

Research on the influence of digital empowerment on the integrated development of rural industries under the background of rural revitalization

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Abstract

The integration of rural industries is an important way to increase farmers' incomes and achieve high-quality development of agriculture and rural areas. It is also a key means to consolidate and expand the achievements of poverty alleviation and rural revitalization. However, there are some problems and limitations in the development of rural industrial integration, including lack of rural industrial integration; lack of benefit connection mechanism and lack of value sharing mode; imperfect service mechanism of rural industrial integration development; low participation of industrial integration; lack of enterprise innovation ability and insufficient continuity of industrial integration. In recent years, returning home to start a business has been established as a crucial measure to promote rural revitalization and rural modernization process. In the digital age, digital technologies represented by the Internet, big data and artificial intelligence are having a profound impact on traditional entrepreneurial activities. Taking Taobao Village as an example, its successful experience shows that through the empowerment of digital technology, it can effectively solve the ability dilemma faced by returning home to start a business, and thus promote the sustainable and healthy development of entrepreneurship. At the same time, migrant workers returning to their hometown to start businesses have a positive and positive role in promoting the integrated development of rural industries, and significantly stimulate the generation of the participation behavior of rural industrial integration.

Keywords

Rural revitalization, returning home to start businesses, industrial integration, and optimization strategies

1. Research background

The Decision of the Central Committee of the Communist Party of China on Further Comprehensively Deepening Reform and Promoting China-style Modernization carries out a comprehensive and in-depth description of supporting rural revitalization, digital empowerment to return home for entrepreneurship, and rural industrial integration. In terms of rural revitalization, "decision" emphasizes the importance of rural industry integration development, put forward to "as a whole new industriali-

zation, new urbanization and rural comprehensive revitalization", and to "improve the level of urban and rural planning, construction, governance integration", to promote the urban and rural elements equality and two-way flow, narrow the difference between urban and rural areas, promote the development of urban and rural common prosperity. The decision also reflects the need to "support and standardize the development of new forms of employment," which provides policy support and guarantee for returning home to start businesses, and encourages people to take advantage of the opportunities under the new economic form to promote local economic development.

2. Research significance

2.1. Theoretical significance

Industrial integration research is more advanced in the non-agricultural industries, namely the secondary and tertiary industries, while the research on the digital enabling mechanism to return home is relatively weak. This paper expands the boundary of the theory related to industrial integration, and further improves the research of migrant workers returning to their hometown in the entrepreneurship theories. At the same time, the combination of migrant workers' entrepreneurial behavior with the integrated development of rural industries provides a new empirical supplement for relevant research.

2.2. Practical significance

Based on the realistic background of China, this paper discusses the influence and mechanism of the integrated development of rural industries. At the same time, through the in-depth analysis of the heterogeneity of farmer entrepreneurship in the location space, entrepreneurial subjects and entrepreneurial enterprises, it provides certain reference significance for the government to provide differentiated support policies for different regions, groups and enterprises.

3. Domestic and foreign research status and development trends

3.1. Digital enables migrant workers to return to their hometowns to start businesses

From the perspective of economic and social development, digital empowerment to return to their own businesses is more reflected in the development of digital economy provides new opportunities for migrant workers to return to their hometowns to start their own businesses. Academic research is mainly conducted from two aspects: (1) discuss how digital economy provides support for migrant workers to return to their hometowns to start their own businesses. By providing information, funds, channels and other resources, the digital economy has reduced the cost and risks of migrant workers returning to their hometowns, and increased the motivation and ability to return to their hometowns to start businesses. Moreo-

ver, digital rural development has an intermediary adjustment effect between the improvement of rural transportation facilities and migrant workers returning to start their own businesses, which strengthens the promoting effect of the improvement of rural transportation facilities on migrant workers returning to start their own businesses. Digital technology also enables young people returning to their businesses to use new media platforms such as short videos to expand markets, improve benefits and reshape rural order.(2) Explore the differences in the impact of digital economy on migrant workers returning to their hometowns to start businesses. The influence of digital economy on migrant workers returning to their hometowns to start their own businesses is restricted by their digital literacy. The improvement of digital literacy can not only promote migrant workers to return to their own businesses, but also have a positive spatial spillover effect on the entrepreneurial behavior of surrounding farmers. The relationship between digital economy and returning home entrepreneurship shows regional differences: on the one hand, digital economy can play a positive role in counties, starting a business to promote the integration of urban and rural development; on the other hand, digital economy may also lead to new factor mismatch, which may increase the gathering of entrepreneurial resources to the minority, thus having a negative impact on county integration.

