

# Research on "Internet + Rural" Development Model in the Background of Digital Village

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**Abstract:** Strengthening the construction of digital villages is not only the focal point of building a digital China, but also helps to promote the modernization of agriculture and rural areas, improve the level of economic development in rural areas, and comprehensively help rural revitalization. At present, China's digital rural construction is facing imperfections in the agricultural and rural information service system; the unstable network system of agricultural product management; the obvious digital divide between urban and rural areas; and the lack of a good rural financial environment. This article combines the Internet with rural production, rural management, rural public services, and rural social governance, proposes different development models of "Internet + rural", and vigorously promotes the construction of digital villages.

**Keywords:** Digital village; Internet +; Rural revitalization; Development model

## 1. Introduction

Digital village construction is the direction for the future development and transformation of China's rural areas, and is an indispensable part of the comprehensive construction of digital China. At present, our country is at the historical confluence period of informatization and rural agricultural modernization. We should seize the significant historical opportunities brought by the digital economy, make full use of new information technologies such as the Internet of Things, big data, and cloud computing, and comprehensively promote the entry of information into the village. Strengthen the construction of agricultural resource databases, strengthen the application of digital technology in agricultural production, and provide guarantee for the realization of modernization of agriculture and rural areas. Building a "digital village" is the key point to promote the implementation of the strategy of rural revitalization. Therefore, in order to realize the dream of strengthening the country at an early date, China attaches great importance to the digital construction of rural areas.

## 2. The Need to Implement a Digital Village Strategy

"Rural prosperity is national prosperity", which means that rural construction must be strengthened in order to complete China's great revival. The creation of a "digital village" is an inevitable problem in China's development of a great country. The goal of rural development in China at this stage is how to effectively solve the "three rural issues", accelerate the reform of agricultural production

structure, and promote the upgrading of the agricultural industry. Digital village strategy is an important way to achieve rural rejuvenation, and it is also an important content for building digital China. Digital rural construction can promote the modernization of agriculture and rural areas, provide the correct direction for rural transformation, comprehensively help rural revitalization, and accelerate the high-quality development of society and economy.

### 2.1. Promote the modernization of agriculture and rural areas

Digital rural construction combines new information technologies such as the Internet of Things, big data, and cloud computing with traditional agricultural industries, accelerates the transformation of products and industrial structures in rural areas, and realizes the modernization of agriculture and rural areas from the following aspects. The first is to improve the construction of agricultural resource databases, digitize the information on agricultural product types, product yields, growth conditions, agricultural resources and agricultural machinery, and upload them to the agricultural resource database to establish an information sharing mechanism covering the entire industrial chain to provide farmers with crop cultivation, Networked digital dynamic supervision and monitoring of the entire sales process to improve farmers' control over future agricultural planting directions. The second is to strengthen the application of digital technology in the plantation industry and improve the digitalization of livestock and poultry breeding. The use of new information technologies such as the Internet and big

data to intelligently monitor the health of crops, livestock and poultry, and reduce human capital investment. At the same time, the application of digital technology in agricultural production can effectively solve the factors that limit the scale of agricultural production, thereby increasing China's agricultural output. The third is to promote the application of digital technology for agricultural equipment, improve the intelligent level of agricultural planting, realize the automatic operation of pesticide application, fertilization, and irrigation during crop growth, and accurately control the pesticides and fertilizers required for crop growth. The fourth is to promote the digital upgrade of the agricultural product processing industry, establish an agricultural product processing information monitoring platform, ensure that all aspects of agricultural product processing are traceable, and strictly control the quality and safety of agricultural products on the table.

## **2.2. Enhancing the overall revitalization of the village**

Implement a digital village strategy, fully integrate digital information technologies such as the Internet, big data, and cloud computing with rural production and life, create a new type of networked and digital countryside, improve the development status of rural areas from all aspects, and increase the level of rural development to achieve rural Comprehensive revitalization [1]. Digital village construction will help rural areas to be fully revitalized from three aspects: farmers, agriculture, and rural areas. First, strengthening the construction of rural network infrastructure can allow more rural residents to access the Internet and Internet of Things equipment, increase awareness of digital applications, and help Internet convenience services such as online payment, online ticket purchase, and online payment of utilities. Integrate into the lives of rural residents, increase the penetration and use of digital applications in rural areas, and thereby improve the digital quality of farmers. Second, strengthen the digital application of agricultural production and agricultural equipment, and establish a database of agricultural resource information. On the one hand, agricultural production has been transformed from manual labor to machine operation to achieve a comprehensive upgrade of agricultural production methods, expand the scale of production, increase the output of agricultural products and reduce production costs, thereby greatly increasing the value of agricultural output. On the other hand, it helps farmers keep abreast of industry development trends and the release of related policies, so as to adjust the scale of agricultural planting and upgrade the structure of agricultural production. Third, encourage the steady development of the rural e-commerce industry. With the support of the digital village strategy, China's rural e-commerce industry has developed vigorously, and agricultural product sales channels have been broadened,

which has greatly increased the sales volume of agricultural products. The greatly increased agricultural product transaction volume has effectively increased the disposable income of rural residents, enhanced the strength of rural economic development, Income gap between urban and rural areas to achieve overall rural progress. Based on the above three aspects, it can be seen that strengthening the construction of digital villages is the only option to achieve the overall revitalization of rural areas.

