

# *The Mechanism and Path Choice of Digital Technology Enabling Rural Industry Revitalization*

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**Abstract:** In the current digital economy era, only by combining digital technology with the revitalization of rural industries can we break the traditional capital constraints, time constraints, and labor constraints, and actively introduce advanced new knowledge and new forces, use value creation, enhance the new impetus of rural industries, so that the revitalization of rural industries can be carried out smoothly.

## 1. Introduction

The revitalization of rural industry can lead the rural economy to a long-term and stable development path. Through the scientific and reasonable application of digital technology in the process of rural industry revitalization, a new modern production factor can be created. Taking digital technology as the main driving force of rural industrial economy can maximize the economic and social benefits of digital and information technology, thus enabling rural economic industry to move towards high-quality and high-level development.

## 2. The mechanism of digital technology enabling rural industry revitalization

### 2.1. Expand the possibility of rural industrial production and enhance product supply

In this process, we should actively introduce advanced business concepts, scientifically and reasonably apply new thinking and technical means, and combine digital technology modernization tools to scientifically and reasonably allocate and optimize current resources, so as to make the traditional industrial model innovative and adjusted, thus reshaping the current rural industrial value chain. By building a digital network information platform and combining with Internet technology, we can effectively promote rural industries to gradually move towards the path of common development and coordinated progress, so as to achieve the goal of expanding the production possibilities and enhancing product supply.

By improving the existing rural industrial infrastructure and equipment and actively introducing advanced digital information technology, the current rural industry can no longer rely solely on crop production and land resources. For example, through scientific and reasonable application of digital technology, information collection and data analysis can be carried out on the growth environment, growth status and agricultural environment of crops. Through visual control, the actual economic and

social benefits of current crops can be understood in a timely manner. In addition, through the scientific and rational use of intelligent, information-based and modern agricultural machinery and equipment, robots, rural industries can gradually move towards a standardized, automated, scientific and rational development path, so that agricultural production can obtain more economic and social benefits. At the same time, we should take digital technology as the basis, optimize and improve the existing production factors, obtain stronger mobility, break the traditional information barriers, enable the upstream and downstream economies of rural industries to achieve integrated development, further promote rural transformation, tap the potential of rural economic development, and lay the foundation for the subsequent building of a perfect, unified and standardized agricultural production platform[1].

## **2.2. Mitigate information asymmetry and optimize the development environment of rural industries**

Under the traditional mode, due to the lack of information exchange and obstacles, the information acquisition at both ends of supply and demand will not be symmetrical and unified, resulting in the occurrence of imbalance between supply and demand, making rural industry unable to occupy a leading position in the fierce market competition, and seriously hindering the smooth development of rural industry revitalization. Therefore, through the scientific and reasonable application of digital technology, we can solve the problem of information asymmetry in various links such as sales and procurement in the process of rural industry revitalization.[2] At the same time, through the scientific and reasonable application of digital technology in the process of rural industry revitalization, the original scattered rural industry data and related information can be effectively integrated, analyzed and processed, thus making big data more accurate, transparent and reliable, enabling consumers to purchase corresponding rural products according to their actual needs. In addition, it can prevent the imbalance between supply and demand caused by the lack of symmetry of information. By establishing a complete e-commerce platform, it can also reduce the link where middlemen earn price difference, ensure that product sales are more direct, enable sellers to communicate effectively and efficiently with buyers, and enable users to obtain more efficient and high-quality services.

In the context of the current digital economy, rural industry can optimize and improve the original sales model, expand sales channels and sales fields, and create a good and harmonious environment for the revitalization and development of rural industry by building an e-commerce platform. Specifically, by building an e-commerce platform, users and sellers can be directly connected, so that the specialty of remote areas can be promoted to the global market through the e-commerce platform, so that more users with actual needs can learn about good products, so as to continuously expand the economic market of rural industries and drive the industrial development of remote areas. Finally, through the star effect, we can also let the star carry out the live broadcast of helping farmers with goods, thus attracting more consumers, broadening consumption channels, and making the rural industry gradually move towards the path of revitalization and development.

