

Research on the Dilemma Faced by the Digital Economy in Promoting Urban-rural Integration and the Countermeasures to Solve it

Dongbei Zhou

School of Management Science and Engineering, Anhui University of Finance and Economics, China

ABSTRACT

At present, digital technology is becoming an important driving force to solve the "urban-rural division and one country, two policies" and promote the integrated development of urban and rural areas. This paper reviews the theoretical mechanism of digital economy to promote urban-rural integration from the aspects of urban-rural precision management, sharing economy and leapfrog development, and puts forward specific suggestions in five aspects: digital infrastructure, logistics service system, digital popularization, digital governance and financial investment.

KEYWORDS

Digital Economy; Urban-Rural Integration; Digital Village.

1. INTRODUCTION

With the increasing abundance of data element resources and the continuous improvement of big data processing and analysis technology, the innovation of national governance model driven by data elements has emerged in different fields of economy and society. At the same time, digital technology is becoming an important driving force to solve the "urban-rural division, one country, two policies" and promote the integrated development of urban and rural areas.^[1]In the context of the emerging technological revolution, the development of the digital economy has not only driven human society into the era of the Internet of Everything, but also given birth to the concept of a social community that promotes and integrates each other. There is no doubt that the state of rural information infrastructure and farmers' information capabilities determine the horizontal expansion and vertical deepening of rural digitalization, and the existence and widening of the information gap will accelerate the re-expansion of the class gap, the regional gap and the urban-rural gap, and further evolve into information differentiation, which in turn accelerates the gap between the rich and the poor and the social differentiation.

To this end, the report of the 19th National Congress of the Communist Party of China in 2017 proposed for the first time "urban-rural integrated development", that is, to "establish and improve the institutional mechanism and policy system of urban-rural integrated development". In 2017, the Central Economic Work Conference proposed to "reshape the relationship between urban and rural areas and integrate the development of urban and rural areas", and the handling of urban-rural relations changed from "overall planning" to integration from the perspective of dual division. The relationship between urban and rural areas has changed from antagonism to integration, the relationship between urban and rural areas has changed from economic ties to comprehensive links, the flow of urban and rural elements has changed from one-way to two-way flow, and the

development of urban and rural areas has changed from "promoting industry through agriculture" to "complementing industry and agriculture". The relationship between urban and rural areas has been continuously reshaped, a new type of urban-rural relationship has been gradually established, and the institutional mechanism for the integrated development of urban and rural areas has been gradually improved, and China's urban and rural areas have begun to enter a period of integrated development. Facing the technological discourse of the digital age, the resource endowment of rural society is efficiently exploited and utilized, which promotes the correction of the imbalance between urban and rural areas. Therefore, in the national governance of the digital economy, the governance of scientific and technological innovation plays a pivotal role. In the era of digital economy, the abundant data element resources and the rapid iteration of data generation (collection), transmission, storage, processing, and analysis technologies provide effective means and tools for improving the governance of scientific and technological innovation and the construction of an urban and rural community with a shared future in the new era.^[2]

Standing at the important historical juncture of the great changes unseen in a century, it is very necessary to systematically describe how to promote the process of urban-rural integration in the new era through the digital economy, what is the internal mechanism between the two, and what is the specific effect? The answer to this question is conducive to summarizing the reform experience and refining the theoretical achievements, and has important theoretical and practical guiding significance for the development of China's urban-rural relations in the new era.

2. LITERATURE REVIEW

2.1. Research on the Digital Economy

The concept of digital economy is an extension of the concept of information economy. The term "digital economy" can be traced back to the 90s of the 20th century. In recent years, countries around the world have emphasized and attached importance to the development of the digital economy to varying degrees, and have formulated corresponding development strategies, such as the European Union's "European Digital Agenda", Germany's "Digital Strategy 2025", and the UK's "Digital Economy Strategy 2015-2018". All this fully shows that many countries, especially developed countries, have realized that the development of the digital economy is of great importance to their own countries and the world, and promoting the development of the digital economy has gradually become an international consensus.^[3] Different scholars have defined the concept of digital economy.^[4] The definition of digital economy used in this paper is a series of economic activities that use digital knowledge and information as key production factors, modern information networks as important carriers, and the effective use of information and communication technologies as an important driving force for efficiency improvement and economic transformation and optimization. Based on the total index of digital economy and its sub-indices released by Tencent Research Institute, Wang Binyan found that there are significant inter-provincial differences in the level of China's digital economy going out, and there is a positive correlation between technological innovation investment on the going out of the digital economy.^[5] In the process of continuously defining the connotation of the digital economy, although the content has its own focus and scope, it is essentially agreed that the digital economy is centered on digital knowledge, information and related service investment, that is, the core driving force of the digital economy is digital technology. Digital economy.

