

An overview of rural e-commerce policy research in the context of rural revitalization

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Abstract. The expansion of rural industry is aided by rural e-commerce, which is a key element of China's rural revitalization. More and more policies, such as the implementation of the "Digital Business for Agriculture" project, have laid a solid foundation for the development of rural e-commerce, which is particularly emphasized in this paper in a systematic review of the historical process of rural e-commerce policies from initial exploration to high-quality development. Through a study of the literature, this article examines the current situation in terms of the coupling effect of policies, talent nurturing, urban-rural development impacts, and economic advantages. However, there are issues with the creation, landing, and oversight of rural e-commerce rules. By addressing these issues, suggesting related development strategies, and projecting the development trend that rural e-commerce policies will present in the future, this paper seeks to offer theoretical references and practical guidance for the formulation and implementation of rural e-commerce policies.

Keywords: rural revitalization, rural e-commerce policy, policy dilemma, development strategy.

1. Introduction

As a key driver of the agricultural economy's modernization and transformation, rural e-commerce is progressively demonstrating its enormous vigor. The Internet's popularity and the quick development of digital technology in recent years have opened previously unheard-of development opportunities in the field. To keep promoting excellence in this sector, it is now critically important to determine how to create and implement rural e-commerce policy in a rational and scientific way within the larger framework of rural regeneration. To better guide the rural e-commerce policy to make exceptional contributions to China's economic development, this paper will analyze the status quo and issues of the current policy implementation through a review of the literature. It will also investigate the development strategy and trend of the policy with a view to providing assistance.

2. Policy History

Early research, gradual deepening, and high-quality development have all been stages in the evolution of rural e-commerce policy. E-commerce was initially brought up in the Central Government's No. 1 document in 2005, which was the first time the nation investigated and paid attention to rural e-commerce. The policy has progressively evolved since then, reaching a significant turning point in 2014. The Ministry of Agriculture conducted the "Information into the Village into the Household" pilot work in certain provinces and cities, and the Ministry of Commerce and the Ministry of Finance jointly launched the "e-commerce into rural areas" project. These initiatives have laid a strong foundation for the development of the future.

A pivotal year in the development of rural e-commerce was 2015. To determine the direction of rural e-commerce, the State Council's "actively promoting the" Internet and "action of the guiding opinions" highlighted the importance of developing it vigorously. Central Document No. 1 in 2016, for the first time, rural e-commerce as an entry in a separate display, signaling the start of a new phase. Since then, the state has established more stringent regulations, and made clear the primary goals of this sector. These include expanding the development of logistics infrastructure, enhancing the three-tier rural logistics system, and conducting a thorough e-commerce demonstration in rural areas. The

implementation of these policies has encouraged the professional and extensive growth of rural e-commerce.

In 2021, e-commerce in rural areas has advanced into a new phase of superior development known as "Rural Development via Digital Commerce." The No. 1 Central Document in 2022 particularly recommended the implementation of this project, a new initiative and a new route for the expansion of rural electric business. To assist and promote the expansion of agricultural output and the revival of rural industries, the project intends to fully unleash the enabling effect of digital technology and data resources on rural e-commerce, improve the level of digitization, networking, and intelligence in the field of rural e-commerce, and encourage the high-quality development of rural e-commerce.

Rural e-commerce has seen some new developments in recent years, including live e-commerce of agricultural products, and O2O whole supply chain e-commerce from field to table. The emergence of these new forms and modalities has energized the growth of rural e-commerce, improved and transformed the rural economy, and increased the earnings of farmers.

