

Legal Pathways for Digital Empowerment of Rural Revitalization in Old Revolutionary Base Areas

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Abstract

Digital empowerment can provide important governance and legal support for rural revitalization in old revolutionary base areas. Yet wider network coverage or the launch of a digital platform should not, by itself, be treated as evidence that rule-of-law governance has been achieved. Many old revolutionary base areas are located in remote mountainous regions, where digital legal governance has developed slowly, infrastructure is not always fully used, and platforms can easily become little more than visible traces of administrative assessment. Whether digital empowerment is effective should instead be judged by more concrete questions: whether legal services respond to villagers' needs, whether different groups can participate meaningfully, and whether disadvantaged residents have access to remedies. Three problems are especially prominent at present. The ownership and sharing of agricultural data remain unsettled; digital capacity in grassroots law enforcement and justice is still limited; and some groups, particularly older residents, do not receive sufficient information or protection of their data-related rights. This article therefore argues that technology should be placed within a legal framework rather than allowed to determine governance on its own. Data sharing should follow the Regulations on Government Data Sharing, information collection should comply with the Personal Information Protection Law, coordination and online case handling at the grassroots level should be improved, and participation and remedies for vulnerable groups should be made genuinely accessible. The Ma Xiwu judicial tradition may also be carried forward through forms such as online courts, but its continuation must be supported by institutions and procedures rather than by the mere existence of a platform.

Keywords

digital empowerment, old revolutionary base areas, rural revitalization, legal pathways

1. Introduction

The 20th National Congress of the Communist Party of China called for advancing rural revitalization across the board and for building a modern socialist country under the rule of law. The Comprehensive Rural Revitalization Plan (2024–2027) further sets out arrangements for digitally enabled rural governance, including the integration and sharing of agriculture-related data and the practical use of digital platforms [1]. The State Council's Opinions on Supporting the Revitalization and Development of Old Revolutionary Base Areas in the New Era also identifies these areas as priority regions in the broader rural revitalization agenda [2].

Most old revolutionary base areas lie in mountainous regions near provincial borders and remain distant from major urban economic centers. Their economic foundations are often comparatively weak, development has tended to be slower, and grassroots governance is still largely administration-led, leaving limited room for social actors to participate in public affairs [3]. As digital reform moves further into local communities, the central question is no longer whether digital technology should be introduced. What matters is how law can regulate key processes such as data sharing, online enforcement, and rights-based remedies, so that digital platforms do not become empty formalities and statutory rights do not exist only on paper. Given the particular development conditions of these regions, using legal institutions to discipline digital empowerment and strengthen public legal services at the grassroots level is therefore an important part of high-quality rural revitalization.

Digital governance in rural areas has consequently attracted sustained attention from both scholars and practitioners. One line of research focuses on the basic conditions of digitally enabled rural governance, especially the contribution of infrastructure and digital platforms to governance efficiency. Using dynamic QCA, Kong Li and colleagues argue that digital-village development can compensate for weaknesses in traditional factors and generate a green-development path in which older and newer drivers operate together [4]. Guan Yongbin and colleagues likewise find that the digital economy can improve the efficiency of public-service provision, with particularly strong effects in counties located in old revolutionary base areas [5]. Such work is valuable, but it often treats infrastructure as if it were sufficient to produce better governance. That assumption deserves caution. Technical coverage does not automatically produce rule-of-law outcomes, and a gap can remain between universal access to hardware and universal access to institutions.

A second body of research starts from the institutional requirements of rule-of-law development in rural areas. Xie Pengcheng and Yang Yonghai introduce three kinds of empowerment—psychological, resource and structural—which can improve the establishment of rule-of-law villages [6]. From the perspective of village self-government, Liu Chang mentions that the online discussion groups can enhance the transparency and democratic supervision, but may also meet with conflicts between the platform functions and the local needs, as well as the variations in the computer skills of the participants [7]. Li Xia sets up a coordination mechanism between law and digital intelligence, offering an alternative way to understand the legal support for government management in the information age [8]. This debate is sometimes considered as a comparison between stricter regulation and greater technological freedom. These opinions do not necessarily contradict each other. Law can serve as the connecting element, keeping the necessary restrictions while permitting local discretion and technological flexibility.

A third set of studies focuses on old revolutionary base areas. Liu Zhengquan investigates Sichuan and analyzes the use of compulsory legal regulations to enhance the legal aspect of electronic local government management [3]. Li Yixu and Zhao Gengke reveal the institutional limitations on the development of digital villages in these areas, such as poor infrastructure, lack of digital talents and inadequate data exchange [9]. Feng Zijia, emphasizing the red cultural resources, states that these resources can offer political support and promote governance, thus becoming an important driving force for the regional rejuvenation [10].

