

Research on the Role Mechanism and Optimization Path of Social Capital Influencing Rural Governance Effectiveness

-- Taking Zhejiang Province as an Example

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Abstract

Currently, rural governance is facing the double challenges of social relationship network reconstruction and governance mode transformation, and how to realize the organic connection between traditional governance resources and modern governance system through the cultivation of social capital has become a key proposition to crack the effectiveness of grass-roots governance. It has become a key proposition to break the bottleneck of grassroots governance effectiveness. Based on 481 valid questionnaires and field survey data in rural areas of Hangzhou, Zhejiang Province, this paper empirically analyzes the role of three dimensions of social capital on the effectiveness of rural governance by using an ordered logistic regression model. The study shows that trust relationship (OR=3.524), norm compliance (OR=26.776), norm participation (OR=2.464), infrastructure (OR=12.438) and digitalization application (OR=5.336) have a significant positive impact on governance effectiveness. The study confirms that villagers' subjective normative awareness and objective institutional safeguards have more explanatory power than structural factors such as the number of organizations and frequency of interaction. Accordingly, a five-dimensional optimization path is proposed: cultivating rural civilization to build a community of trust, establishing a normative enforcement and supervision system to strengthen self-governance constraints, constructing a closed-loop mechanism of "proposal-feedback-rectification", implementing an infrastructure improvement project, and building an all-age-friendly digital governance platform. The study reveals the synergistic effect of the three dimensions of social capital in urban-rural integration scenarios, and provides new ideas for solving the synergistic problem of "traditional kinship network-modern governance system".

Keywords

Social capital, rural governance effectiveness, mechanism, digital technology.

1. Introduction

The Chinese Government has placed a strong emphasis on rural issues, pointing out that "the most arduous and burdensome task in building a modern socialist country is still in the countryside". The Decision of the Central Committee of the Communist Party of China and the State Council on Several Issues Concerning the Strengthening of Rural Work in the New Situation and the Opinions of the State Council on Accelerating the Reform of the Household Registration System put forward a series of tasks and measures, including strengthening the construction of the rural governance system, advancing the modernization of social governance in the countryside, perfecting the system and mechanism for rural social management, strengthening the construction of social organizations in the countryside, advancing the

integration of urban and rural areas, enhancing urban and rural planning coordination, and promoting orderly flow of urban and rural factors, etc., reflecting the strategic significance of improving rural governance and promoting synergistic development between urban and rural areas.

Under the blueprint of the rural revitalization strategy drawn up by the Government., the process of modernizing rural governance in China has continued to deepen. It is worth noting, however, that the pattern of mega-scale population mobility formed in the process of rapid urbanization is posing a systematic test for rural grassroots governance. The seventh national census shows that in 2020, China's mobile population will be nearly 380 million, an increase of 150 million from 2010, and in Zhejiang Province, the mobile population will reach 25.55 million. Zhejiang Province's mobile population amounted to more than 25.55 million people, of which more than 16.18 million are inter-provincial and more than 9.37 million are intra-provincial. Large-scale population mobility has brought challenges to rural grass-roots governance: the exodus of young adults has resulted in the "hollowing out" of rural areas and a shortage of governance talents; population mobility has led to an imbalance between the supply and demand of public services and an increase in governance costs; the protection of the rights and interests of the floating population and social integration issues have also impacted on the traditional governance model. Therefore, exploring the path to improve the effectiveness of rural grassroots governance is of great significance to the construction of Zhejiang Urban-Rural Integration and Common Wealth Demonstration Zone.

Social capital is the core resource of social relations, and its core dimensions include trust (interpersonal trust and organizational trust), norms (such as institutional constraints like village rules and regulations), and networks (formal organizations and informal kinship networks) (Li Song, 2025). In the field of rural governance effectiveness evaluation, the four-dimensional framework proposed by Shi Yungui (2016) provides the theoretical basis for the study, and from the perspective of the governing body, modern rural governance has formed a multifaceted and synergistic governance community (Lu Jun, 2025), and in the policy practice In policy practice, it presents a unique pattern of "synergistic evolution of national and local laws", and at the level of public services, the rural public service system presents the dual characteristics of "basic protection + developmental empowerment" (Guo Zhengrin, 2004).

