



The Value Implication, Practical Problems and Practical Approaches of Digital Village Construction

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Abstract. In the context of rural revitalization, the construction of digital villages is of great significance for improving the level of rural social governance and realizing the modernization of agriculture and rural areas. Analyzing and discussing the significance, problems and practical paths of digital rural construction will help to better grasp the new rural construction model of digital rural construction and provide reference for the realization of rural revitalization strategy. Through the comparison of the current situation of digital development in urban and rural areas and the analysis of relevant policies, it can be found that there are still many problems in the construction of digital villages, such as weak infrastructure construction, shortage of human resources, and imperfect policy planning. This paper will put forward suggestions for the construction of digital villages from the perspectives of resource supply, institutional connection, concept change, and production integration, and promote the construction of a new model of rural development.

Keywords: rural revitalization · digital village agricultural · rural modernization

1 Introduction

With the vigorous development of information technology, the digital economy has become an important driving force for the upgrading of traditional industries and high-quality economic development. In 2020, the scale of my country's digital economy has reached 39.2 trillion yuan.

However, with the further expansion of the urban-rural digital divide, the insufficient penetration of the digital economy in the agricultural sector has become a key factor restricting rural revitalization. Promoting the popularization of digital technology in rural areas and accelerating the construction of digital villages are of great significance for realizing the modernization and transformation of agriculture and rural areas (Fig. 1).

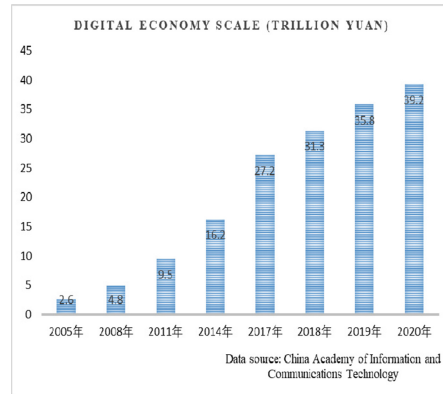


Fig. 1. The scale of China's digital economy (Photo credit: Original)

2 The Value Implication of Digital Village Construction

Accelerating the informatization of agriculture and rural areas is conducive to promoting the refined development of agricultural production and improving the efficiency of rural social governance.

2.1 Broadening the Channels for Rural Revitalization

Rural revitalization is a systematic project, which involves not only industrial transformation and talent training, but also many aspects such as rural cultural construction, public service capabilities, and social governance. The construction of digital villages is conducive to the penetration of modern digital technologies into rural production and life. In all aspects, it plays an important role in changing people's traditional concepts, improving the efficiency of rural governance, and assisting the development of agricultural modernization, providing impetus for the realization of the rural revitalization strategy and broadening the channels.

2.2 Accelerating the Integrated Development of Urban and Rural Areas

Cities and villages are mutually influencing development communities, and the construction of digital villages is conducive to promoting the integrated development of urban and rural areas [1]. On the one hand, digital rural construction is conducive to promoting the circulation and sharing of various elements between urban and rural areas, providing a more equitable development environment for rural construction, and giving urban and rural areas more equal development rights; on the other hand, digital rural construction is also constantly changing the concept of rural development. It plays an important role in optimizing the supply of rural services and improving the efficiency of grass-roots governance [2].

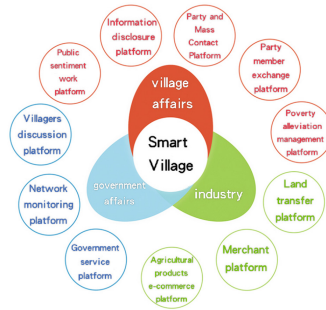


Fig. 2. Smart Village System (Photo credit: https://m.sohu.com/a/407526495_120710391/?pvid=000115_3w_a&_trans_=000014_bdss_dktfyw)

2.3 Significant Improvement in Governance Level

With the help of digital technology, villager autonomy at the grassroots level will be transformed into technology-based autonomy [3].

As shown in Fig. 2, the rural government service platform in the smart rural system not only helps the villagers to express their opinions, put forward governance suggestions, and optimize the rural governance model on the premise of fully understanding the issues in the village, but also will further promote the process of rural governance. The sharing of various government information resources improves the efficiency of rural social governance while facilitating information acquisition [4].

2.4 Continuous Optimization of Industrial Structure

Digital technology has improved the efficiency of agricultural production, e-commerce platforms have alleviated the problem of unsalable agricultural products, and rural areas have realized the transformation and upgrading of traditional agriculture to modern agriculture with the help of modern technology [5]. At the same time, the construction of digital villages has also driven the development of the rural tourism industry. Rural tourism can use information dissemination platforms such as short videos to expand its influence, increase its popularity, and inject vitality into rural tourism through innovative publicity methods. The digital construction also promotes the information management of the rural tourism industry, and realizes the demand-oriented service supply through the establishment of a digital service platform.

3 Practical Problems Faced by Digital Village Construction

In recent years, with the successive promulgation of relevant documents, great progress has been made in the construction of rural informatization. However, there are still many difficulties in the process of digital rural construction, and it is necessary to further tap the digital potential of rural development on the basis of constantly overcoming practical problems.

