, which can easily cause breach of contract and other phenomena, and there is a certain degree of risk. Besides, the lack of rural informatization service teams in country makes it difficult to disseminate relevant agricultural scientific knowledge and relevant market information to farmers, which makes rural areas have become “information island”. Excellent E-commerce operators with relevant professional knowledge and practical skills are more inclined to stay in large and medium-sized cities, which results in lack of professional operators. The difficulty of finding and keeping the talents of new-type rural E-commerce operators has become one of the urgent problems in the development of rural E-commerce. The new rural E-commerce operator is difficulty of finding and retaining, which has become one of the urgent problems to solve the development of rural E-commerce.

3.5 The Level of Infrastructure Construction is Low, and the Construction of the Logistics

System needs to be improved. Infrastructure construction is a prerequisite for the development of rural E-commerce and a hardware prerequisite for network marketing. However, the development of various regions in our country is not sufficiently balanced, especially in some rural areas where the level of infrastructure construction is not high. There are major problems in the laying of network lines, the quality of communication signals, and the transportation of agricultural products logistics. The demand of E-commerce cannot be fully met, and some areas such as Qinghai, Tibet, Xinjiang and so on will not be delivered. At the same time, the pace of upgrading of E-commerce has gradually accelerated. Some rural areas with imperfect infrastructure cannot truly adapt to the changes in rural E-commerce, that leads to bottlenecks in the development of rural E-commerce.

4. The Improvement Path for Chinese E-commerce to Boost Rural Revitalization

4.1 Pursuing Agricultural and Rural Industry Projects

4.1.1 Create distinctive agricultural brand

In recent years, major achievements have been made in agricultural brand building. Local governments have accordingly issued documents on agricultural brand development to study brand development strategies also. Therefore, it is a good trend of agricultural development to enlarge and strengthen the characteristic industry brand. We should develop diverse and characteristic agriculture well, use branding to build the reputation of agricultural products, and ensure the sales path of agricultural products. Take Yutai rice in Shandong Province as an example, relevant departments of Yutai County take measures use unique prerequisites to build a pollution-free rice production base. Yutai launched the “Yutai Rice” local characteristic brand once again and became a geographical indication product of the General Administration of Quality Supervision. The methods include improving quality, strict standards, hiring experts to formulate industrial plans, advancing technological level of processing, biological bacterial and organic fertilizers and developing green organic rice.

4.1.2 Propel intensive, large-scale and specialized production

In order to promote the sustainable development of agriculture, drive farmers to get rid of poverty and become rich, and ultimately achieve the goal of rural revitalization, intensive, large-scale, and specialized production have undoubtedly become important measures. Centralizing input and effective combination of the factors by enhancing the quality of operating production factors can increase the efficiency of production and operation and achieve maximum benefits at the minimum cost. For example, greenhouse agriculture in Shouguang City adopts specialized configuration and multi-variety management to create “Shouguang Vegetables” and win a good market share. Jinxing County makes full use of the advantages of the garlic agricultural industry to make its production and management personnel more marketable. Laiwu City insists on creating “assured ginger” products, speeding up the conversion of new and old kinetic energy, building a first-class standardized planting base in the country, actively cultivating new business formats, and increasingly showing the characteristics of large-scale production, intensification and international sales.
4.1.3 Accelerate the cultivation of the “Nong Zihao” brand

Promoting and strengthening the development of agricultural production, closely integrating local advantages, cultivating specialty industries, making breakthroughs in the geographical indications of agricultural products, and creating distinctive brands, such as “tuzihao”, “xiangzihao”, etc. Digging out the cultural connotation of the characteristic industry based on the original economic benefits of agricultural products, increasing market awareness and taking the high-end route by displaying its culture and brand value. It also should form a new way of marketing and promote characteristic agricultural products with the help of Shake tone and Micro Blog to create a “golden signboard” and take the road of distinctive and differentiated development.