However, there are still three limitations in the existing research: 1. Lack of direct causal evidence, although Li Song (2025) proposed the three dimensions of social capital on governance effectiveness, but did not test the strength of its correlation through a large-sample quantitative analysis; Xu Yao et al. (2021) based on the case of Zhejiang, lack of universality due to the uniqueness of the geographic sample; 2. Multi-dimensional path mechanism is not clear, in the theoretical framework of trust (H2), network (H3), and the network (H3), there is no clear mechanism. H2), network (H3), and norms (H4) independent role assumptions have not yet been verified by empirical methods such as structural equation modeling, and their potential interactions (e.g., whether norms strengthen the network effect) are still unclear; 3. geographic specificity of the study is weak, the existing literature on the developed regions fully discusses (e.g., Zhejiang) composite social capital's unique influence mechanism (Chen Jagang, 2015), i.e., the traditional kinship network (informal social capital) and modern marketized system (formal social capital) coexist under the condition of how to differentiate the role of governance effectiveness (e.g., the synergistic effect of the digital economy and the return of village sages to their hometowns).

This study takes Hangzhou village in Zhejiang Province as the empirical object, and focuses on responding to the above research gaps through a combination of quantitative analysis (large-sample statistical test) and qualitative research (field survey), aiming to improve the theoretical explanatory framework of social capital and rural governance efficacy, and to provide a basis for the policy practice in developed regions.

2. Theoretical Framework and Research Hypotheses

2.1. Theoretical Framework

Social capital is a mixture of trust, norms, networks, and other factors that can coordinate the effectiveness of governance in the countryside. Social capital is a mixture of trust, norms, and networks that coordinates individual actions to improve social efficiency. (Simon, 2000) Social capital can effectively reduce transaction costs. Under a certain trust environment, informal coordination is often more efficient than formal institutional arrangements. At the same time, social capital can enhance the effectiveness of governance in the social relationship network by integrating and reconstructing resources. By integrating social capital, the effectiveness of rural social governance can not only be enhanced, but also tap into the basic resources of the countryside, encourage the participation of multiple actors in governance, and enhance the endogenous development power of the countryside, so as to realize a virtuous cycle of sustainable development. (Xu Yao and Shen Lujing, 2021) Based on the understanding of social capital, this study makes the following framework:

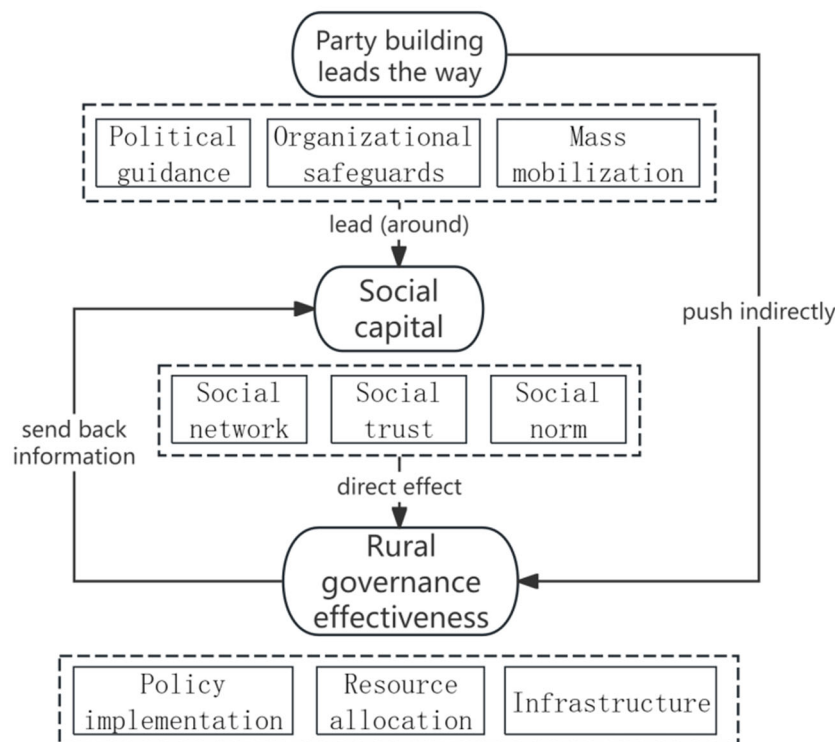


Diagram 1 Theoretical framework diagram

2.2. Research hypotheses

Social capital effectively enhances governance effectiveness through three key paths: first, trust construction, in the innovation model of rural governance, multi-level trust relationship has become the cornerstone of the rural community, and the traditional kinship geo-ties and modern karma collaboration are intertwined to strengthen the internal trust in the countryside. (Xu Hongying, 2022) Such deep trust is not only reflected in the interaction between villagers, but also extended to the interaction between villagers and grassroots management organizations. When both sides establish strong mutual trust, the resistance to the implementation of policies is reduced, and people's enthusiasm for participating in rural public