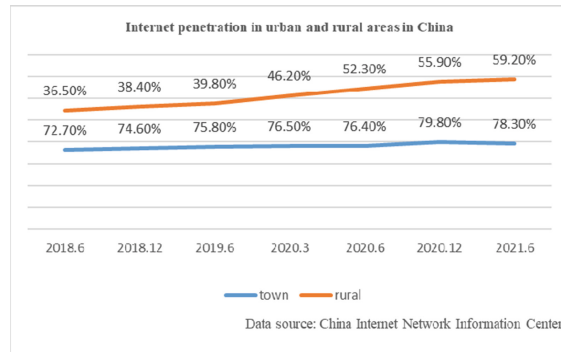


Fig. 3. Internet penetration in urban and rural areas in China (Photo credit: Original)

3.1 Weak Rural Infrastructure Construction

At this stage, due to the combined influence of rural natural environment, economic development level and other factors, insufficient supply of digital infrastructure is still the main problem faced in the process of digital village construction. As of June 2021, the Internet penetration rate in rural areas is 59.2%, which is still far behind urban areas. To a certain extent, the gap in the Internet penetration rate reflects practical problems such as the lag in the construction of rural digital equipment and the difficulty in coordinating urban and rural digital development. Insufficient supply of digital infrastructure not only restricts the development of new forms of digital economy in rural areas, affects the efficiency of rural digital governance, but also creates a gap between macro policies and specific grass-roots practices.

As can be seen from the data in Fig. 3, from 2018 to 2021, although the Internet penetration rate in rural areas has continued to increase, there has always been a large gap between urban and rural Internet penetration rates. As of June 2021, the Internet penetration rate in rural areas is 59.2%, which is still far behind urban areas.

3.2 There are Logical Differences in Policy Practice

At this stage, the contradiction between rational planning at the policy level and the emotional life of the countryside is still the key factor affecting the effect of policy implementation in the process of digital village construction [6]. The logical difference between top-level design and local practice is usually due to ignoring the unique rural perceptual life order created by rural culture and traditional governance models. Although rational policy planning highlights the important role of digital technology and designs complex work tasks, However, they did not consider the rural cultural environment and the actual needs of rural residents from a perceptual point of view, and many policy contents were not concerned and needed by the grassroots. This has not only brought about the dislocation of the superficial actions of digital construction, but also deviated from the macro goals of rural revitalization, affecting the actual effect of policy implementation, resulting in “acclimatization” in the process of policy implementation.

3.3 Social Production Faces Transformation Challenges

The digital production in rural society has not yet been fully rolled out. The digital transformation in the field of economic production still faces challenges from insufficient supply of factors and restricted product circulation [7]. The overall social production practice in rural areas is still a long way from modernization. In the field of agricultural production and circulation, the widespread application of digital technology is affected by various factors such as farmers' subjective wishes, investment costs, and scientific research efficiency, but also faces many obstacles. Farmers who are the main body of production usually have low digital literacy due to lack of necessary skills training and cannot meet the needs of agricultural modernization and transformation. Although the development of rural e-commerce has broadened the circulation channels of agricultural products, it also faces many problems such as lack of technical talents, insufficient liquidity, and poor platform operation. Product circulation still relies on traditional models.

3.4 The Lack of Digital Literacy Among Farmers

The low level of public participation and the lack of digital literacy have always been the key problems faced in the process of digital village construction. In the process of going digital to the countryside, farmers, the main body of rural construction, are often passively accepted. This is not conducive to the cultivation of farmers' digital behavior awareness and digital skills, resulting in the lack of basic talent elements in the construction of digital villages.

From the data in Fig. 4, it can be seen that rural residents scored lower than urban residents in eleven digital literacy assessment items, such as smartphone use, digital content creation ability, and digital income increase ability. The average score for digital literacy is only 35.1 points, and the gap between it and urban residents is 21.2 points. The lack of farmers' digital literacy not only hinders the construction of digital villages, but also causes uneven development between urban and rural areas.

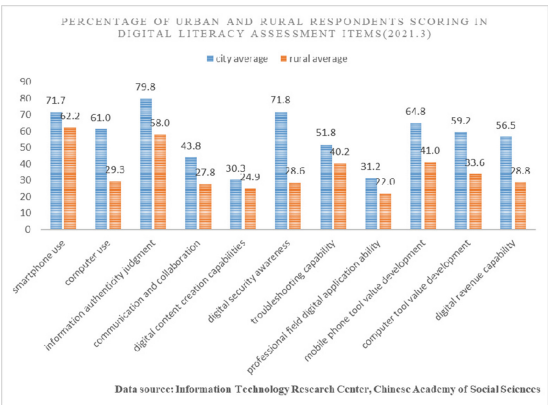


Fig. 4. Percentage of Chinese urban and rural respondents scoring in digital literacy assessment items (Photo credit: Original)

4 The Practical Rationale of Digital Village Construction

As an important starting point for rural revitalization, digital rural construction is the key to the continuous development of rural areas. In response to the above problems, it is necessary to propose a targeted improvement plan to reform and innovate to empower the construction of digital villages.