3. Status of the policy

3.1. Coupling effects of policies

A primary factor bolstering the expansion of the rural e-commerce industry is the coupling effect between the rural e-commerce policy and other measures. Wen Fuying and Huang Jianxin (2021) conducted a detailed analysis of the coupling impact between rural e-commerce policy and rural rejuvenation policy. They found that rural revitalization policy has positively impacted rural e-commerce policy, giving it more room to grow and stronger policy support, as well as encouraging ongoing optimization and improvement of the policy. Through the utilization of funding, resource integration, and policy synergy, the rural e-commerce policy has been widely adopted in less developed areas. This has effectively stimulated the expansion of the rural e-commerce industry and provided a new impetus for rural rehabilitation [1]. Chen Xutang and Yu Guoxin (2019) showed how inclusive financial policies and rural e-commerce policies work together to provide a more practical and cost-effective financing channel. This allows rural e-commerce companies to obtain more funding for expanding their operations and improving service quality, which in turn promotes the growth of the rural e-commerce industry. Additionally, combining employment and entrepreneurship policies with rural e-commerce policies helps farmers access more jobs and entrepreneurial opportunities, raises their incomes, and simultaneously encourages the diversified growth of the sector [2].

3.2. Talent development for policy

Rural e-commerce policies that offer direction and assistance have aided in the development of e-commerce talent. To improve e-commerce's integration with rural and agricultural expertise and to develop composite talents that comprehend both agricultural production and e-commerce business, the government, on the one hand, encourages universities and vocational colleges to open majors related. In the meantime, the government has teamed up with e-commerce organizations to provide nearby communities with systematic training in relevant information and skills to develop local talent. The government also actively promotes school-enterprise cooperation, establishes off-campus training bases, provides targeted internships for students, and hires outstanding rural e-commerce business leaders to give real case lectures and enterprise project analysis, thus enhancing students' practical ability and professionalism [3]. The adoption of the policy has absorbed excess rural labor and produced a range of work opportunities specially created customer service and warehousing positions for groups such as left-behind women, and at the same time stimulated the poor people's will to fight against poverty. In addition, rural e-commerce has developed into a hub for entrepreneurship, attracting allochthonous entrepreneurs, promoting the return of talents, increasing the intensity of human capital, and to mitigate the spatial distribution of villages in a hollowed-out manner [4].

3.3. Policies for rural and urban development

Policies that encourage rural e-commerce have reduced the economic disparity between urban and rural communities. In addition, it has aided in the digitalization of rural areas, making it simple for farmers to obtain market data and modify their production plans. It also provides more sales channels and marketing means, reduces intermediate links, improves profit margins, and provides more employment and entrepreneurial opportunities. Additionally, the policy optimizes resource allocation, increases the efficiency of rural production and economic benefits, encourages the progressive movement of labor, capital, and other production components from urban to rural areas, and provides a fresh boost to the growth of the rural economy [5]. The primary ways that rural e-commerce policy supports the integrated development of urban and rural areas are through e-commerce-driven urban-rural economic synergy, urban-rural facilities synergy, and urban-rural factor allocation synergy at three levels. By encouraging circulation and boosting output, the policy has significantly expedited the growth of rural e-commerce and sped up the rate of integration. Rural e-commerce policies have also promoted the growth and improvement of rural e-commerce infrastructure. As a result, rural infrastructure—like information centers—is now integrated with cities and towns, speeding up the flow of digital dividends and gradually closing the digital divide between urban and rural communities [6].

3.4. Economic benefits of the policy

The growth of rural e-commerce in China has been significantly influenced by policies pertaining to it, particularly the "Comprehensive Demonstration of E-commerce in Rural Areas" policy. The degree of development in the demonstration counties has generally increased since the policy's adoption, the industrial agglomeration effect has been obvious, the process of agricultural modernization has accelerated, and the employment structure has been gradually optimized [7]. The policy also effectively promotes poverty alleviation for poor groups through various forms such as empowering poor subjects with information technology, driving online sales, and absorbing the employment of poor people. E-commerce poverty alleviation is a crucial component of the rural e-commerce strategy, which helps to increase farmers' capacities, distribute resources efficiently, and boost the rural economy overall. In addition, the policy has also improved rural information circulation, upgraded rural industrial structure, and created an e-commerce agglomeration impact. These policy effects have not only increased farmers' income and driven rural employment but also decreased the sluggish sales of regional agricultural items [8] (Yi Famin, Sun Yucheng, Cai Yi, 2021).