3.2. Migrant workers returning to their hometowns to start businesses are integrated with rural industries

Since the integrated development of rural industries must rely on "agriculture, rural areas and farmers" and serve "farmers", and farmers are important participants and beneficiaries, the research on the participants in the integrated development of rural industries is also a hot topic. Jiang Zhuojian et al. (2018) took the ginseng industry convergence in Ji 'an City, Jilin Province as the investigation interval, and 225 samples were selected for Logit regression. The research showed that resource endowment differences, perceptual behavior control, interest connection mechanism and other factors would significantly affect the farmers' willingness to participate in industrial integration. Liu Fei (2019) through the "national millet sorghum industry technology system research" group field research data to build empirical analysis model, farmers individual characteristics, family characteristics, external environment characteristics of farmers to the third is the data-driven optimization mechanism: the coordinated development of digital economy and green consumption with the help of data-driven optimization mechanism. Through big data analysis, consumer needs and behaviors can be more accurately understood, so as to provide personalized green consumption recommendations and services. At the same time, the development of digital economy can also optimize resource utilization through data analysis, reduce energy consumption, reduce carbon emissions and so on. The influence of the willingness to integrate with rural industries, and put forward corresponding suggestions to encourage and support farmers to improve their policy

cognitive ability and corresponding professional skills level, and actively explore various forms of integrated development mode. Migrant workers have returned to the countryside to start their own businesses, injecting new vitality into the integrated development of rural industries. Migrant workers returning home entrepreneurship is farmers to market opportunities and demand oriented to open up new production process, also has the "entrepreneur to" farmers in pursuit of profit maximization, need to emphasize is the farmers entrepreneurship has typical rural community attributes, namely for the rural environment is strong (guo, etc., 2020). The migrant workers who return to their hometowns use their accumulated capital, social and human capital, and at the same time drive industrial agglomeration and technological innovation to enhance their participation of rural industrial integration and promote the further development of rural industrial integration. Chen lu (2019) on the basis of field research 769 data, using the double difference tendency to score matching method for empirical analysis, the results verify the new agricultural management subject in promoting the development of rural integration of the positive role, the new agricultural management subject refers to the primary industry, specialization, intensive production of agricultural business organization, the returning migrant entrepreneurship selected development mode and organization form has highly consistent.

3.3. Research trends

Comprehensive literature analysis shows that although the academic circle has made some progress in the research on the frontier issues of the integrated development of rural industries, it still needs to be further explored and improved in some aspects. Studies on rural industrial integration are conducted from the macro level, mainly with case analysis, and empirical analysis on the impact of the macro environment in the region. Since the State Council issued Opinions on Supporting Rural Areas in 2016, migrant workers have made remarkable contributions to the development of rural industry, due to the difficulty of data acquisition. Therefore, it is necessary to study the influence of migrant workers returning home to start their own businesses on the integrated development of rural industries, which can effectively supplement and enrich the existing research results.

4. Research objectives and main contents

4.1. Study objectives

This topic aims to study the influence effect of digital enabling home entrepreneurship on rural industrial integration, Through field research in several rural areas and panel data analysis in many provinces and cities, On the basis of the status quo introduction, Theoretically, analyze the influence mechanism, Analyze the mechanism of digital enabling to start home on rural industrial integration; Further, by constructing a measurement system, The level of integration of rural industries, To

construct the mediation effect model, Test for the effects of the indirect mechanisms of action; Summarize the specific impact effects, According to the conclusion, the optimization strategy is proposed for how to effectively promote the integration of rural industries under the background of rural revitalization.

