

# Research on the Mechanism of Digital Transformation to Improve the Quality and Efficiency of Rural Industries in Guangxi

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## Abstract

Under the new development pattern of "dual circulation", the process of digital transformation of rural industries is accelerating. Promoting the digital transformation of rural industries has become a proposition of the times and an important way to realize the modernization of my country's agriculture and rural areas. Guangxi is rich in agricultural resources, but the proportion of agricultural output value in GDP continues to decline, and the economic strength of rural industries needs to be further stimulated. Based on the new economic growth theory, this paper studies the progress of digital technology as the endogenous driving force for improving the quality and efficiency of rural industries in Guangxi, and analyzes the impact mechanism of digital factors driving the quality and efficiency of rural industries in Guangxi from the internal analysis, so as to provide practical reference.

## Keywords

Digitalization; Rural Industry; Improving Quality and Efficiency.

## 1. Status Quo of Rural Industry Development

Rural industrial development refers to strengthening the construction of an industrial chain system with virtuous circular development of the rural economy, which is inherently characterized by the integration of agriculture, industry and commerce, production, supply and marketing, and trade, industry and agriculture, to achieve large-scale and specialized development of the rural economy. There are two notable features in the development process of my country's rural industries: "projects into the villages" and "capitals to the countryside". Starting from the subject and relationship of industrial construction, foreign scholars believe that the development of rural industries requires the integration and optimization of policy resources, market resources and community resources. In the process of industrialization, the boundaries between agricultural producers and processors are blurred. In the process of production, processing, distribution, export, experience, tourism, sales, consumption, etc., there are professional market enterprises to provide supporting services, which can significantly improve the reliability of agricultural products and the economy of rural areas.

In recent years, my country has begun to explore the road of integrated development of rural primary, secondary and tertiary industries. Cui Zhendong (2010) believes that the integrated development of primary, secondary and tertiary industries is a process of solving how to organize production, integrating processing, sales and commerce in production, and realizing the endogenous process of rural development. Lan Jianzhong (2011) proposed that farmers can not only engage in primary industries such as agriculture, forestry and aquatic products, but also in secondary industries such as food processing and fertilizer production, as well as in tertiary industries such as distribution, sales, and information services, forming production, processing, sales, and services. Integrated industrial chain. Jiang Changyun (2015) takes the integration, penetration and cross-reorganization between the primary, secondary and tertiary

industries in rural areas as the path, and realizes the transformation of the industrial development mode through the extension of the industrial chain, the expansion of the industrial scope and the transformation of industrial functions. Cao Enhua (2016) pointed out that the construction of beautiful countryside promotes investment and increases farmers' income. It is necessary to speed up land transfer and land leasing, select agricultural manors for key support, and vigorously develop new industries such as leisure and sightseeing agriculture, farmhouse entertainment, rural tourism, and e-commerce. With the continuous improvement of the level of informatization and the continuous development of Internet platform trade, it is of great help for the sale of characteristic agricultural products. It is an excellent strategy for the township government to provide young people with an online platform by continuously improving the rural network service facilities, which is in line with the requirements of the rural revitalization strategy in the new era.

## 2. Industrial Digital Transformation Applications

Industrial digital transformation is a process in which traditional industries use digital technology to upgrade their businesses, thereby increasing the quantity and efficiency of production. With the steady progress of the digital transformation of my country's traditional industries, the contribution of the digital economy integration part to my country's economic growth has continued to increase. The "White Paper on China's Digital Economy Development and Employment (2018)" released by the China Academy of Information and Communications Technology shows that from 2005 to 2017, the overall scale of my country's digital economy integration has increased from 1.29 trillion yuan to 21 trillion yuan. The proportion of some of them in GDP also increased from 7% to 25.4%; in 2017, the number of people employed in the integration of digital economy in my country reached 1.6 trillion. Therefore, based on the background of the digital economy, actively exploring how to realize the strategic transformation of industrial digitalization has become a key issue for the theoretical circle. At present, researchers from all walks of life generally believe that technological innovation is the core driving force for promoting industrial digital transformation. Li Hui and Liang Dandan (2020) pointed out that enterprises' investment in digital technology is the lasting driving force for enterprises' digital transformation. Ritter and Pedersen believe that data acquisition, data utilization and data analysis are prerequisites for digital transformation of enterprises. Sun Desheng (2017), Chen Yubo (2018), Lin Lin, Lv Wendong (2019) and other scholars based on case studies and empirical studies in the manufacturing and retail industries concluded that the digital transformation of enterprises is not achieved overnight. Boundaries, personnel management and other aspects are reconstructed.

