

Research on the Influence of Community Service Level and Management System on Residents' Awareness of Community Governance

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Abstract: The government plays a leading role in community governance, and the dynamic role of individual residents can not be underestimated. Residents' participating in community governance is the most micro form of citizens' participating in social affairs. How to guide and organize residents to actively participate in community governance and effectively improve residents' community governance ability is an important topic in the grass-roots departments of the government. Firstly, this paper takes 18-65 years old community residents in Mentougou District of Beijing as the research object, and carries out a questionnaire survey. The questionnaire has three groups of scales, including 13 observable variables. Then, based on the questionnaire survey data, using the structural equation model, this paper carefully probes into the influence path between the three latent variables of management system cognition (MC), service level satisfaction (SS) and community governance awareness (GA), analyzes the direct effect, indirect effect and total effect between the variables, and draws a relatively reasonable conclusion. Finally, based on the analysis conclusion, this paper puts forward relevant policy suggestions for government management departments from the aspects of improving service level, strengthening autonomous management, introducing incentive mechanism, paying attention to community education and so on.

1 INTRODUCTION

Community governance is the cornerstone of the national governance system. Residents' participating in community governance is the most microscopic form of citizens' participating in social affairs. In July 2021, the CPC Central Committee and the State Council issued "Opinions on strengthening the modernization of grass-roots governance system and governance capacity", which put forward general requirements on how to "Jointly build, govern and share, and build a grass-roots governance community in which everyone is responsible, conscientious and enjoyed ", and provided policy and institutional guarantees for grass-roots community governance. The level of community service will directly affect residents' willingness to participate in community governance, and the degree of improvement of the management system will also have a different impact on residents' awareness and degree of participation in community governance. How to guide and organize

residents to actively participate in community governance, and effectively improve residents' community governance ability, is an important topic in the grass-roots government departments. Therefore, in this paper we first organize a questionnaire survey with 18-65 years old community residents in Mentougou District of Beijing as the research object, and obtain the research data. Then, based on the survey data, using structural equation model, we make a detailed exploration on the influence path of community management system, service level and residents' community governance awareness, and draw a reasonable conclusion. Finally, based on the analysis conclusion, we put forward relevant policy suggestions for the government management departments, focusing on improving service level, strengthening autonomous management, introducing incentive mechanism, and paying attention to community education.

2 RESEARCH SCHEME DESIGNING

In order to obtain relevant micro data, we specially organize a questionnaire survey. In the scheme, we define "service level satisfaction"(SS), "management system cognition"(MC) and "community governance awareness"(GA) as 3 latent variables. SS is reflected by 5 observable variables, "entrance service, convenience service, publicity service, sanitation and greening, and public benefit activities". MC is reflected by 4 variables, "epidemic prevention management, safety management, environment management and autonomous management". And GA is

reflected by 4 variables, that is "governance willingness, social value, self-enhancement and governance behavior".

Corresponding each latent variable, we design a set of scales respectively. The scales are unified in the form of 5-level Likert scale. The options of SS scale are "very satisfied", "satisfied", "general", "dissatisfied" and "very dissatisfied". MC scale options are "very familiar", "familiar", "general", "unfamiliar", "very unfamiliar". And GA scale options are "very agree", "agree", "general", "disagree", "very disagree". The options are assigned uniformly as 5, 4, 3, 2 and 1. The specific items and corresponding variables are shown in Table 1:

Table 1: Correspondence between questionnaire items and observable variables.

Item	Observable Variable	Variable No.
1.Community entrance and household unit access control management.	Entrance service	V01
2.Convenient services such as vegetables distribution, express delivery, housekeeping, etc.	Convenience service	V02
3.Health, safety, epidemic prevention and other popular science publicity.	Publicity service	V03
4.Community greening and environment sanitation.	Sanitation and greening	V04
5.Community public benefit activities such as sports, summer holidays, festivals and customs.	Public benefit activities	V05
6.Community epidemic prevention and control management system.	Epidemic prevention management	V06
7.Community fire control, anti-theft and other safety management systems.	Safety management	V07
8.Community garbage classification and public space management system.	Environment management	V08
9.Administrative measures for voluntary services of community residents.	Autonomous management	V09
10.I am willing to participate in community governance	Governance willingness	V10
11.I think participating in community governance is the embodiment of serving the society.	Social value	V11
12.I think participating in community governance can promote self-enhancement.	Self-enhancement	V12
13.I often volunteer to participate in community governance activities.	Governance behavior	V13

We select five different communities in a multi-stage random way, and then randomly distribute questionnaires in each community. Finally, 318 valid questionnaires are collected.

3 DATA QUALITY TESTING AND DESCRIBING

First, we use SPSS 25 to test the reliability of the data, and the results are shown in Table2.

Table 2. Reliability Statistics

Dimension	Cronbach's Alpha	N of Items
Service level satisfaction (SS)	.520	5
Management system cognition (MC)	.602	4
Community governance awareness (GA)	.753	4
Overall scale	.806	13

Table 2 shows that the Cronbach's Alpha coefficients of each group and the overall scale have reached more than 0.5, indicating that the data have a high level of reliability. Meanwhile, we conduct KMO and Bartlett's test on the data. The KMO coefficient is $0.864 > 0.5$, $sig.=0.000$, which meets the conditions of factor analysis. And the common factors are highly consistent with the latent variables of the preset 3 dimensions, reflecting that the data has high factor structure validity. Therefore, the scale design and data quality meet the basic requirements.