4.2. Main contents

First, the theoretical basis and concept are defined. It mainly includes the elaboration of industrial integration theory, entrepreneurship theory and farmer behavior theory; it defines the concept of rural industrial integration and migrant workers returning home to start businesses. Subsequently, through the investigation and analysis of the current situation of rural industrial integration through digital empowerment. Including research background, research purpose and research significance; review the literature through research and review; determine the research content, research method and drawing technology road map; and explain possible innovations and research shortcomings. Then conduct the research and design on the impact of digital enabling home entrepreneurship on the integrated development of rural industries. Including developing research hypotheses; identifying data sources, selecting appropriate variables, and models. Finally, the empirical analysis of the integrated development of rural industries is carried out. Including benchmark regression result analysis; impact mechanism analysis; heterogeneity analysis; and robustness test. Based on the empirical analysis and corresponding policy suggestions to provide some reference for the integrated development of rural industries.

5. Theoretical analysis

5.1. State of the art

With the rapid development of information technology, the digital development of rural areas presents a rapidly changing trend. Digital development has penetrated into all aspects of rural areas, including agricultural production, rural economy, public services and other fields, bringing new opportunities and challenges to rural areas. The 14th Five-Year Plan and the Outline of 2035 Vision goals clearly put forward the strategic goal of accelerating the construction of digital countryside, and the no. 1 document of the central government also gives special emphasis on comprehensively strengthening the construction of digital rural areas. Digital rural construction is not only a concrete action to realize the rural revitalization strategy, but also a key means to promote the process of agricultural and rural modernization. It is also an important strategy to stimulate the internal vitality of rural development and release the dividend of digital economy. The enabling effect of digitalization provides a new path and mode for rural revitalization. Through the integration of information technology resources, digital rural construction has opened up a new way to promote rural industrial upgrading, improve the efficiency of rural govern-

ance, enrich rural cultural life and improve the quality of life of rural residents. The implementation of this strategy will help to build a more open, interconnected and intelligent rural society, and lay a solid foundation for realizing the vision of strong agriculture, beautiful rural areas and rich farmers. The party's 20th report pointed out that we should comprehensively promote rural revitalization and make unremitting efforts for the realization of agricultural and rural modernization. Rural revitalization requires the coordinated development of agriculture, rural areas and farmers, and digital enables returning farmers to achieve a good combination of the three. At present, digital technologies represented by the Internet, big data and artificial intelligence have achieved rapid development in China. According to the 50th Statistical Report on Internet Development in China, the Internet penetration rate in rural areas of China has reached 58.8 percent by 2022. The development effect of digital technology is a solid foundation for the realization of digital empowerment to return home and start businesses. Digital enabling returning home to start their own businesses can realize rural economic development, which will attract more villagers to return home to start their own businesses, thus forming a virtuous circle and finally realizing comprehensive rural revitalization.

The goal of digital rural development and digital reform cannot be achieved without the subject of "people". It drives the collection of various production factors, especially data factors, into rural areas, injecting strong momentum into rural revitalization. By the end of 2022, the total number of people returning to their hometowns to start businesses has reached 12.2 million, mainly engaged in modern scale planting and breeding, agricultural products processing and circulation, leisure agriculture and cultural and creative industries. 55% of them use information technology, such as e-commerce, livestreaming, and contact-free distribution, etc. Digitization is becoming the new normal of returning to their hometowns to start businesses. In April 2023, the Cyberspace Administration of the CPC Central Committee and other departments jointly issued the Key Points of Digital Rural Development in 2023, which clearly pointed out that digital means should be used to promote the upgrading and development of rural industries. In order to realize the comprehensive development of the digital economy in the county level, a variety of measures need to be taken, including further building and promoting the network brand of agricultural products with local characteristics, and strengthening the training of new rural e-commerce talents. These measures will inject new vitality into the prosperity and sustainable development of the rural economy. It can be seen that exploring the logical path and optimization path of digital enabling to return home is of profound significance, which is not only related to the practice of digital rural construction