## **2.3. Improve the level of social and economic development**

Implementing the digital village strategy, deepening the supply-side structural reform, and accelerating the transformation of agricultural product sales methods will vigorously promote rural economic growth, thereby improving the level of social and economic development. Due to the existence of various influencing factors restricting the development of rural areas, the contradiction between imbalance and uncoordinated development between urban and rural areas in China has intensified, and the development of rural social undertakings has lagged, which has seriously reduced the level of China's overall economic development. Implementing the digital village strategy is one of the main ways to resolve one contradiction. Driven by the digital village strategy, the network infrastructure construction in rural areas in China has been continuously upgraded to promote the vigorous development of the e-commerce industry in rural areas, thereby reducing the contradiction of unbalanced and uncoordinated development. According to statistics, in 2018, China's rural online transaction volume reached 1.37 trillion yuan, of which agricultural online transaction volume reached 230.5 billion yuan, and with the encouragement of digital village policies, agricultural products rely on e-commerce platforms to maintain rapid growth in transaction volume. The e-commerce platform joins the sales channels of agricultural products and directly connects the producers and demanders of agricultural products, on the one hand, reducing the value of agricultural products by intermediate acquirers, and increasing the sales volume of agricultural products, thereby increasing the disposable income of farmers and improving the rural economy. The level of development promotes the development of urban and rural areas in a balanced and coordinated manner, thereby enhancing the level of social and economic development.

## **3. Status and Dilemma of Digital Village Construction**

Since the launch of the Digital Village Strategy, various regions have actively responded to the call and are committed to creating a new highland for the innovative development of the Digital Village. Based on the current status of rural development in various regions, it is not

difficult to find that digital villages still face a lot of difficulties in the specific construction process, mainly facing the imperfect agricultural and rural information service system, the unstable network system of agricultural products management, and the huge digital divide between urban and rural areas.

### **3.1. Imperfect agricultural and rural information service system**

The agricultural and rural information service system is not limited to a certain field or a single economic environment, but includes multiple fields such as agricultural production, management, and management [2]. Due to the narrow coverage of rural broadband communication networks; the low level of rural network infrastructure; the co-construction and sharing system for basic agricultural information needs to be improved; the number of specialized agricultural information websites is small, and other adverse factors, such as restrictions, have led to the incomplete agricultural and rural areas at this stage. The information service system has seriously hindered the construction of digital villages in China. The lack of a perfect agricultural and rural information service system makes it difficult for farmers to learn about the newly released agricultural policy system in a timely manner, and it is impossible to grasp the agricultural product market prices and industry trends in a timely manner. Create a vicious circle. Information entering villages and households is not deep enough, and the construction and operation of county-level central stations in some areas has progressed slowly. A small number of information agencies have not been established and are not operating. This is the main reason why China has not yet established a comprehensive agricultural and rural information service system.

### **3.2. The network system of agricultural product management is unstable**

Agricultural products are traded on the e-commerce platform to expand sales channels and reduce intermediate costs. For farmers, sales of products have increased, and disposable income has increased. However, the current rural operation network system has not been systematically established, and there are still many problems in the online sales of agricultural products. First, it is difficult for farmers to network their individual products. On the one hand, most farmers are limited by their education level, their digital quality is limited, and their digital information processing capabilities are low. It is difficult to use Taobao, Jingdong and other e-commerce platforms to achieve self-production and sales of their products. On the other hand, the network infrastructure in rural areas cannot keep up, which leads farmers to have less contact with the operation mode of the e-commerce industry, and residents are unwilling to sell agricultural products

through the e-commerce platform. Secondly, the rural logistics infrastructure is backward, limiting the scale of development of the rural e-commerce industry. The residents of rural areas in China are relatively scattered, and rural logistics is more susceptible to seasonal factors than urban logistics. As a result, the level of socialization, standardization, and specialization of rural logistics in China is far behind that of developed countries. At the same time, because China's refrigeration and freezing technology is relatively backward, it is difficult to carry long-distance transportation of agricultural products in hot weather, which causes a large amount of agricultural products to be consumed in logistics. Finally, for consumers, most e-commerce platforms sell comprehensive products that provide insufficient types and information of agricultural products, and there are fewer professional agricultural mobile Internet (APP) products, making it difficult for consumers to obtain timely and effective agricultural product information. Uncertainty in the quality of agricultural products, thereby reducing the purchase of agricultural products on e-commerce platforms.

