

# Research on the Path of Digitization Empowering Rural Governance

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**Abstract:** With the rapid development of information technology, digital rural governance has become a key means to promote rural revitalization. Based on the mechanism of digital rural governance, this paper analyzes the realistic difficulties it faces, and then puts forward feasible solutions. Through literature research and problem review, it is pointed out that digital rural governance is faced with technical, institutional and cultural limitations. Therefore, the study proposes measures such as strengthening infrastructure construction, perfecting policy support system, and promoting the deep integration of digital technology and traditional rural culture, hoping to provide theoretical reference for the practice of digital rural governance.

**Keywords:** Digital Rural Governance; Rural Governance; Digital Technology; Realistic Dilemma; Solution Path

## 1. Introduction

With the rise of digital technology, especially the rapid development of Internet, cloud computing, big data, Internet of Things, digital twin technology and other new digital technologies, people are leading into the digital age. With its superiority, digital technology breaks through the limitation of time and space, and is widely used in people's production and life, playing a pivotal role. At present, it is possible to rely on digital technology to decentralize power to the grassroots and build an information sharing network for villagers, so as to develop collective activities in which communities participate under the support of digital technology, and establish a digital governance platform integrating community, government and citizens to realize the digitalization of rural governance. The term "digital governance" first appeared in 2001, and many scholars have explained it. Most

scholars believe that digital governance includes not only "governance based on digitalization", but also "governance of digitalization". In other words, under the existing rural governance system, it is not only necessary to use digital tools or ways to govern, but also to govern the contradictions and disputes brought by the digital age. Some scholars believe that digital governance is a process of interactive governance using modern digital technology under the synergy of multiple governance subjects. In particular, government departments and grass-roots staff can use digital means to innovate the rural governance model in order to better enhance the digitalization, intelligence and convenience of rural governance. Some other scholars believe that in the era of the Internet, digital governance is actually a new governance mode supported by cloud computing, big data, Internet of Things and other digital technologies by combining traditional governance theories with modern digital technologies [1-4]. Therefore, in order to better organically integrate the rural governance process with digital technology and create an effective path to explore modern digital technology for rural governance, it is necessary to fully understand the function mechanism, realistic challenges and advancement path of digital empowered rural governance, and provide new references for rural governance in the new era.

## 2. Digital Governance

### 2.1 Function Mechanism of Digital Rural Governance Technical Level: Improve the Accuracy of Digital Governance

The embedding of digital technology in the process of rural governance has changed the traditional "unitary" vertical management mode of government. Digital technology is used to transform the original "one-way transmission" into "two-way communication",

promote the establishment of a two-way discourse communication system, help villagers express their wishes and demands in a timely manner, and better improve the accuracy of rural governance. At the same time, due to the participation of digital technology, information transmission is more open and transparent, including the overview of government revenue and expenditure, policy implementation and project construction, etc., which guarantees the villagers' right to know and supervise, makes villagers feel more at ease and enhances the effectiveness of rural governance. At the same time, digital technology breaks the limitation of space, builds virtual space through digital platform for cross-regional governance, solves the problems of heavy workload, diverse work content and remote personnel handling local village affairs in grass-roots work, greatly saves time, energy and money, and highlights the digital advantages of rural governance [2-5]. In addition, digital technology can establish a set of emergency warning mechanism to help rural residents accurately predict risks and make warnings, so as to avoid the double loss of villagers' economy and spirit.

## **2.2 Institutional Level: Optimize the Policy System of Digital Governance**

The connotation of digital rural governance is manifested as relying on the innovative application of information technology to build a governance system based on big data analysis, cloud collaboration and intelligent perception. Its essence is to integrate various resources of rural governance through modern information technology to achieve optimal allocation and efficient use of governance resources, mainly including population information, per capita income and expenditure, land occupation and public infrastructure construction, so as to accurately grasp the actual needs of rural development, and then formulate targeted policies for rural governance. For example, relying on the collection network of multi-source heterogeneous data, the population information and per capita income and expenditure are analyzed to formulate welfare policies such as medical care and education that are more in line with the actual situation, and improve the automation, scientific and precise level of rural governance [6]. At the same time, the platform

supported by digital technology monitors and supervises the governance process in real time, prevents the potential risks reflected in the data, takes the initiative and timely response, realizes the real-time dynamic response in the governance scene, and finally forms a precise governance mechanism with data analysis as the key point in the governance practice, and promotes the standardization and standardization of rural governance. To achieve "effective governance" in rural areas.