## **2.3. Save production and transaction price**

In the process of rural industry revitalization, through the complete set of digital infrastructure and the active application of advanced digital technology, it can liberate labor productivity, reduce the loss of human resources and time resources, and further ensure the speed and efficiency of rural industry revitalization. At the same time, through the scientific and reasonable application of digital technology and intelligent agricultural production equipment, for example, the production environment of agricultural products can be monitored in time by using sensors, and the data can be efficiently fed back, so that the staff can understand the actual production status of the current

products in time, and through accurate, efficient and reasonable calculation, the agricultural irrigation system, water and fertilizer integration system can automatically adjust the environment of crop growth. Through precise operation and refined operation, the purpose of water saving can be achieved, and the cost of fertilizer use can also be reduced. Secondly, in the process of resource purchase and product transaction, due to the short preservation time of most agricultural products, the sales of agricultural products in the traditional mode need to go through dealers, wholesale markets and supermarkets before they can really be delivered to consumers. This process consumes a lot of human and material costs, and the transportation costs are relatively high. At the same time, the quality of agricultural products delivered to consumers will also be reduced. At present, through the scientific and reasonable application of big data technology and Internet technology, we can break through the barriers between the supply and demand of products, connect users and sellers directly, build a channel for direct production and sales, reduce information collection, transportation links, and reduce transaction costs.

### **3. The realization path of digital technology enabling rural industry revitalization**

#### **3.1. Create "agriculture+" model**

The level and quality of agricultural development will directly determine whether the final result of rural industrial revitalization meets the expected needs. Improving the quality of agricultural products and ensuring the service of agricultural products are the core content in the process of empowering the rural industrial economy with big data technology. Specifically, through the scientific and rational use of digital technology, we can comprehensively improve the efficiency and quality of production in the three stages of agricultural production: the first, middle and last. In this process, the combination of big data technology and blockchain technology can make the rural industry gradually move towards the path of digital and information development. By building a high-quality and high-security rural product information management platform, the rural industry can gradually move towards the development path of digital agriculture, intelligent agriculture and scientific and technological agriculture.

##### **3.1.1. Optimize the supply of agricultural production factors**

Through the scientific and reasonable application of digital technology in the process of rural industry revitalization, it can release the rural labor productivity, make the data resources of production factors effectively integrated, ensure the realization of data sharing and resource integration among agricultural self-employed households, and then lay the foundation for the continuous expansion of the scale of agricultural product resource data production.

By strengthening the construction of digital technology infrastructure, we can optimize and improve the supply of current agricultural production factors. Because most rural areas are remote, their data infrastructure and equipment are not perfect, and industrial financing is more difficult. In response to the above problems, the government and relevant units should increase their financial support, assist key agricultural industries by setting up special agricultural revitalization funds, and then promote the development of rural digital economy. Secondly, the government and relevant units should formulate a scientific and reasonable rural revitalization and development plan, implement the responsibility system, further promote the scale of infrastructure in rural areas, and combine the local actual development situation to build a corresponding agricultural information service platform, so that agricultural data can achieve data sharing and information exchange. Finally, financial enterprises should set up special rural HP financial projects to solve the problem of financing difficulties in rural industries, and lay essential support for the subsequent development of rural enterprises towards

digitalization and modernization.

### **3.1.2. Promoting the development of agricultural production towards high quality and efficiency**

Through the scientific and rational application of digital technology in agricultural production, agricultural production can gradually move towards the path of mechanization, intelligence, automation and modernization. Based on artificial intelligence technology, more advanced remote sensing technology, intelligent detection services, unmanned agricultural machinery and other related agricultural machinery equipment can be applied in agricultural production process, and thus improve the efficiency and quality of agricultural production. At the same time, agricultural production is intelligent and mechanized, which can liberate rural labor productivity and use machines to complete tasks and tasks that cannot be completed by human beings. For example, the growth environment and growth status of agricultural products can be observed in time by using satellite remote sensing technology, and the above monitored data can be scientifically and reasonably analyzed through big data technology to ensure that the analysis results are more efficient, accurate and fast, and lay the foundation for the optimization of subsequent agricultural production plans, so that agricultural production can move towards high-quality and efficient development.