2.2. Discussion on Urban-rural Integration

The ideological origins of urban-rural integration can be traced back to the nineteenth century in the Western research on urban-rural linkages, from the "urban-rural co-development theory" represented by Howard's pastoral city theory and Saarinen's organic evacuation theory before the 40s of the 20th century, to the "urban-rural dual structure theory" represented by Burke, Lewis and other scholars in

the 40~80s, and then to the urban bias and rural bias, as well as the "secondary urban development strategy" proposed by Rondineli Urban-rural relations and their development have always been the focus of Western academic circles. In the face of the actual process of urban-rural relations and urban-rural integration, the academic community has carried out in-depth research, and the issue of urban-rural relations and urban-rural integration has become one of the most concerned issues in economics, sociology, management, demography and geography. The urban-rural relationship reflects the basic relationship between the dual socio-economic structure of urban and rural areas in a country or region.^[6]Urban-rural relationship is a universal connection and interactive symbiosis between urban and rural areas that interact, influence and restrict each other under certain socio-economic conditions.^[7]Most of the existing studies believe that the urban-rural integration model is a complex network mechanism process, which mainly involves four aspects: element system, physical space, regional function, and main structure.^[8]At present, there are two main views on the dynamic development mechanism of urban-rural integration. One of the mainstream views is that urban-rural integration is the result of a combination of internal and external dynamics.^[9]Another view is that the differences and contradictions between urban and rural areas in economic, social, cultural and other aspects are the main driving force for promoting the integrated development of urban and rural areas.^[10]

From the perspective of existing literature research, most of them have studied the connotation, influencing factors, measurement methods, and mechanism of urban-rural integration from different research dimensions, and few literatures have systematically sorted out and identified the internal mechanism of digital economy and urban-rural integration in the context of the digital age. Therefore, this paper studies the marginal contribution of the digital economy to the integration of urban and rural areas.

3. THE THEORETICAL MECHANISM OF DIGITAL ECONOMY TO PROMOTE URBAN-RURAL INTEGRATION

3.1. Use Big Data in the Digital Economy to Accelerate the Integrated Development of Urban and Rural Areas

Big data has important social and commercial value, and plays an important role in promoting agricultural modernization and the close connection between rural and urban areas. In the context of the era of big data, with the help of big data technology, we can give full play to the advantages of local location to achieve high-quality production of agricultural products, and the emergence of agricultural big data is based on meeting farmers' food security, and gradually develops to various fields such as production and marketing, security inspection, distribution, middlemen, logistics, capital, supply chain and sales chain. At present, China's agricultural big data has transitioned from basic functions such as intelligent monitoring and crop disease prevention to higher-dimensional development of production technology, production environment and online sales channels. The use of big data has made the integration of rural and urban areas more thorough. The development of rural tourism through big data and the rise of integrated farmhouses have enabled people from cities to feel the joy of the countryside and be more willing to participate in leisure agriculture.

3.2. Use the Integration of Digital Economy Data to Achieve Precise Management of Urban and Rural Areas

Data integration enables data to be centralized, realizes agile data sharing and integration between urban and rural areas, and greatly improves data management efficiency for urban and rural integration. Data visualization, quantifiable and optimized, so that the people can truly see the benefits of urban-rural integration development. The support of the people and the attention of the government are a powerful booster for the integrated development of urban and rural areas. Data integration can

"see where is in place and where there is short", so as to accurately "cure" and avoid ineffective misallocation of resources. Data integration can enable the government to control the overall situation, fully understand the current situation of urban-rural integration development, and formulate scientific and reasonable strategies.

3.3. Using the Digital Economy Sharing Model to form a "One chain" of Urban and Rural Value

The integrated development of urban industry and rural agriculture puts urban agricultural product processing enterprises, family farms and ordinary farmers in the same value chain by extending their industrial chains, so that they can share the fruits of industrial development. The emergence of the digital economy has promoted industrial integration and innovation, forming a strong trend of integrated development of the entire urban and rural industry chain from offline to online. The application of digital technology can dredge the information blockage between different industries, enterprises and markets, mine a large number of massive data of farmers, market entities and consumers, greatly improve the value of data, and thus produce a new industrial model of cross-border integration. This mechanism can greatly stimulate the vitality of rural innovation and entrepreneurship, promote the transformation and upgrading of rural industries, generate emerging agricultural industry models, create new agricultural industry chains, and continue to release the vitality of rural digital economy. For example, the shared product information platform, the industrial Internet platform, the consumer Internet platform and the shared production platform, etc., will reorganize the information elements with the material, capital, labor and other elements, so that the industrial chain and value chain structure will change, the original industrial boundaries will be blurred, and the space for industrial integration will be expanded. First of all, sharing enables urban and rural information to be exchanged, urban enterprises and rural farmers can achieve full information sharing, greatly improving the production and processing rate of agricultural products: secondly, consumers and enterprises, farmers have achieved open and transparent product information, increased consumer trust in products, so that the number of products sold can be increased and stable.