Digital Transformation With the application of "Internet +", big data, artificial intelligence and other technologies, digitalization has been integrated into all aspects of production, distribution, exchange and consumption. Digital transformation is an all-round, multi-angle and full-chain transformation process using digital technology. Tapscott (1996), the father of the digital economy, believes that digital transformation is the direction of future economic development and a new lever for global economic development. According to the White Paper on China's Digital Economy Development and Employment (2020), the overall scale of China's digital transformation and development in 2019 reached 35.8 trillion yuan, accounting for 36.2% of the gross domestic product (GDP). The digital transformation of traditional industries can help improve production efficiency. Digital transformation is the key driving force for China's supply-side reform and industrial structure upgrade. The research on digital transformation is still in its infancy, and only some literatures study the impact of digital transformation on enterprise organizations and the paths and strategies of digital transformation in the financial industry-related industries. There are few studies on rural industrial development.

### 3. The Status Quo of Digital Transformation Promoting the Development of Rural Industries

From a theoretical point of view, the core supporting element of the digital economy is digital information and knowledge, that is, data. Industrial development has the characteristics of scale, dynamics and social functionality. When data becomes a factor of production, it can not only promote the upgrading and optimization of industrial structure, but also reduce information asymmetry and optimize resource allocation, and can also improve the matching of social supply and demand. efficiency, thereby bringing new value creation. Practice has shown that the integration of the digital economy and the real industry is conducive to reducing the degree of information asymmetry, optimizing the rational allocation of factors, realizing economies of scale and scope, and multiplying the efficiency of other factors, thereby bringing new value added. (Goldfarb et al., 2019; Sutherland et al., 2018; Xiao Jinghua, 2020), which can promote the quality of economic development.

Driven by digital technology, the concept and model of digital economy development has begun to penetrate into the "three rural" fields. In developed countries, the integration of the digital economy and rural industries has achieved remarkable results, such as precision agriculture in the United States, smart agriculture in Germany, new contract agriculture based on digital networks in the United Kingdom, and information-based villages in South Korea. The integrated development of the digital economy and rural industries not only improves the efficiency, competitiveness and resource utilization of rural industries, but also greatly improves labor productivity and management efficiency.

my country is a big agricultural country. Against the background of the declining proportion of agricultural output value in GDP, it is more urgent to promote the integrated development of digital economy and rural industries. Scholars explore the practice mode of policy deployment and digital technology to realize the integrated development of rural multi-business formats. For example, Changbei Town and Changhua Town in Lin'an District, Hangzhou City, Zhejiang Province use digital technology and the three-industry integration model to vigorously develop the hickory industry, introduce e-commerce into the development of rural industries, and realize the effective connection of various entities before and after the industrial chain. It has promoted the verticalization and diversification of the industrial structure, and achieved good economic and social benefits. Xiaojing Village, Xiangcheng District, Suzhou City, Jiangsu Province has developed into a typical e-commerce demonstration village due to its convenient transportation and relatively mature industrial foundation. In addition, in accordance with the policy requirements of "serving agriculture and focusing on agriculture", Henan Agricultural Credit Guarantee Co., Ltd. has established a "smart agriculture guarantee platform" using digital technologies such as blockchain, big data, cloud computing, and artificial intelligence. The agricultural field has carried out service model innovation. However, there are still not many related research results on promoting the integration of the two, especially the lack of discussion on the mechanism and path of the integration of the two. Therefore, studying the integrated development of digital economy and rural industries has important theoretical and practical value.