Taking into consideration the current research, it mainly discusses the digital governance of rural China in whole or focuses on the infrastructure and red cultural resources in the old revolutionary base areas. There are few papers which integrate digital empowerment, red cultural resources and legal ways into a comprehensive analytical framework. This paper bases on the fact that the governance in these regions is still largely carried out by administration and the chances for public participation are restricted. It suggests a legal system which is suitable to the local conditions, able to adapt to the evolving practices, promote the involvement of various parties and safeguard the less privileged people in the digital environment.

2. Practical Developments in Digitally Empowered Rural Revitalization in Old Revolutionary Base Areas

2.1 Gradual Improvement in Digital Infrastructure

As digital technology becomes more deeply embedded in everyday life, the state has continued to expand rural digital infrastructure, and network access and information services in old revolutionary base areas have improved considerably. By the end of 2025, gigabit broadband had reached every county, 5G every township,

and broadband every village nationwide. More than 99.4% of townships were connected to the government extranet, and over 880,000 rural collective economic organizations had been brought onto the national platform for online supervision of collective assets, resources, and funds. During the same period, internet penetration in rural China reached 69.5% [11]. This remained below the national penetration rate of 80.1% [12], but the relatively low dispersion of digital-infrastructure indicators suggests that the initial goal of physical digital coverage has largely been achieved.

Infrastructure, however, is only a factual precondition for digital governance. It should not be equated with universal access to public legal services. Statutory public-service obligations under the Rural Revitalization Promotion Law address whether networks and platforms exist; whether villagers can actually obtain legal consultation, dispute mediation, or other services depends on how procedures are connected. Digital records, for example, can serve as evidence that village affairs were disclosed, but online disclosure alone may still fail to produce the supervisory effect required by the Organic Law of Villagers' Committees if it is not linked to the procedures of village supervision committees and township governments. Digital governance therefore still requires better coordination between online and offline processes, clearer allocation of rights and responsibilities, and institutional rules that prevent technology projects from becoming formalistic exercises.

2.2 Emerging Results from Digital-Governance Applications

The continuing spread of rural digital systems has gradually integrated digital tools into a range of grassroots governance settings in old revolutionary base areas. Applications now include the interconnection and circulation of administrative data, remote dispute resolution, online democratic deliberation, and the provision of public services. The Regulations on Government Data Sharing, coming into force in 2025, brought about a change in the way data is shared by incorporating it into a formal legal framework. It regards the legal exchange of data as the basic principle, bases the transmission of information on the fulfillment of statutory responsibilities, and sets up a standardized process for both requests and responses, along with a series of hierarchical dispute-settlement procedures. These arrangements offer an institutional support for the cooperation between local governments and the regular flow of governmental data [13].

Digital-governance platforms are also widely applied in village matters. For instance, a village-level digital consultation platform in Xiangshan, Zhejiang, involved over 20,000 villagers and solved about 60,000 daily problems, indicating the effect of digital means on increasing local involvement [5]. Such platforms can widen channels for involvement and improve governance efficiency, but they must remain anchored in existing law. Online deliberation and voting still need to satisfy the procedural requirements of the Organic Law of Villagers' Committees. A digital process cannot simply replace a legally required villagers' meeting; otherwise, a decision may lack legal effect because the required procedure was never completed.

2.3 Initial Digitalization of Revolutionary Legal Resources

Old revolutionary base areas are also important sources of China's revolutionary legal traditions. The judicial approach associated with Ma Xiwu emphasized proximity to ordinary people, circuit hearings, mediation as a priority, and the resolution of disputes in local settings. Some of these ideas have acquired new forms in the digital era through online platforms and remote services [14]. Parties can now participate in mediation or hearings through tools such as WeChat mini-programs, extending public-service obligations into online spaces and making dispute resolution more accessible [3]. In Shaxi Town, Tongjiang County, Sichuan, a so-called 'red court' has used information technology to continue the principle of remaining close to the people and has established online services that increase public participation in dispute resolution [14]. Feng Zijia similarly treats red cultural resources as an important resource for improving rural governance and stresses that their contribution depends on institutionalized channels [10].