4. Dilemmas in formulating policies for rural e-commerce

4.1. Policy development dilemmas

In actuality, the policy framework still has several shortcomings even if the government has implemented a number of rules. Firstly, policies' accuracy needs to be increased. A package of macro policies frequently falls short of meeting the distinct policy demands of e-commerce operators, causing resources to be wasted. This is because, depending on the growth, different entrepreneurial components are needed in rural e-commerce. There is also a lack of inter-organizational cooperation and coordination. Rural e-commerce policy involves several governmental functional departments, but there is a general lack of horizontal policy and work coordination among departments, leading to a high degree of policy sameness, making it difficult to form policy synergies, and affecting the comprehensive benefits [9]. With their own resources, objectives, and logic of action, the government, companies, and villages are the primary players in fostering the growth of the e-commerce sector in rural regions. For rural e-commerce to grow in a sustainable manner, how to properly coordinate and deal with the interests of these three, and avoid the division of interests, is a governance issue that needs to be addressed [10].

4.2. Policy implementation dilemmas

Backward infrastructure construction is currently a concern for rural e-commerce, primarily reflected in the high cost of logistics, which leaves practitioners with limited profit margins. The cold chain logistics warehousing supply chain is insufficient, agricultural products transportation loss, rotting, and deterioration problems occur frequently, online agricultural products also lack brand effect, the price is generally not high, the return of funds and profitability is limited, all these issues have hindered the development of future [11]. In terms of logistics, although some policies give tax rebates, subsidies, and other measures, the different strengths of policy implementation have led to differences in the process of policy implementation. Some regions or sectors may be more active in promoting policy implementation, while others may lack sufficient motivation and execution. This difference makes it difficult to form a unified standard and effect of policies in the process of landing [12]. The expansion of the related sector needs many composite talents who are knowledgeable about both e-commerce and agriculture. However, the lack of such talent is currently one of the primary factors impeding the long-term growth of the rural e-commerce sector, and this is especially evident in rural areas [13].

4.3. Policy oversight dilemmas

The legal and regulatory framework for rural e-commerce is still in its infancy. This leads to a lack of clear and specific legal basis when dealing with relevant legal issues, which increases legal risks and uncertainty. It may cause problems such as ineffective supervision and lax law enforcement, affecting its healthy development [14]. The current related laws also face the problem of insufficient influence. The main operators are mainly traditional farmers, most of whom have not received good Internet skills training and e-commerce business management learning. The lower skill level and theoretical cognition constrain these people's knowledge of e-commerce risks, leading to insufficient influence of related regulations [15]. Given how quickly the rural e-commerce sector is growing, the regulatory means and technology also need to be constantly updated and improved. However, the monitoring techniques used in China's rural e-commerce sector are still mostly conventional, and there is presently no digital governance mechanism in existence, which leads to inefficient supervision and makes it difficult to effectively respond to the complex and volatile market environment under the digital economy model [16].

5. Development strategies for rural e-commerce policy

5.1. Orientation and layout of policy formulation

During the policy-making process, policy precision is essential to enhancing the rural e-commerce policy system. To do this, policy-making must be more flexible to accommodate the variability and uncertainty of development, while being deeply aware of and adhering to the development rules, avoiding the introduction of unrealistic "one-size-fits-all" policies, and making sure that the policies can accurately meet the needs. To avoid policy conflicts and duplication, the work process should also be systemic and comprehensive, with all departments involved in policy formation and implementation being fully informed and coordinated. The responsibilities and authorities of each department should be clarified to form a policy synergy (Guo Kaikai, Gao Qijie, 2022). As rural e-commerce expands, it is important to consider the interests of farmers, enterprises, and the government. The interests of all parties must be carefully considered and weighed when creating pertinent policies to guarantee their justice and reasonableness (Ma Liangchan, Li Jingjing, 2024).