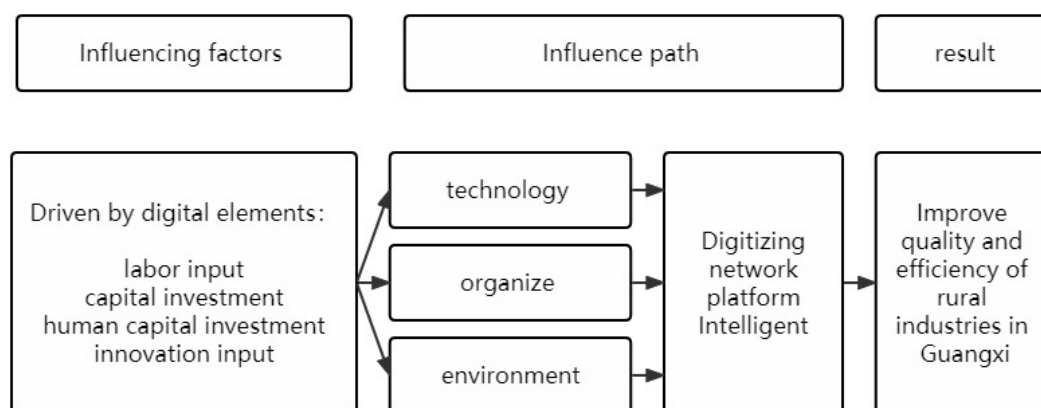
In addition, many existing studies have studied the development of rural industries from the perspective of the integration of primary, secondary and tertiary industries, but few have studied the development of rural industries in the context of digital transformation. Only some literatures study the impact of digital transformation on enterprise organizations and the path and strategy of digital transformation in financial industry-related industries. However, there are few studies on digital transformation in rural industries. It is still necessary to systematically reveal its impact mechanism and evaluate its impact degree. Scientific research and judgment and put forward effective countermeasures in order to promote the revitalization

and development of rural industries. Few studies have studied digital transformation to promote the development of rural industries from the perspective of the new economic growth theory, which can be systematically studied in multiple dimensions.

#### 4. Research on the Mechanism of Digital Transformation to Promote the Quality and Efficiency Improvement of Rural Industries in Guangxi

Digital transformation promotes the development of rural industries in Guangxi. From the perspective of the technical system, it is based on the digital economy and digital technology network to reconstruct the process, means and methods of rural industrial development in Guangxi; from the perspective of the whole industry chain, it is the relationship between digital technology and Guangxi rural industry chain. From the perspective of rural industry development, it is a modern rural industry in Guangxi with information knowledge as the core and digitization, automation, precision and intelligence as the basic features. Advanced form of development. Digital transformation promotes the development of rural industries in Guangxi, which is a long-term dynamic innovation process.

The new economic growth theory believes that technological progress is the endogenous driving force for industrial development, and digital transformation promotes the development of rural industries in Guangxi mainly in the technological progress driven by digital elements, which can promote the digitization, networking, platformization and intelligence of rural industries in Guangxi. to improve the quality and efficiency of rural industries in Guangxi, as shown in Figure.



The impact mechanism of digital transformation on the development of rural industries in Guangxi

**Figure 1.** The impact mechanism of digital transformation on the development of rural industries in Guangxi

Research in-depth rural areas in Nanning, Liuzhou, Guilin and other regions, conduct on-the-spot investigation and research on the specific situation of digital transformation promoting the development of rural industries in Guangxi, and focus on investigating the technical environment and corresponding development models of rural industry digitalization.

Since the No. 1 Central Document in 2018 formally proposed to strengthen the integrated development of the digital economy and rural industries and promote the digital transformation strategy of rural industries, the national level and local governments have begun to make policy arrangements for this. In October 2020, 7 departments including the Ministry of Agriculture and Rural Affairs and the Central Internet Information Office jointly

issued the "Notice on Announcement of the List of Pilot Areas for National Digital Rural Construction", which identified 117 counties in the country as shortlisted, and will promote the development of the digital economy and rural industries as a priority. The key task of building a digital village. With the continuous advancement and deepening of the policy, the innovation power of the grassroots has been continuously stimulated, which plays an important supporting role in promoting the integrated development of the digital economy and rural industries. The integrated development and path innovation of the rural industrial digital economy should adhere to the combination of top-down and bottom-up, summarize and feedback experience and deficiencies in a timely manner, and form a consensus-based practice framework before entering the stage of comprehensive promotion.

From the perspective of the new economic growth theory, based on the connotative characteristics and influence mechanism of digital transformation to promote the development of rural industries in Guangxi, this paper analyzes the reality of the digital elements of rural industries in Guangxi from the aspects of digital labor input, capital investment, human capital investment, and innovation investment. Analyze the problems faced by digital transformation to improve the quality and efficiency of rural industries in Guangxi from the aspects of technology, organization and environment.

The research analyzes the impact of digital factors on improving the quality and efficiency of rural industries in Guangxi, builds a corresponding digital transformation environment, and vigorously strengthens the construction of the basic environment for digital agriculture; promotes the diversification of capital investment and creates a good rural industry digital investment environment; strengthen talents to build a rural industry digital team that meets social needs; strengthen the research and development and promotion of key technologies, and effectively promote the implementation of applicable technologies for the digitalization of rural industries in Guangxi.

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