## **2.3 Cultural Level: to Help the Inheritance and Development of Rural Traditional Culture**

Rural culture is an important part of traditional culture. It is a characteristic culture formed by blood ties and has strong emotional cohesion. However, with the rapid change of The Times, a large number of young and middle-aged labor force to work in cities, the rural population shows a trend of "hollowing out" and "aging", traditional rural cultural activities are weakening, and cultural inheritance is difficult to sustain. Digital technology displays rural cultural heritage with multi-platform, reproducible and renewable features, such as "Internet + rural culture", "Digital rural culture museum" and other cultural Spaces, with a view to protecting and developing precious rural culture, attracting migrant labor to return to their hometown, and inherits rural culture [7-8]. At the same time, because digital technology transcends the limitations of time and region, and breaks through the constraints of traditional cultural transmission methods, it can contact more groups of different cultures in different countries, achieve two-way communication at home and abroad, and help promote the promotion of rural culture, improve the overall cultural quality of villagers, and further promote the innovation and prosperity of digital rural culture.

## **3. The Practical Challenges of Digital Empowerment of Rural Governance**

In some rural areas, due to the difficulties of digital governance, such as technology popularization, technology suspension, incomplete policy guidance, and impact on traditional culture, the operation of digital governance platforms is blocked, making it difficult to effectively improve the efficiency of rural governance.

### **3.1 The Dual Problems of Technology Popularization and Water Injection Still Exist**

In rural areas, it is difficult to popularize digital technology because of remote areas, backward economy and insufficient digital infrastructure construction. For example, factors such as shortage of hardware equipment, narrow network coverage and unstable signal quality restrict the development of digital rural governance and become a major bottleneck of digital governance. At present, although the construction of digital infrastructure in many regions has been significantly improved, there is still a problem of unbalanced development in the central and western regions, which cannot meet the needs of local villagers or enjoy the convenience brought by digitalization [9]. At the same time, some government departments too pursue the "visualization" of political achievements, and the task indicators assigned do not match the ability of grassroots staff, resulting in difficulties in effectively completing the task, which leads to the phenomenon that grassroots staff use "form" instead of "essence", ignore the actual needs of villagers, and the rationality of tools overtakes the rationality of value, resulting in "technological flooding". It further increases the difficulty of digital governance.

### **3.2 The Policy Supervision and Guidance System Needs to be Improved**

The sustainable resource guarantee mechanism required for the construction of digital countryside has not yet been perfected, the contradiction between grass-roots financial revenue and expenditure is prominent, and the relevant system lacks effective supervision and management. The digital platform supported by digital technology stores massive data, covering population information, medical education, transportation, social security and other aspects of information, which involves citizens' personal privacy and the core of the country [10]. Nowadays, digital governance still does not have a sound and effective supervision and management mechanism for data security, which is difficult to resist cyber attacks by criminals, and once information is leaked, it will cause incalculable losses. At the same time, the existing legal system has not yet clarified the details of digital governance.

Although relevant departments have made efforts to promote the process of digital rural governance, the lack of unified guidance and norms has led to great differences in digital governance across the country, and the development of digital regionalization is not coordinated.

### **3.3 Digital Technology Impacts Traditional Rural Culture**

In the process of promoting the digitization of rural governance, digital technology has brought new ways of living and socializing to rural residents. With the continuous popularization of digital platforms, villagers can obtain various information and content through modern electronic products such as mobile phones, televisions, and computers, so that villagers can know "the world" without going out. Moreover, the way of social interaction of villagers has also changed significantly. Through the "cloud village" and wechat group, they can communicate online and process and feedback information in a timely manner. Based on this, some traditional rural cultural festivals have become increasingly lonely, and some traditional rural gatherings such as market fairs and temple fairs have gradually declined, which challenges the inheritance and development of rural culture [1-4]. At the same time, due to the information explosion and the impact of multiple values brought by digital technology, villagers are exposed to more different cultures from different countries, and different cultural values and life concepts collide with each other, which may lead to cultural identity or cultural confusion, and traditional rural culture will face the crisis of marginalization.