3.4. The Multiplier Effect of the Digital Economy is Used to Achieve Leapfrog Development between Urban and Rural Areas

By infiltrating traditional resources, the digital economy makes the utilization of production resources show a superimposed magnification factor, that is, a multiplier effect. The platform of the digital economy reduces the transaction costs of search and coordination in the market, can quickly connect the main parties with supply and demand, and improve the efficiency and area of business information dissemination. Through the integration of the digital economy and the real economy, the comprehensive upgrading of the industry has been realized. One of the characteristics of the digital economy is that it is non-competitive, and digital resources can flow freely between various platforms and regions, thus activating traditional industries in remote areas such as towns and villages. The new Internet + business format has improved the utilization of traditional resources and revitalized a large number of dormant resources.

4. METHODS AND PATHS FOR THE DIGITAL ECONOMY TO PROMOTE URBAN-RURAL INTEGRATION

The digital economy adjusts the allocation of resources through new technologies, new forms of business and new models, breaks the restrictions of geographical space, and empowers the integrated development of urban-rural relations.

4.1. Accelerate the Construction and Coverage of Digital Infrastructure in Rural Areas

Information facilities are an important guarantee for the orderly development of the digital economy, so it is necessary to accelerate the optimization and upgrading of rural information facilities, promote the coverage and extension of digital television, rural broadband communication networks, dry mega optical fiber and other new generation information facilities to rural areas, and at the same time use satellite remote sensing, infrared, Internet of Things and cloud computing to establish an intelligent agricultural observation system. All regions should do a good job in the construction of information facilities and ensure the construction of digital facilities. By cooperating with communication operators, we will jointly promote the construction of rural wireless networks and improve the network coverage of rural areas.

4.2. Comprehensively Build and Update the Rural Logistics Service System

Continue to speed up the popularization of rural logistics, express delivery outlets and storage sites, so as to build a mature logistics chain. Establish and improve the rules and regulations and operating procedures of rural logistics and distribution services, accelerate the construction of rural mail and logistics system, so that agricultural products can go out and industrial commodities can come in, and better open up and expand the road of rural logistics services to promote the integrated development of urban and rural areas. Using the Internet as a platform, the main bodies of the circulation of agricultural products are connected in series, and individual farmers, intermediate wholesalers, buyers, retailers, etc. are concentrated on the digital platform, so as to improve the transparency of the circulation link and reduce transaction costs.

4.3. Pay Attention to the Popularization of Digital Education and Training in Rural Areas

Digitally disseminate and educate special populations such as rural elderly, left-behind children and women, so that they can use and benefit from digital technologies. At the same time, we should encourage digital information talents to go to the countryside, promote the popularization of digital knowledge for rural households, give full play to the role of digital talents such as volunteer teachers and first secretaries in villages, strengthen information literacy training for farmers, and enhance farmers' awareness of cybersecurity protection and understanding of cybersecurity-related laws. Encourage Internet enterprises to innovate and develop software adapted to the characteristics of the "Three Rurals", and promote the development of Internet applications in agriculture and rural areas.

4.4. We Will Continue to Implement Digital Governance in Rural Areas, and Further Promote the Modernization and Digitization of Rural Governance Systems and Governance Capabilities

Promote the extension of the "Internet +" project to rural areas, incorporate rural digital governance into the national integrated online government service platform, accelerate the digitalization and modernization of rural governance capabilities and the integration of urban and rural governance, and accelerate the integrated development of urban and rural areas. Promote the existing "Xueliang Project", improve the command platform of the county, township and village comprehensive management centers, and realize "full coverage and no dead ends" of public security prevention and control. Increase the inspection and management of agricultural water conservancy infrastructure construction and water sources in key rural areas, and promote the construction of smart grids.

4.5. Increase Government Financial Input

All localities may establish local special financial funds, allocate funds on a regular basis, and regularly accept the results. At the same time, a special loan mechanism will be set up to encourage farmers to borrow to establish smart farms through low or zero interest rates. Under the digital economy, we will carry out urban-rural integration, actively attract urban capital to invest and build in rural areas, and bring the application of new digital technologies to rural areas. To relax the entry threshold for capital to go to the countryside, relevant government departments should actively connect with the capital market, guide social capital parties to jointly build digital villages, and provide appropriate financial incentives and subsidies.

5. EPILOGUE

At present, digital technology is becoming an important driving force to solve the "urban-rural division, one country, two policies" and promote the integrated development of urban and rural areas. This paper reviews the theoretical mechanism of digital economy to promote urban-rural integration from the aspects of urban-rural precision management, sharing economy and leapfrog development, and puts forward specific suggestions in five aspects: digital infrastructure, logistics service system, digital popularization, digital governance and financial investment.

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