### **3.1.3. Provide more comprehensive services for the sale of agricultural products**

With the establishment of e-commerce platform and more convenient and efficient digital payment methods, it can break the traditional agricultural product sales model, break through the original information barriers, time constraints and space constraints, and optimize and improve the current agricultural product sales pattern. First, the rural industry should actively introduce advanced e-commerce platforms according to the development characteristics of Internet plus agriculture, and make the agricultural products produced can be sold on the mainstream platform according to the actual characteristics and advantages of its own products. Secondly, some regions can establish Taobao Village according to their own development characteristics and the types of agricultural products. By building a complete, unified and standardized rural industrial structure integrating production and marketing, local small farmers can be integrated and assembled, thus promoting the continuous development of rural e-commerce. Thirdly, we should actively learn advanced product marketing methods, let the stars participate in the live broadcast of agricultural products, so that more users can understand local characteristic products, increase sales channels and fields, and enable agricultural products to gradually move towards the path of commercial development.

## **3.2. Create "digital+" mode**

By empowering the development of rural industries with digital technology, we can build a complete, unified and standardized production chain of rural industries, and drive the development of agriculture, industry, education, tourism, and ecological industries towards horizontal integration. Weakens the sense of boundaries of agricultural products and regions, and then promotes agriculture to gradually move towards a new development model of industrial integration and urban-rural integration.

First of all, in the current digital economy background, we can build a complete, unified and standardized agricultural industrial chain by empowering rural revitalization with digital technology, so that we can conduct all-round guidance and supervision on the production, processing, sales and other aspects of agricultural products. Secondly, through the scientific and reasonable application of digital technology in the process of rural industry revitalization, it can break through the original resource element boundary, make agriculture and industry, tourism, education effectively integrate,

and move towards the path of product integration development. Finally, digital technology is the core driving force of the current economic development. Through the scientific and reasonable application of digital technology in the process of rural revitalization, such as Internet of Things technology, e-commerce technology, artificial intelligence technology, etc., we can build agricultural digital platform and e-commerce platform to promote agriculture to the path of digital and information development, and then create a new digital economy to promote the birth of new industries, new formats The industrial chain of the new model.

#### 4. Specific implementation plan for empowering rural industry with digital technology

First of all, we should establish a sound, unified and standardized digital infrastructure construction system. In this process, we should take the rural economic development as the basis, through comprehensive consideration and comprehensive analysis, ensure that the rural digital infrastructure is more diverse, complete and comprehensive, and develop more scientific and reasonable effective solutions through adjusting measures to local conditions, so as to strengthen the rural infrastructure construction. Secondly, the government and relevant departments should strengthen the research, development and innovation of digital technology. As the core driving force of the current economic development, digital technology should recognize the importance of digital technology. Through comprehensive research, development and innovation of digital technology, the level and quality of digital technology in China should be continuously improved, and further provide more data support for the subsequent rural revitalization. Thirdly, as the main body in the current process of rural industry revitalization, the government and relevant departments should establish a sound, unified and standardized digital technology talent training system, make full use of the existing network education resources and national resources, and vigorously cultivate talents related to digital technology, so as to promote the revitalization of rural industry in China. Finally, the government and relevant units should establish a sound, unified and standardized rules and regulations, and improve and optimize the current laws and regulations, so as to make the subsequent digital technology enabling rural revitalization can be based on evidence and reason. Through the establishment of a standardized rural construction policy system, combined with the local actual development situation and industrial characteristics and structure, and through the top-level design, the digital village and smart city can move towards the path of coordinated development and common progress.

#### 5. Conclusion

At present, with the continuous development of science and technology in China, digital technology, as an emerging technology system, can show more profound and more efficient integration capabilities in the revitalization of rural industries by enabling production to obtain the original economic driving force and reduce transaction costs, while enabling rural industries to gradually move towards a long-term and stable sustainable development path.

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