### **3.3. There is a huge digital divide**

Judging from the data of rural and urban Internet broadband access ports, Internet coverage, and fiber optic cable length at the current stage, there is still a large gap in the construction of Internet infrastructure in rural and urban areas in China. Rural residents have far less Internet access equipment than urban ones. Residents. In addition, rural residents are significantly behind urban residents in their ability to accept new information technologies such as the Internet of Things and the Internet. Rural residents are less likely to use the convenience services of the Internet and new media, whether in terms of medical treatment, daily travel, or education. They rarely use Internet channels, so it is difficult for rural residents to experience the convenience of Internet intervention in life. Most rural residents use the Internet for basic communications and entertainment, while urban residents have begun to widely use digital Public services to improve quality of life [3]. The growing digital divide between villages and towns severely hinders the construction of digital villages.

## **4. Research on "Internet + Rural" Development Model**

China is at the historical confluence period of informationization and rural agricultural modernization. We should firmly seize the major historical opportunities brought by the digital economy, combine Internet technology with rural development planning, and develop an "Internet +" model suitable for rural development. Promote the implementation of the digital village strategy.

### **4.1. "Internet + Rural Production" model**

Combining Internet technology with rural production, expanding rural production scale, improving rural production efficiency, and improving product quality. The first is to build an integrated digital supervision system based on the "Beidou" positioning. Utilize digital information provided by on-orbit satellites, UAV remote sensing and mobile monitoring platforms to monitor the production environment in real time and improve the quality of agricultural products [4]. The second is to establish an intelligent agricultural production decision system. With the help of various sensors at the agricultural production site, real-time monitoring of crop growth environment, growth conditions, etc., and the use of Internet technology for big data analysis, to achieve accurate decision-making in the agricultural planting process. The third is to establish a product safety traceability system. Digitally process product information to ensure that the information can be traced to various links such as production, picking, processing, packaging, transportation, and sales, and to monitor product quality and safety at all levels.

#### 4.2. "Internet + Rural Management" model

Combining Internet technology with rural operations to achieve digital sales of agricultural products. The first is to bridge the digital divide in rural areas, strengthen the construction of rural network infrastructure, increase rural residents' awareness and use of the Internet, conduct regular multi-form e-commerce knowledge and business skills training for farmers, and improve the level of information and Internet use for rural operators. Skills, set up agricultural product industry alliances, and expand the scale of operations. The second is to improve the rural modern logistics distribution system, make up for the shortcomings of cold chain logistics infrastructure and resource allocation, reduce the loss of agricultural products in the transportation process, and enable agricultural products to be quickly and cost-effectively networked. The third is to promote cooperation between rural areas and e-commerce platforms, build brands of characteristic agricultural products in rural areas across the country, and settle in large-scale e-commerce platforms such as Taobao and Jingdong to attract consumers' attention to characteristic agricultural products and promote characteristic production in various rural areas, thereby driving Sales of other products increased.

#### 4.3. "Internet + Rural Public Service" model

Combining Internet technology with rural public services will increase the convenience and quality of life of rural residents. The first is to create a digital service system centered on the daily needs of rural residents in conjunction with the Internet. Vigorously promote rural residents to use mobile Internet (APP) for ticket purchases, water and electricity payment, and encourage residents to make digital payments for offline shopping and online shop-

ping. The second is to create a digital teaching environment in rural areas, to achieve full coverage of digital education resources in rural teaching sites, focus on the quality of rural education, improve the level of rural education through digital construction, and strengthen rural talent training. The third is to build a new rural cooperative medical system. On the one hand, relying on Internet technology to strengthen the informatization construction of hospitals in towns and villages and improve the medical level in rural areas. On the other hand, build an Internet + medical platform to allow rural residents to experience digital medical services such as online consultation and appointment numbering, and improve residents' health.

#### 4.4. "Internet + Rural Social Governance" model

Combining Internet technology with rural social governance to improve the transparency of government affairs, so as to achieve effective implementation of policies [5]. The first is to establish an active and interactive rural residents' self-government system. Promote the online publication of village affairs and party affairs, so that residents can understand the government's work process in real time, explore the mode of residents' participation in online exchanges and deliberations, and strengthen residents' participation in various major decisions. The second is to realize the refinement and precision of rural community management. Establish a database of network platforms such as population information, market supervision, and resource information to strengthen the supervision of rural communities, improve management levels, and realize intelligent management of rural communities. The third is to establish an online feedback platform for residents. Provide an effective feedback platform for rural residents, strengthen residents' supervision of the work style and efficiency of village cadres, and achieve cleanness and transparency in the work of township governments.

## 5. Conclusion

Digital village construction is not only the main engine for comprehensively building a digital China, but also a powerful driving force for realizing the Chinese dream of the great rejuvenation of the Chinese nation. If you want to complete digital village construction quickly and well, you must overcome existing or possible problems in the construction process, strengthen the construction of network infrastructure in rural areas, promote the entry of digital information into villages, and improve the digital quality of rural residents to promote Internet technology All-round integration with rural areas, creating multiple modes of "Internet + Rural", and gradually implementing digital construction in rural areas.

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