affairs is significantly increased. Secondly, collaborative network construction, through the development and application of village-level informatization management platforms, has significantly improved the efficiency of resource sharing. Third, the construction of normative systems, sound village rules and governance mechanisms play a decisive role in enhancing the standardization and long-term effectiveness of rural governance. The organic integration of traditional rural customs and modern management system has formed a mutually supportive "dual-track" system. In summary, social capital has strongly supported the modernization of rural governance through the synergistic effects of trust building, network building and norm setting. Based on this conclusion, the following hypotheses are proposed:

H_1 : social capital improves the effectiveness of rural governance by enhancing inter-subjective trust.

H_2 : Social capital improves the effectiveness of rural governance by enhancing villagers' self-control ability and improving governance norms.

H_3 : The improvement and enhancement of infrastructure construction can significantly improve the effectiveness of rural governance.

H_4 : It is difficult to improve the effectiveness of village governance in the information network era without introducing digital technology to optimize the collaborative network.

H_5 : The increase in the number of various types of organizations in the village and the increase in the frequency of communication between villagers can improve the effectiveness of rural governance.

3. Research Design

3.1. Data Sources

The data for this study were collected in the rural areas of Hangzhou, Zhejiang Province, including Fengling Village, Tangqi Village, Guidance Village, Yanjia Village, etc., and a total of 506 questionnaires were distributed, among which the number of valid questionnaires was 481, with a valid questionnaire percentage of about 95.1%. A number of villages with different levels of economic development, geographic locations and demographics were selected as samples using a combination of stratified and random sampling. Primary data were obtained through field distribution of questionnaires and face-to-face interviews with villagers and grassroots cadres. The questionnaire is designed around the network, trust, and normative dimensions of social capital, as well as the social participation, public service, policy and rule of law, and grassroots governance aspects covered by the effectiveness of rural governance, so as to comprehensively collect information and lay the foundation for the subsequent analysis.

3.2. Variable Selection

In this paper, the Municipal Committee of the People's Republic of China (PRC) explores the influencing factors affecting the effectiveness of rural governance, and therefore lists the effectiveness of rural governance as the dependent variable, and the frequency of interactions between villagers, the degree of trust, and other types of factors as the independent variables. The independent variables are selected and the corresponding questions are as follows:

Form 1 Variable selection table

serial number	Selection factors	Question design
1	Frequency of interaction	How often do you typically interact with your neighbors?
2	Degree of confidence	Do you trust the members of your village?
3	Compliance with norms	Will you respect the private space and quiet environment of others in public places within the Village and obey the rules of the road?
4	Participation in normative development	Would you like to be involved in the development and implementation of social norms in villages to improve the effectiveness of governance and the employment environment in villages?
5	Frequency of village assemblies	How many village meetings were held in your village last year?
6	Infrastructure development	What do you think of the infrastructure in your village?
7	Digital management applications	Has your village introduced digital technology for commune management?
8	Number of social organizations	How many social organizations are there in your village (e.g., Women's Union, Youth Union, etc.)?
9	Coverage of village groups	What is the coverage of village groups or similar organizations in your village?
10	Activity participation	How many village-organized events have you attended in the past year?

In order to study the influence of different factors on the effectiveness of village governance, this paper adopts Multiple Ordinal Regression (MOR) as the core analysis method, and the specific model framework is as follows:

$$\text{Logit}(P(Y \leq k)) = \alpha_k + \sum_{i=1}^n \beta_i X_i \quad (k = 1, 2, 3)$$

where $Y \leq k$ denotes the probability that the dependent variable takes no more than the k th class, α_k is the intercept term (threshold parameter) for the k th class, β_i is the regression coefficient for the i th independent variable, and X_i is the value of the i th independent variable.

4. Empirical Analysis

Through the ordered Logistic regression analysis, the model chi-square value is 101.396 ($p=0.000$, significantly less than 0.05), indicating that there is at least one independent variable in the model that has a significant effect on the dependent variable, i.e., it indicates that the independent variables put into the model construction have validity, and the construction of the model has validity.