5.2. Results analysis and enlightenment

In the no. 1 document of the Central Government in 2021, it is pointed out that rural development should be comprehensively promoted, to vigorously develop digital enabling to return home to start businesses, and to promote the rapid development

of digital enabling to return home for entrepreneurship. The development of digital-enabled home entrepreneurship has risen to a new height of national strategy. With the continuous progress of e-commerce and information technology, rural e-commerce has become a new form of business for the integrated development of "agriculture + Internet", and occupies an important position in the economy. The coordinated development of infrastructure has been further deepened, which not only promotes the prosperity of digital empowerment to start businesses, but also effectively promotes the marketization of agricultural products and industrial products to the countryside, playing a positive role in consolidating the achievements of poverty alleviation in China. In addition, this process has also accelerated the pace of agricultural and rural modernization, and laid a solid foundation for the high-quality development of China's economy. It can be seen that the high-quality development of digital enabling to return home for entrepreneurship has become one of the key ways to realize the rural industrial integration strategy, which is of great significance for promoting the comprehensive upgrading and long-term development of rural economy. From the perspective of positive influence; firstly, the entrepreneurial effect of the development of rural residents to produce and live, to promote the rural residents' industry, on the same hand, to realize the diversified development of rural industries, and to promote the comprehensive optimization and upgrading of the current rural industrial structure in China. Secondly, the rapid development of digital-enabled return home to start businesses is more conducive to the circulation of resources and elements between cities and rural areas, which is conducive to narrowing the gap between urban and rural areas and helping to achieve coordinated regional development. Finally, the radiation-driven role of the development of digital empowerment can improve the rural landscape, make the rural ecological environment more beautiful and livable, and gradually improve the living standards and life quality of rural residents from the source.

From the perspective of negative impact, through empirical investigation, due to the serious aging in rural areas, low education, and backward digital infrastructure in rural areas, the low penetration of the application field, and has little effect on rural areas. At the same time, the potential threat of "digital divide" indicates that there is still a large gap in the ability of rural areas to enjoy the dividend of e-commerce compared with cities. Digital power to return home to start businesses may hinder the industrial transformation in rural areas and increase the utilization cost of information resources and other factors, which will aggravate the separation between industrial development.

Combined with social practice visit research and data analysis of the results, through the research digital can return home entrepreneurship on the influence of rural industrial integration path, summarizes the number can return home business development on the influence of rural industry integration effect, thus for the subsequent development of our country digital can return home business path of feasi-

ble reference Suggestions is put forward.

5.3. Research conclusion

As the fundamental way to comprehensively promote the rural revitalization strategy at the present stage, the integrated development of rural industries is a key measure to achieve sustainable economic growth and for urban and rural residents to share the fruits of reform and development. Under the wave of digital economy, the rapid development of digital technologies such as e-commerce has provided an important opportunity and an effective engine for promoting the integrated development of rural industries. However, the existing literature has relatively insufficient research on the influence of the development of the integrated development of rural industries in China. This report, on the basis of the existing literature research and combined with the research conducted in social places, expounds the influence of digital empowerment on the integrated development of rural industries from two aspects of theoretical analysis and empirical test.

This report is based on empirical data research, from the economic development, ecological construction, industrial diversification and other positive influence and the negative impact of the number can return home business development to promote the development of the inner mechanism of the rural industry integration: first, economic development, Numbers can return home business development to promote industrial structure upgrading in rural areas. Second, in terms of ecological construction, digital enables home to start businesses and development of rural ecological resources, and at the same time realize the effective connection between rural civilization and urban civilization, and promote the rural ecological revitalization. Fourth, in terms of industrial diversification, digital enabling to return home for entrepreneurship and development creates more opportunities for rural residents to find local jobs, expand the forms of rural industries, and promote the integrated development of various industries. In addition, this report analyzes the digital home can delay the business can the role of rural industry integration process clues: urban and rural information infrastructure construction and digital skills differences formed the "digital divide" between urban and rural areas, lead to rural residents in sharing digital dividend obvious short board, also to a certain extent, restricted the digital transformation of agriculture and rural areas, become a stumbling block to the development of rural industry integration. Finally, combined with the analysis of the impact effect and the research results of the related problems in the questionnaire, the optimization strategy of urban and rural integration is put forward, which is to some extent conducive to the realization of common prosperity of rural farmers under the new situation, boost the high-quality development of digital enabling home to return home for entrepreneurship, and narrow the gap between industrial integration and development.

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