

Practical Research on the Empowerment of Rural Industrial Integration Development by the Digital Economy

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Abstract: With the in-depth advancement of the rural revitalization strategy, the future development direction of China's rural areas is shifting towards industrial integration, which has become the key to solving the development problems of "agriculture, rural areas, and farmers" and improving the quality and efficiency of the rural economy. Especially at present, the digital economy, with its unique advantages of rapid technological updates, wide penetration range, and high resource allocation efficiency, is changing the overall structure of current rural economic development and providing a new development path for rural industrial integration. Starting from the current situation of digital economy empowering rural industrial integration development, this paper deeply analyzes the importance of digital economy empowering rural industrial integration development, and systematically discusses the effective practices of digital economy empowering rural industrial integration development. It is hoped that through these methods, a universal practical path can be summarized to provide new ideas for promoting the in-depth integration of rural industries and realizing rural industrial revitalization.

Keywords: Digital economy; Rural industries; Integrated development; Practice

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1. Introduction

In the context of current social development, rural industrial integration is mainly a new development method to break the boundaries of traditional rural industries and restructure the rural industrial system. The core of this development model focuses on promoting the coordinated development of rural industries through the penetration, intersection, and reorganization of industries, so as to provide a new direction for the overall competitiveness and sustainable development of rural industries. In the era of rapid development of digital technology, the digital economy is gradually entering the field of rural industrial development and plays a very important role in promoting rural industrial integration. In addition, there are still some problems in traditional rural industries,

which are likely to affect the development of the rural industrial economy. The digital economy can effectively solve the existing problems through in-depth excavation and integration of digital resources, so as to promote the transformation of rural industries towards intensification and high-endization.

2. Current situation of the digital economy empowering rural industrial integration development

At present, China's rural revitalization strategy is being further promoted. In this process, the digital rural strategy has gradually attracted attention, which plays a very important role in the integrated development of rural industries. Moreover, the digital economy, with its high permeability and integration, can gradually become an important core of rural industrial integration and development, making the integrated development of rural industries show a more positive state at the current stage. However, there are still some problems in the specific implementation process that will affect the specific effect of industrial integration^[1]. On the one hand, there is still an obvious lack of digital infrastructure construction in rural areas, and the network coverage is not comprehensive enough, leading to a slow information transmission speed, which is likely to limit the in-depth development of the digital economy in rural areas. At the same time, the digital literacy of rural residents is generally low, and they lack the necessary digital skills training in the development process, which also makes it difficult for rural people to give full play to the various benefits brought by the digital economy^[2]. On the other hand, the industrial digital transformation in rural areas has not formed a complete policy guarantee and capital investment support system, which is likely to lead to the failure of some potential projects to start smoothly in the early stage, or difficulty in continuing development after startup. Rural areas also lack logistics, warehousing services, and other related equipment matching the digital economy, which, to a certain extent, will affect the online sales of agricultural products, and their subsequent brand development will also be restricted^[3].

3. Importance of the digital economy in empowering rural industrial integration development

3.1. Improve rural industrial competitiveness and promote high-quality development of the rural economy

Integrating the digital economy into the process of rural industrial integration can effectively improve the overall competitiveness of rural industries and promote the high-quality development of the rural economy to the greatest extent. In the production process of traditional rural industries, agricultural production is the main focus. This model has a short industrial chain, relatively low corresponding added value, and faces problems such as asymmetric market information and low resource allocation efficiency in the production process, leading to weak overall competitiveness of rural industries^[4]. The digital economy can break the limitations of the traditional industrial model by comprehensively transforming the production model of rural industries, promote the coordinated development of the primary, secondary, and tertiary industries in rural areas, thereby continuously extending the industrial chain and effectively improving industrial added value. In addition, the application of digital technology can also promote the precision and efficiency of agricultural production. While improving agricultural production efficiency and product quality, it can also promote the intelligent upgrading of the agricultural product processing link, thereby continuously improving processing levels and product quality.

3.2. Solve the pain points of “agriculture, rural areas, and farmers” development and consolidate the industrial foundation for rural revitalization

In the process of rural industrial integration and development, the existing problems of “agriculture, rural areas, and farmers” are fundamental issues that affect China’s national economy and people’s livelihood. Therefore, the industrial revitalization strategy is the key to promoting rural revitalization. Empowerment through the digital economy can promote the integrated development of rural industries, thereby effectively solving the difficulties faced in the development of “agriculture, rural areas, and farmers” and further consolidating the industrial foundation ^[5]. In the long-term production and development process, rural areas generally have problems such as low agricultural production efficiency, slow growth of farmers’ income, and insufficient vitality of rural development. Through the in-depth integration of the digital economy and rural industries, the agricultural industrial chain can be further extended, and on this basis, the value chain can be continuously improved, and the interest chain can be improved, so that more farmers can share the value-added benefits of the industry. This way can also broaden the channels for farmers to increase their income to the greatest extent and promote the sustained growth of farmers’ income ^[6].