Form 2 Ordered Logistic Regression Model Likelihood Ratio Test Table

Model	-2Log-likelihood	Chi-square value	df	p-value	AIC-value	BIC-value
Intercept only	198.083					
Final model	96.687	101.396	11	0.000	124.687	158.718

According to the content of the table below, it can be seen that the McFadden R² is 0.512, which indicates that the independent variable explains 51.2% of the variation and the model fits well. Cox and Shell R² is 0.701 which shows that the model explains the dependent variable better. According to the results of the analysis, five factors, namely, level of trust ($p=0.019<0.05$), compliance with norms ($p=0.012<0.05$), participation in norm-setting ($p=0.049<0.05$), infrastructure development ($p=0.000<0.01$), and application of digital management ($p=0.004<0.01$), exerted a significant positive influence on the effectiveness of rural governance. While the factors of interaction frequency ($p=0.875>0.05$), and number of village organizations ($p=0.108>0.05$) have no significant effect on village governance effectiveness.

Form 3 Summary of results from analysis of ordered logistic regression models

Item	Item	Regression coefficient	Standard error	z-value	Wald χ^2	p-value	OR-value	OR-value 95% CI
Dependent Variable	Relatively low	18.654	3.745	4.981	24.812	0.000	0.000	0.000 ~ 0.000
	General	23.476	4.240	5.537	30.653	0.000	0.000	0.000 ~ 0.000
Independent Variable	Threshold	29.221	4.923	5.935	35.226	0.000	0.000	0.000 ~ 0.000
	Frequency of interaction	0.045	0.287	0.157	0.025	0.875	1.046	0.596 ~ 1.836
	Degree of confidence	1.260	0.536	2.348	5.514	0.019	3.524	1.232 ~ 10.084
	Compliance with norms	3.287	1.314	2.502	6.262	0.012	26.776	2.039 ~ 351.548
	Participation in normative development	0.902	0.459	1.965	3.862	0.049	2.464	1.002 ~ 6.057
	Participation in normative development	0.637	0.545	1.170	1.370	0.242	1.892	0.650 ~ 5.501
	Infrastructure development	2.521	0.521	4.837	23.394	0.000	12.438	4.479 ~ 34.545
	Digital management applications	1.675	0.579	2.893	8.372	0.004	5.336	1.716 ~ 16.592
	Number of social organizations	-1.015	0.631	-1.608	2.587	0.108	0.362	0.105 ~ 1.248
	Coverage of village groups	0.238	0.546	0.436	0.190	0.663	1.268	0.435 ~ 3.697
	Activity participation	0.465	0.655	0.710	0.503	0.478	1.592	0.441 ~ 5.745

Note: McFadden R²= 0.512
Cox and Snell R² = 0.701
Nagelkerke R² = 0.774

(1) Social capital improves the effectiveness of rural governance by enhancing the level of trust between villagers, hypothesis 1 is valid. The results of the study show that the degree of trust between villagers has a significant effect on rural governance effectiveness ($p<0.05$), and the advantage ratio of governance effectiveness improvement for each 1-unit increase in the degree of trust is 3.524. High trust reduces the cost of communication and monitoring when acting collectively, thus reducing the resistance to governance.

(2) Social capital improves rural governance efficacy by increasing villagers' self-control and improving governance norms, Hypothesis 2 holds. The results of the study show that the degree of villagers' compliance with norms and their willingness to participate in the formulation of norms have a significant impact on rural governance effectiveness ($p<0.05$), and the advantage ratio of governance effectiveness enhancement for every 1-unit increase in the degree of compliance and willingness to participate in the formulation of norms is 26.776 and 2.464, respectively. "Compliance with the rules strengthens the villagers' experience of the environment, and makes villagers believe that the main body of governance has the ability to

maintain order, thus enhancing their confidence in the effectiveness of governance; participation in the formulation of norms makes the governance norms respond to the villagers' demands more accurately and strengthens the villagers' sense of shared responsibility, thus enhancing the sustainability of governance.

(3) The improvement and enhancement of infrastructure construction can significantly improve the effectiveness of rural governance, and hypothesis 3 is valid. The results of the study show that infrastructure construction has a significant impact on rural governance effectiveness ($p < 0.05$), and for every 1-unit increase in the degree of infrastructure construction, the advantageous ratio of governance effectiveness is 2.521. Infrastructure is directly related to the quality of life of villagers, and by improving the convenience of life and improving infrastructure, the signal of "the countryside is progressing" will make villagers more optimistic about the future of the countryside. By improving the convenience of life and the signal of "the countryside is progressing", the villagers are confident in the future improvement of the effectiveness of rural governance, which promotes the advancement of the main body of governance.