4.1 Continuously Improve the Construction of Information Infrastructure and Tap Digital Potential

First of all, it is necessary to speed up the construction of rural communication networks, attach importance to the construction of 5G industry, Internet of Things and other infrastructure in rural areas, continuously improve the digital environment in rural areas, realize the ubiquity of information networks, and improve the efficiency of digital rural revitalization. Secondly, it is necessary to accelerate the integration of digital technology with other fields, realize the digital transformation of transportation, water conservancy, medical care, education, administration and other fields, meet the diversified needs of farmers' production and life, and continuously improve people's awareness and enthusiasm for using the Internet. Finally, we must start with industrial optimization and upgrading, promote the digital transformation of industries in rural areas through the construction of related systems such as smart logistics and smart agriculture, build a digital technology system on the basis of resource integration, and continuously tap the digital potential of rural industry development to realize agricultural production.

4.2 Linking Rational Systems and Perceptual Orders to Prevent Policy Disembedding

The construction of digital villages is a process of re-flowing and integrating spatial resources. Policy practice should not only highlight the rational planning of popularizing digital technology, but also pay attention to the perceptual order of rural life on the basis of understanding the social foundation and cultural traditions of rural areas, so as to prevent policy de-embedding [8]. It is necessary for the main body of policy implementation in the process of digital village construction to have a certain understanding of the basic connotation of the policy, rural cultural traditions, and potential contradictions in the process of policy implementation. On the premise of changing concepts, ensure the smooth integration of rational policy and perceptual order.

4.3 Build a Mechanism for the Integration and Utilization of Rural Resources and Realize the Linkage of Production

In the process of digital village construction, it is necessary to build an interconnected information exchange platform, and fully mobilize the enthusiasm and initiative of all parties to participate in digital village construction. At the same time, it is necessary to use the mobility of cyberspace to achieve cross-regional integration of remote resources, and to build a digital model of the entire agricultural industry chain.

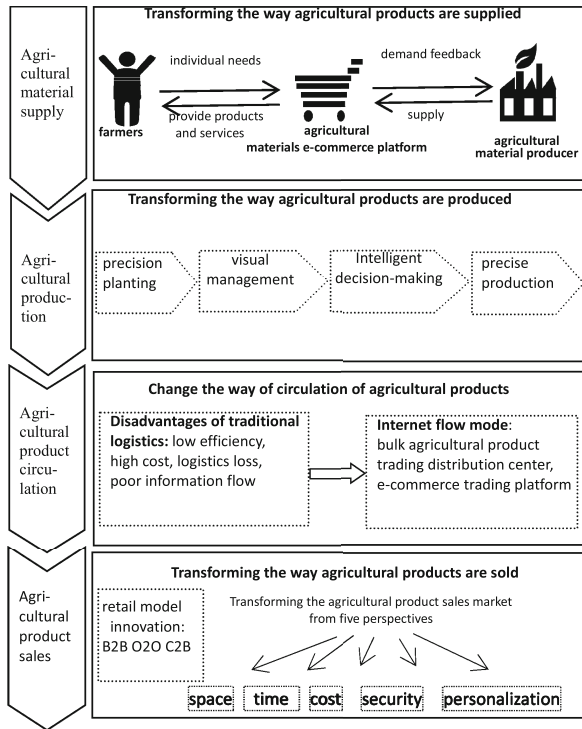


Fig. 5. Digital Model of the Whole Industry Chain of Agricultural Products

As shown in Fig. 5, in this model, agricultural product production enterprises use technologies such as mobile Internet, cloud computing, big data, and the Internet of Things to change the production and supply methods of agricultural materials, and the production, circulation, and sales methods of agricultural products, and realize the digitalization of agricultural production.

4.4 Improve Farmers' Digital Literacy and Bridge the Digital Divide According to Local Conditions

TO realize the digital transformation of rural areas, it is necessary to continuously improve the digital literacy of farmers, systematically cultivate farmers' digital income-increasing ability and computer use ability from the strategic height of rural development, and enable rural areas to catch the digital express through digital empowerment. First of all, it is possible to facilitate farmers' daily life by promoting the digital application of public services, and carry out the popularization of digital knowledge and the use of digital products from the basic public service areas that farmers are most concerned about, so as to fully mobilize the endogenous motivation of farmers to seek development [9]. Secondly, it is necessary to carry out relevant trainings in a targeted manner, and

gradually improve farmers' ability to use the Internet to serve daily life and carry out production activities by providing digital technology training courses, hiring professional and technical personnel for guidance, and building resource sharing platforms.

5 Conclusion

As an important strategic direction of rural revitalization, digital village construction is of great significance for narrowing the urban-rural development gap, improving the level of rural governance, and assisting industrial upgrading. With the continuous deepening of the construction of digital villages, various practical problems also follow. In order to better tap the digital potential of rural development, it is necessary to assist the digital transformation of agriculture and rural areas in terms of infrastructure construction, talent training, policy optimization, and resource integration, and lay a solid foundation for the full implementation of the rural revitalization strategy.

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