These practices offer useful experience, but the richer institutional meaning of the Ma Xiwu tradition—especially public trust, local accessibility, and mediation-centered dispute resolution—has not yet been fully integrated into the logic of digital services. If the cultural advantages of old revolutionary base areas are to be translated into contemporary governance capacity, institutional support is needed for matters such as the selection of mediators, coordination with the judicial system, data confidentiality, and records management.

3. Legal Difficulties in Digitally Empowered Rural Revitalization

3.1 Insufficient Legal Rules for Digital Empowerment

Rural development has long depended on support from the legal system, but the existing institutional framework does not yet respond smoothly to the pace of technological change. Several problems have become particularly visible.

First, the ownership and use of agricultural data remain insufficiently regulated. There is still no unified legal framework governing the collection and use of agriculture-related data, and local data resources are consequently dispersed and fragmented. Farmers are the principal sources of much of this information, yet they often lack effective rights to manage the data or share in the benefits created from it. The source text states that this places farmers in a 'dominant position' in the distribution of data value, although the surrounding discussion points to weak protection of their interests. Long-term residents in rural areas usually have weaker ability to protect their rights. The Personal Information Protection Law has improved the formal regulations regarding personal information; however, the actual implementation at the local level is still inconsistent.

In addition, the mechanisms for exchanging government data in the old revolutionary base areas are still imperfect. The legal basis for government data sharing is hard to put into effect in some local conditions, and it is unclear what kind of information can be shared and what should be kept confidential, which helps to maintain the existing information barriers [10]. Moreover, confidential documents may involve personal information. If the data are distributed without adequate processing or anonymization, it may lead to the infringement of the legal rights and interests of the citizens.

Moreover, the local digital administration may become formalistic. Some systems are established mainly based on the administrative evaluation criteria rather than taking into account the actual requirements of the people, and the stress on the attainable efficiency may limit the kinds of services offered by the platforms [3]. A common and universal method of digitization may restrict the residents and be against the aim of overall and conveniently available rural governance.

3.2 Limited Digital Capacity in Grassroots Law Enforcement and Justice

Digital technology can enhance the efficiency of local administration, however it demands higher abilities from the staff in the police and judicial departments. In some backward regions which have progressed relatively slowly and are now undergoing a digital transformation, the ability of the institutions cannot always follow the rapid development of technology. The grassroots administrative personnel may be elderly and might not receive enough digital training. According to the reference, 36% of the rural workers are over 55 years old and have received only junior-secondary education or less [6]. The front-line control officers still mainly depend on the traditional working methods and have limited practical experience in activities such as data collection, the transmission of electronic evidence and the management of online business. Such restrictions affect the operation of the intelligent control systems.

Moreover, digital tools cannot alone overcome the lack of manpower and resources. A too great dependence on algorithms may produce a 'technological Leviathan' as well. The automated systems are efficient, but they might reduce the flexibility for the enforcement officers, and the embedded algorithmic bias may cause unfair treatment. The digital divide creates another procedural risk: some residents may not be able to access online judicial services or submit applications in the required manner [3]. If an online platform provides no meaningful channel for parties to explain their position, or if poor network conditions in mountainous areas prevent documents from being filed on time, procedural gaps can arise and undermine the principle of lawful procedure.

3.3 Inadequate Protection for Digitally Disadvantaged Groups

Digital governance improves efficiency but can also generate new forms of inequality. In rural areas, these burdens tend to fall most heavily on people who already have fewer resources for participation.

Older residents face the most obvious digital divide. As urbanization draws younger adults toward cities for work, older people, women, and children are often left in rural communities. Many members of these

groups have limited experience with smart devices, low awareness of online risks, and difficulty adapting to modern administrative systems.

Transparency in local data collection is another concern. When village-level platforms collect personal information, notification procedures are often simplified to the point that residents cannot easily understand complex data-processing rules. Genuine informed consent is therefore difficult to secure. Older people may find it especially hard to distinguish among different forms of data use, including the storage of facial-recognition data or health information, while risks of leakage and misuse remain present [15].

At the same time, the reduced participation of younger adults, combined with the limited capacities of many remaining residents, leaves rural digital governance facing a dual problem: too few active participants and insufficient governance capacity [6].

4. Legal Pathways for Improving Digitally Empowered Rural Revitalization

4.1 Improving the Legal Framework for Digital Empowerment

A more integrated legal framework is needed if digital empowerment is to support rural development in old revolutionary base areas. Current problems include uncertainty over rights in agricultural data, incomplete rules for data sharing, and poorly formalized evaluation mechanisms for digital platforms. Regulation should therefore cover the full data cycle, from the identification of rights and interests to circulation, use, and governance.