4.2 Cultivate New Farmers

Local governments should actively introduce a series of support and encouragement policies, open “Green Channels”, and vigorously support the construction of pilot projects for returning home to start business. Imply and optimize government services, improve the work efficiency and quality of services for people. Moreover, imply the guarantee of the rule of law, strengthening the cultivation and development of the construction of grass-roots law enforcement teams, and safeguard the legitimate rights and interests of the masses, so as to attract more “city returnees” to return to the countryside to work in agriculture and invest in the construction of rural businesses. Besides, it should vigorously develop the practical talent priority plan, carry out the cultivation of knowledge and skills of agricultural production, and cultivate many new farmers. So that, they can truly turn into the leaders of modern agriculture and economic development. In addition, it needs actively build the main body of rural E-commerce such as large planters and leading enterprises, take the initiative to take the lead in the establishment of product lines, and use various organizational forms such as “Orders + Acquisitions + Dividends” to help build a model.

4.3 Strengthen the Top-level Design and Give Full Play to the Creation and Application of Agricultural Intellectual Property Rights

In 2018, the No. 1 document of the central government stated that “we will vigorously build extensive infrastructure to promote the development of E-commerce in rural areas, encourage and support various market entities to innovate and develop new Internet-based agricultural industry models, and implement comprehensive demonstrations of E-commerce in rural areas”. Promoting the modernization of rural circulation has further pointed out the direction for the development of rural E-commerce in my country.

4.3.1 Build a digital village development system

Form a comprehensive information system platform covering the whole village and expand the application coverage of the model and lead application of the agricultural Internet of Things by improving the rural information infrastructure such as the network, updating supporting hardware, strengthening training and education. Process the important agricultural products information during the entire industry chain through designing plans for greenhouse planting, livestock and poultry breeding, cold chain logistics through cloud computing, mobile internet and big data. Carry out a comprehensive demonstration of the development of rural agricultural E-commerce. Give impetus to the project that the “Internet +” agricultural product out of the village into the city to release the potential of rural development and comprehensively promote the construction of ecological civilization. In addition, by integrating the resources of Alibaba Group, society and government, jointly establish the agricultural product E-commerce development standard system, promoting the improvement of agricultural production methods and realizing the organic connection between small farmers and modern agricultural development.

4.3.2 Accelerate the transformation of agricultural scientific and technological achievements

Imply relevant incentive policies for the transformation and innovate scientific and technological achievements. Establish the national awareness of science and technology, support the participation and promotion of social forces, establish a group of highly professional transformation institutions, then train high-quality technology transformation and extension personnel. Deeply dig and use the part of agricultural scientific and technological achievements with practical value and accelerate the transformation. Develop new agricultural machinery products and promote technical non-material achievements in livestock and poultry breeding, pest control, and greenhouse production. Based on the development prospects of demand, absorptive capacity, and market capacity transform from basic theory to hardware and software technology, from science and technology to the real production field. Moreover, it needs transform the concept of producers, strengthens the promotion of scientific and technological achievements through mass media to ensure the major benefit of the transformation of scientific and technological achievements.

4.3.3 Build a modern energy system in rural areas

First, we should use top-level planning as the starting point to optimize and utilize various energy structures, build a clean energy industry chain system, and promote the construction of my country’s ecological and social civilization. The second is government policy support. Government should support various public welfare projects in the field of rural revitalization to determine investment guarantees, improve the effectiveness of related subsidies, reduce the burden on farmers and improve the efficacy of financial support funds. It also needs innovate science and technology and making use of technology in production and life.

5. Conclusion

To sum up, along with the transaction volume and scale of
rural internet sales service market continue to expand at present, the rural E-commerce has achieved good harvest and achievement and has gradually become an important driving force for promotion of social consumption. It plays a very important role in helping rural areas get rid of poverty, improve infrastructure construction and construct a harmonious society. An undeniable fact is that, there are still some urgent problems during the development of rural E-commerce. For this reason, in order to realize the revitalization of villages, we should give importance to the promoting and leading role of rural E-commerce, continue to deepen the development of the E-commerce economy, and continue to build and make good use of the effective platform.

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