5.2. Policy implementation on the ground and development

To support the smooth operation of rural e-commerce and its sustainable expansion, a robust logistics network must be established. Through government and enterprise cooperation models, the government should take the lead in actively directing and motivating businesses to engage in the

building of rural roads and collaboratively advancing the enhancement of other transportation infrastructure. Additionally, invest more in smart agriculture, smart logistics, and other technologies. Make use of modern technology to enhance expansion, improve logistics efficiency, improve the accuracy of agricultural product supply and demand docking, and reduce logistical expenses [17]. In addition to creating a composite talent training mechanism, meeting the talent needs development can also be achieved by addressing the issues of housing, healthcare, and education, which will help to retain talent in multiple locations. In addition, a talent introduction mechanism should be created to increase preferential subsidies for talents, encourage young people to launch their enterprises in their hometowns, and make comparatively underdeveloped rural communities more appealing and cohesive to talented individuals (Wu Di, 2022).

5.3. Improvements and innovations in policy oversight

The government should accelerate the establishment and improvement of relevant rules and regulations, enforce market order, safeguard consumer rights and interests, and increase regulation of the rural e-commerce sector in addition to vigorously supporting the self-regulation of the business (Sun Ke, 2022). And gradually raise awareness of the rules and regulations pertaining to rural e-commerce so that all e-commerce participants actively follow the law and take the initiative to take responsibility [18]. Additionally, big data and cloud computing technologies are used to provide more accurate and efficient digital tools for monitoring, and the development of digital infrastructure in rural regions is strengthened. Meanwhile, to provide solid assurance for digital supervision, a robust rural e-commerce data governance system was put in place to guarantee the security, integrity, and authenticity of the supervision data (Shen Shuhong, Guo Jing, 2023).

6. Trends in rural e-commerce policy

6.1. Continuous increase in policy support

The government will keep boosting support for rural e-commerce. To offer a comprehensive spectrum of protection, it may also implement more supporting policies pertaining to infrastructure, talent training, technological innovation, market expansion, etc. To lower farmers' startup expenses and encourage their entrepreneurial spirit, the government would simultaneously expand financial subsidies, tax breaks, loan assistance, and other capital expenditures.

6.2. Continuous improvement of infrastructure

In addition to increasing distribution capacity, lowering logistics costs, and improving distribution efficiency through the establishment of logistics centers, expansion of outlets, and the introduction of intelligent technologies, the development of rural network infrastructure will continue to be supported by the government, improve coverage and stability, and offer convenient network services for rural e-commerce.

6.3. Technological Innovation and digital transformation drive development

The primary drivers of rural e-commerce growth are technology innovation and digital transformation. Modern technologies like blockchain, artificial intelligence, and big data will eventually be extensively incorporated into rural e-commerce, posing both fresh potential and difficulties. These technologies will improve transaction speed and operational efficiency, reduce expenses, increase profitability, and encourage the sustained expansion of rural e-commerce.

6.4. Focus on human resources development and skills upgrading

To enhance farmers' e-commerce skills, the government will upgrade the rural e-commerce training program, which will include hands-on, online, and offline instruction. Businesses are urged to interact with educational institutions to realize the smooth relationship between talent development

and market demands through the integration of production and education, as well as the combining of work and study.

7. Conclusion

Rural e-commerce, an effective hand to drive farmers to increase their income, is a powerful support to promote rural consumption. Through literature combing and theoretical analysis, the policy history, existing problems, and deepening path are comprehensively examined in this article within the framework of rural revitalization and demonstrates how rural e-commerce, as a new economic model, aids in modernizing agriculture, expanding the channels through which agricultural goods are sold, and raising farmer productivity. However, several obstacles still stand in the way of the policy's present implementation, including inadequate infrastructure, a lack of skilled personnel, and flawed laws and regulations. In the future, the policy environment should be further modified and technological innovation should be strengthened to promote the high-quality expansion of rural e-commerce and offer a more potent boost to rural regeneration.

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