To begin with, rules governing agricultural-data interests and use should be clarified. Some scholars propose a farmer-centered protection framework that connects data circulation with rights protection, coordinates individual and collective interests, and places technological applications within legal constraints. Clearer rules would help define entitlements, improve benefit distribution, and strengthen risk prevention [16].

Government data sharing also requires a more concrete and uniform list for old revolutionary base areas. Such a list should distinguish confidential information from data that may be made available, require security and confidentiality review before sharing, and remove unnecessary barriers to cross-departmental circulation. Done properly, this could reduce the persistent problem of local data silos [17].

Finally, the strategy used to build and assess digital platforms should change. Evaluation should not depend solely on indicators imposed by higher-level authorities. Residents' actual needs, satisfaction, and observable governance outcomes should also be included. Platforms are more likely to support rural development when they are judged by whether they solve problems rather than by whether a technical system has merely been installed.

4.2 Strengthening Coordinated Grassroots Law Enforcement and Judicial Mechanisms

Digitalization at the grassroots level can distance formal power from local needs if institutions lack the ability to use new tools effectively. Local enforcement bodies and other legally authorized institutions therefore need stronger digital legal capacity. This requires a governance model that combines online and offline channels and allows several actors to participate, together with sustained digital training for local legal personnel. Rural public legal-service systems should cultivate local cadres who understand both law and digital technology and should build governance teams suited to digital-village development, linking administrative, social, and judicial forms of governance.

Traditional judicial experience should also be connected more carefully with contemporary digital technology. The Ma Xiwu approach emphasized accessibility and convenience for ordinary people. In a digital setting, those principles could inform a collaborative model in which judges, online mediation mechanisms, local residents, and public supervisory bodies each retain clearly defined roles. Online courts may support a more complete digital process—online filing, technology-assisted adjudication, remote mediation, and judicial confirmation—but digitalization should preserve rather than erase the strengths of local judicial practice. Regular digital-skills training is equally important, both for enforcement personnel and for villagers, because narrowing the digital divide requires capacity on both sides of the governance relationship.

4.3 Protecting the Lawful Rights and Interests of Digitally Disadvantaged Groups

Digital-village development should not be pursued at the expense of residents who are less able to use technology. In accordance with the Personal Information Protection Law, protection should extend across the entire process of information collection, use, and remedy [15].

First, online and offline services should operate in parallel. Rural digitalization should not eliminate traditional service channels or impose a single technological standard on every locality. Standards need to be adjusted to local conditions so that efficiency gains do not come at the cost of accessibility for vulnerable groups [18].

Second, grassroots data collection must be more strictly regulated. Village platforms collecting residents' information should provide clear notice, and sensitive information such as facial-recognition or health data should be processed only with the separate authorization required by law. Older residents' rights to know and to make autonomous choices deserve particular attention, and hidden or secondary uses of personal information should be prevented.

Third, digital training should be differentiated. Village cadres and younger residents may need training in digital governance and platform use, whereas older people and other vulnerable groups may need basic operational support. Village-level assistance and proxy-service arrangements should be maintained, with appropriate confidentiality safeguards, so that every resident retains a practical opportunity to participate in digital governance.

5. Conclusion

The deeper integration of digital technology and rule-of-law governance has become an important route for rural development in old revolutionary base areas. Digital infrastructure in these regions has generally improved, and online governance platforms are gradually becoming part of local administration. Yet technical diffusion does not automatically produce effective governance. Delayed institutional development remains a major obstacle.

The problems examined in this article include shortages in public legal services, insufficient digital capacity in grassroots law enforcement and justice, and weak protection for disadvantaged groups. The corresponding responses are institutional rather than purely technical: a clearer legal framework for data and platform governance, stronger coordination among enforcement and judicial bodies, and more concrete safeguards for groups that face digital barriers. These measures can improve both the quality and accessibility of local digital governance.

There is also a longer-term tension between rapid technological change and the slower pace of institutional adjustment. The proposals made here therefore need to be adapted to local conditions rather than applied mechanically. In rural digital governance, the purpose of legal protection is not to place technology under ever tighter control for its own sake. It is to draw fair boundaries for digital governance, keep participation genuinely open, and preserve basic commitments to justice and equality. As the legal framework for agriculture-related data develops and digital-village programs continue to advance, old revolutionary base areas may be able to connect digital governance more closely with rule-of-law institutions and convert their revolutionary legal traditions into practical resources for contemporary rural revitalization.

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