4. Effective practices of the digital economy empowering rural industrial integration development

4.1. Strengthen the construction of digital infrastructure and consolidate the hardware foundation for integrated development

Having a sound digital infrastructure is the important premise and foundation for integrating the digital economy into the integrated development of rural industries and promoting the integrated development of rural industries. Therefore, it is necessary to further strengthen the construction of digital infrastructure, optimize and adjust it from the aspects of broad coverage and in-depth improvement, so as to promote the comprehensive extension of digital infrastructure to rural areas, and also ensure subsequent optimization and upgrading ^[7]. In terms of broad coverage, efforts should be made to increase investment in the construction of digital infrastructure in rural areas, promote the construction of digital infrastructure such as rural Internet, mobile communication networks, and the Internet at various base stations, and ensure that the relevant networks can cover the entire rural area. Among them, it is also necessary to focus on promoting the upgrading and transformation of rural fiber-optic broadband networks, expand the coverage of 4G networks in rural areas, and accelerate the coverage of 5G networks to key rural areas, so as to ensure the speed of network updates in rural areas and enable rural residents and agricultural operators to obtain corresponding digital services more quickly and at low cost ^[8]. At the same time, it is also necessary to promote the in-depth deployment of Internet of Things infrastructure in key locations such as relevant industrial parks and planting and breeding bases in rural areas. Combining with the rural Internet of Things perception network, it can provide corresponding hardware and technical support for the digital transformation of agricultural production, processing, circulation, and other links. In terms of in-depth improvement, relevant personnel need to promote the construction and improvement of rural digital infrastructure and rural public infrastructure, and also pay attention to the integrated construction of agricultural production infrastructure ^[9]. In the specific implementation process, it is necessary to deeply integrate the construction of digital infrastructure with the directions related to rural public infrastructure, such as rural roads, water conservancy, and electricity, and ensure that all parties can proceed simultaneously, thereby continuously improving the comprehensive carrying capacity of rural infrastructure.

4.2. Cultivate diversified integration subjects and stimulate the endogenous power for integrated development

In the process of promoting rural industrial integration, the relevant integration subjects are the core force to ensure that the digital economy can accurately empower. Therefore, in this process, it is necessary to cultivate diversified integration subjects with long-term development capabilities, so as to effectively stimulate the driving force for rural industrial integration and development ^[10]. Specifically, it is necessary to cultivate and expand various integration subjects around the real needs of rural industrial integration and development, so that different subjects can carry out cooperative cooperation and promote rural industrial integration to form a diversified collaborative integration layout. First of all, it is necessary to cultivate and expand the agricultural industries that are currently in the leading position of leading enterprises. These enterprises are important carriers for promoting the integration of the digital economy and rural industries. Therefore, relevant departments need to increase support for leading enterprises, so that leading enterprises can take the lead in integrating into the digital transformation process. They can build a complete digital industrial platform relying on existing advantages such as funds, technology, and markets. After the completion of the relevant platform construction, it can also play a corresponding exemplary role, guide other enterprises to accelerate the pace of digital transformation, and effectively drive small, medium, and micro agricultural operators and farmers in the upper and lower reaches of the industrial chain to participate in industrial integration ^[11]. Leading enterprises can also carry out in-depth cooperation with digital technology enterprises and scientific research institutions, open up the research and development and application results of digital technologies involved in the production process of each enterprise and encourage other enterprises to use them, so as to promote the application of digital technologies in the entire process of agricultural production, processing, circulation and services, thereby improving the overall digital level of the industrial chain ^[12]. In addition, it is also necessary to specifically support small, medium, and micro agricultural operators so that they can give full play to their own resources for digital transformation. Small, medium, and micro agricultural operators account for a large part of the rural industrial chain and are also an important part of it. However, affected by the industrial scale, their digital transformation is likely to face restrictions in terms of funds, technology, and talent ^[13]. Therefore, it is necessary to implement corresponding support policies for small, medium, and micro agricultural operators, including financial subsidies, tax incentives, and financial support, so as to effectively reduce the cost and risk of digital transformation of these enterprises. At the same time, a digital service platform for small, medium, and micro agricultural operators can be built. Through the service platform, various services such as digital technology training, information consultation, and technical support can be provided for them, thereby effectively improving the digital literacy and digital application capabilities of enterprises.

4.3. Innovate integration models and paths and improve the quality and efficiency of integrated development

The digital development of rural industries is inseparable from the guidance of correct models. Relevant enterprises and responsible personnel need to arrange the integration of digital technology according to the actual situation of current rural industrial development and the wishes of the main bodies. Based on the core advantages of the digital foundation, formulate corresponding integration models for enterprises and industries in different situations, so as to promote the integrated development of rural industries towards a deeper and higher-quality direction ^[14]. On the one hand, it is necessary to build an integration model that integrates digital technology, agricultural production, processing, and circulation. This integration model mainly takes digital technology as the core and integrates it into

the entire production process of agricultural production, processing, and circulation, so as to realize the in-depth integration of rural industries at all levels. In the process of agricultural production, relevant industrial personnel can realize the intelligent development of production environment monitoring, intelligent prevention and control of diseases and pests, and precision irrigation through digital technologies such as the Internet of Things, big data, and artificial intelligence, so as to effectively improve the precision and efficiency of agricultural production. In the process of agricultural product processing, relevant responsible personnel can promote the production process towards automation and intelligence through automated production lines, intelligent risk equipment, and big data quality traceability systems. This way can also make the entire production process more standardized, thereby effectively extending the industrial chain and improving product added value ^[15]. In the process of agricultural product circulation, digital technologies such as e-commerce platforms, big data marketing and smart logistics can be used to build an efficient production and sales docking platform in a targeted manner, directly connecting the produced agricultural products from the place of origin to consumers, so as to reduce intermediate circulation links, effectively reduce circulation costs and improve the overall industrial production efficiency.

5. Conclusion

In the current era of development, the digital economy has become the core driving force in the new era economic development system, which can also provide new vitality for the integrated development of rural industries and is of great significance for promoting rural industrial upgrading and realizing comprehensive rural revitalization. Although the digital economy's empowerment of rural industrial integration and development has achieved initial results, there are still some problems. Relevant personnel need to optimize corresponding solutions for the actual problems in the current stage of development to ensure the final quality of industrial development.

Disclosure statement

The author declares no conflict of interest.

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