(4) The introduction of digital technology optimizes the collaborative network and improves the effectiveness of rural governance, and Hypothesis 4 is valid. The results of the study show that the digital management application has a significant effect on village governance effectiveness ($p < 0.05$), and the advantage ratio of governance effectiveness improvement is 1.675 for every 1-unit increase in the digital management application. the digital platform makes the governance process transparent and participatory and convenient, and at the same time, helps the governance subject to allocate the resources more accurately, and improves the perceived degree of governance effectiveness.

(5) The number of various types of organizations in the village and the frequency of interaction among villagers do not enhance the effectiveness of village governance, and hypothesis 5 is not valid. The results of the study show that the number of social organizations and the frequency of interaction do not have a significant effect on village governance effectiveness ($p > 0.05$). High-frequency acquaintance interactions already exist within villages, and the difference is not sufficient to reflect the effect on governance effectiveness, while the role of social organizations may be formal and unable to actually solve villagers' problems.

Combined with the results of the field interviews, the study found that in villages with high levels of governance, the level of trust among villagers is generally high, the level of compliance with rules and willingness to participate in setting norms is high, while the village infrastructure is well developed and digital technology is commonly used in the village committee for management and information sharing. In villages with relatively poor governance, although the level of trust between villagers and their willingness to comply with and develop norms is not low, most villagers interviewed reported that they need to strengthen road maintenance and development to alleviate the inconvenience of access, as well as not being proficient in the use of digital applications.

In summary, the higher the level of trust between villagers, the level of villagers' compliance with public rules, their willingness to participate in the development of social norms, the higher the level of infrastructure improvement, and the higher the level of introduction of digital technology, the greater the positive impact on rural governance effectiveness, with compliance with norms and the level of infrastructure improvement having a particularly prominent positive effect on governance effectiveness, and the variables of frequency of interactions and the number of organizations do not significantly affect governance effectiveness. Based on the above results, it can be concluded that the villagers' subjective behavior and institutional factors are the main factors affecting the effectiveness of rural governance, and the frequency of interaction and the number of organizations are not directly related to governance effectiveness.

5. Conclusions and Recommendations

This paper examines the impact of different factors on rural governance effectiveness through field questionnaire research and interviews, and the empirical study can show that a high level of trust between villagers can reduce the cost of action and promote cooperation between villagers and between villagers and the main body of governance; the villagers' compliance with norms and their willingness to participate in the formulation of norms can stimulate the enthusiasm of villagers' self-governance; and a high level of infrastructure can ensure the villagers' A high level of infrastructure can ensure that villagers live and work in peace and contentment and promote production development; the application of digital technology can improve efficiency and ultimately enhance the effectiveness of governance in villages. Contending with the above influencing factors, this study believes that the effectiveness of rural governance can be improved in the following two aspects to solve the synergy problem of "traditional kinship network and modern governance system":

In terms of the subjective behavior of villagers, it can be achieved by cultivating a "new man culture" in the countryside, exploring the stories of village sages and village histories, strengthening positive guidance through publicity columns and other channels, and forming a "mutual trust and mutual assistance" consensus in the countryside in order to increase the trust between villagers; encouraging villagers to participate in the supervision of rules and regulations, and setting up "villagers' supervisory groups" to promptly remind and correct behaviors that violate the norms. Encourage villagers to participate in rule supervision, set up a "villagers' supervision group", to remind and correct the behavior of violation of norms in a timely manner, to form a "self-management, self-restraint" of the closed loop of governance, to improve the villagers' compliance with public rules and other norms; at the same time, establish and improve the participation feedback mechanism, the villagers put forward suggestions and opinions in a timely manner in response to the formation of a "participation At the same time, it establishes and improves the participation and feedback mechanism, responds to the suggestions and opinions of the villagers in a timely manner, and forms a virtuous circle of "participation -feedback-improvement" in order to improve the enthusiasm of the villagers to participate in the formulation and revision of norms.

In terms of institutional factors, the first priority is to focus on the shortcomings of people's livelihoods, prioritize the promotion of road hardening, water conservancy facilities, public lighting and other general infrastructure construction, improve the quality of life of villagers, so that the villagers' lives are more convenient and happy; to promote the digital governance platform comprehensive in the age of information is also urgent, to accelerate the introduction of the "smart village" management system in the villages, integrating various types of services and services, to improve the quality of life of villagers. In the information age, it is also urgent to speed up the introduction of the "smart village" management system in villages, integrate all kinds of service functions, and carry out digital skills training for middle-aged and old-aged villagers, so as to ensure that digital tools can cover all villagers.

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