## **4. Advancing Path of Digital Empowerment of Rural Governance**

### **4.1 Build a Diversified Digital Infrastructure to Grasp the Actual Needs of Rural Residents**

In the process of promoting the digital rural strategy, efforts should be made to build a digital infrastructure support system, which is an important guarantee for helping rural governance. It is necessary to continuously invest special funds for the transformation and construction of information infrastructure and physical infrastructure for digital rural

governance, and constantly optimize the layout of networks and signal sources. We will continue to build information infrastructure such as digital television networks, broadband Internet and mobile communication networks. This is the material basis for the transformation of grassroots digital rural governance [10]. At the same time, if conditions permit, increase the number of optical fiber communication, cable transmission, 5G and 4G base stations, carry out 5G upgrade, realize the beautiful vision of "every family has a network, every household has 5G" in rural areas, improve the digital level of rural governance, ensure the synchronous development of urban and rural areas, and reduce the "gap" between urban and rural information. In addition, the matters of rural governance are complicated, and it is difficult to truly evaluate the ability of grassroots staff with a single digital report and data index. The work effect can be evaluated by establishing a combination of superiors, villagers and self-evaluation. It is not only necessary to pay attention to the governance results presented by the data, but also to see the efforts and efforts of grass-roots staff. Avoid the emergence of "digital formalism" due to excessive pursuit of indicators and task completion, ignoring the fundamental purpose of work.

#### **4.2 We Will Establish an Institutional Guarantee Framework and Improve Oversight and Management Mechanisms**

In the process of improving rural infrastructure construction, it is necessary to tilt the national policy. The competent administrative departments can take the lead in formulating special implementation plans, and rely on the requirements of the strategic planning for rural revitalization, focusing on defining the phased target system for the construction of smart villages, which should cover the dimensions of infrastructure construction, data sharing platform construction, and talent training mechanism innovation. Through clear top-level design of rights and responsibilities, the establishment of supporting resource allocation mechanisms and implementation paths, the formation of a three-in-one long-term operation model of "policy guidance - financial guarantee - technical support", to provide a systematic institutional guarantee for the digital transformation of grassroots governance

[1-4]. In addition, high-tech enterprises can be encouraged to settle in rural areas in the mode of technical cooperation, and the construction of rural digital infrastructure can be improved through financial support, so that enterprises can assume social responsibilities while making profits. Finally, we should face the technical security risks brought by digital rural governance, focus on improving the citizens' network information security management and supervision system, build a network information security supporting mechanism of "one report, two checks and three announcements", and effectively maintain the villagers' information security on the basis of meeting the villagers' network needs, so as to avoid the villagers' economic and spiritual losses caused by privacy data leakage.

#### **4.3 Construct the Organic Integration of Digital Technology and Rural Culture, Inherit and Carry Forward Traditional Rural Culture**

The moral codes, customs and behavioral norms formed by the baptism of rural culture through the years are the unique cultural genes of rural society, which need to be carefully inherited and developed. Nowadays, digital technology has been embedded in the countryside, and it is more necessary to balance the relationship between the role of digital rationality and the rural cultural gene. It is necessary to always consider the factors such as village rules and conventions, customs and ethics inside the countryside, and actually apply digital technology to the countryside to achieve scientific governance of the countryside. For example, traditional rural cultural activities can be restored through digital technologies such as meta-universe and VR, so that traditional rural culture can be more intuitive and vividly displayed in front of people's eyes. At the same time, with the help of electronic information equipment, 5G network communication, mobile Internet, Internet of things, digital twin technology and other methods can be used to shoot documentaries of traditional rural culture characteristics of food, landscape architecture and festival activities, showing the unique charm of traditional rural culture. In addition, relevant government departments can encourage some villagers to return to their hometowns to start businesses, make

reasonable use of digital media technology for digital creation, promote rural cultural festivals or creative products, form unique rural cultural brands, awaken the emotional connection of rural culture among "locals" who work or study abroad, further gather people's support, and build a rural cultural community. Promote the "localization" of digital governance [10].

### 5. Conclusion

Rural governance is the cornerstone of national governance, but also an important indicator of a nation's long-term peace and stability. With the changes of The Times, digitalization, intelligence and technology have become an important support for rural governance, which plays a positive role in improving the effectiveness of rural governance and satisfying the villagers' vision of a better life. At present, the digital rural governance continues to advance, the governance level and governance efficiency continue to improve, but there are still problems such as imperfect policies and regulations, digital technology impact on traditional culture, technology popularization, and technology water injection, which need to be further broken through and solved. Through research, this paper puts forward suggestions from three aspects of technology, system and culture to promote the process of digitization of rural governance and enhance the efficiency of digital governance.

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