In order to explore the relationship between the latent variables of the 3 dimensions, we first calculate the correlation matrix according to the average scores of the 3 groups of variables, as shown in Table 3.

Table 3. Variable correlation matrix

	GA	MC	SS
GA	1		
MC	0.514986	1	
SS	0.516051	0.547472	1

Table 3 shows that the correlation coefficients between the 3 groups of variables are above 0.5, reaching a significant correlation level, and the correlation is positive, indicating that there is an obvious positive impact between the three. But what is the specific impact path? Further, we construct the structural equation model with the help of Amos 22 software.

4 STRUCTURAL EQUATION MODEL SETTING AND EVALUATING

According to our initial prediction of the relationships between variables in the questionnaire design, the hypothetical model is set as shown in Figure 1.

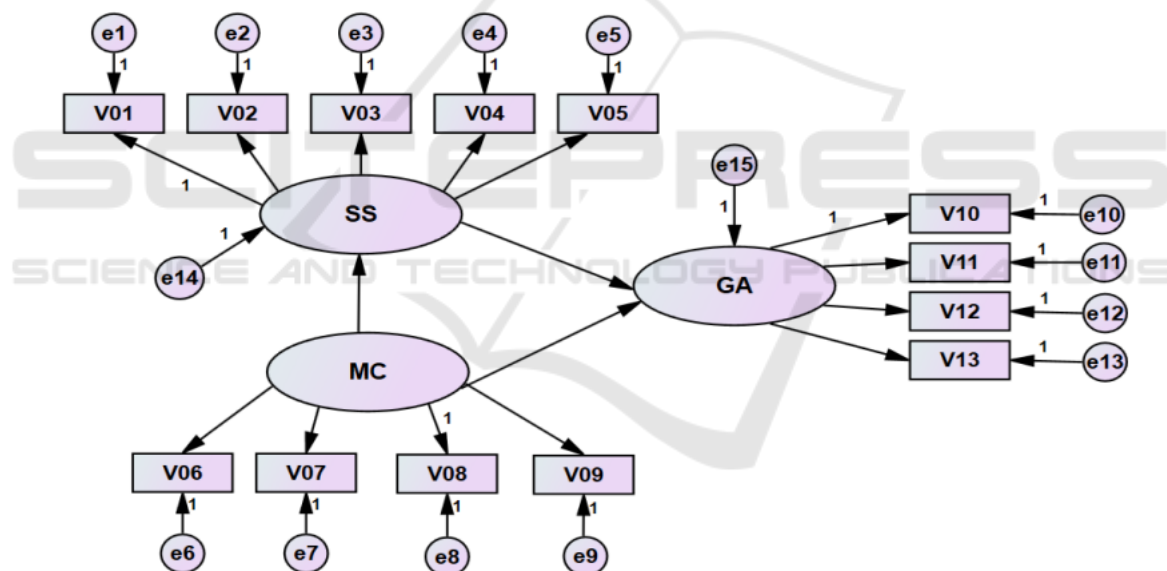


Figure 1: Hypothetical model of structural equation.

By fitting the hypothetical model with the sample data, the results show that the hypothetical model can converge and be identified. However, the fitting between the model and the data is so poor that the model needs to be further modified. According to the modified indexes, we find that there is a large covariant correlation between the residuals of e1 and e6, e9 and e13, e5 and e9. Therefore, a two-way connection is established in sequence, and the model is refitted. In the end, the model shows convergence,

and the overall model fitting test statistics $\chi^2 = 64.958$, $p=0.277 > 0.05$, indicating that the modified model fits the data well. Besides, the variance of each residual term in the non-standardized model is positive. In the standardized model, the absolute value of each standardized path coefficient is not greater than 1, and the symbol is consistent with the theoretical expectation, indicating that of the modified model is good-fitting. The modified model and standardized path coefficients are shown in Figure 2.

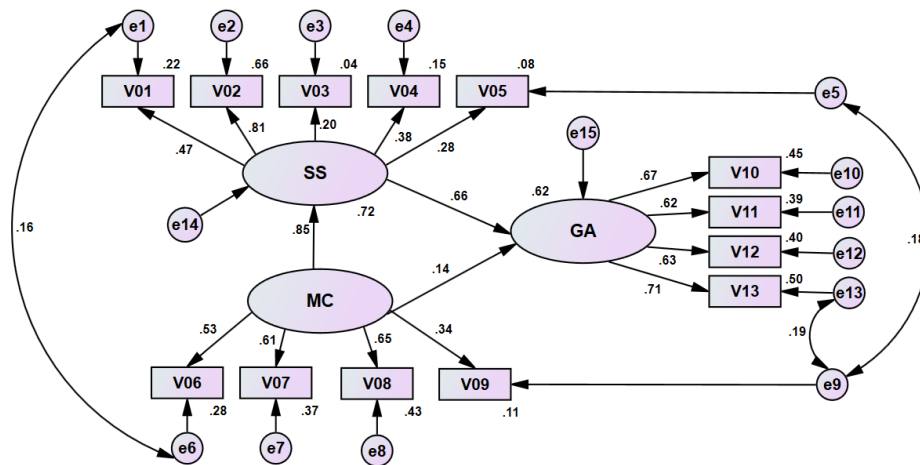


Figure 2: Structural equation modified model and standardized path coefficients.

Table 4 shows the non-standardized path coefficients and significance test. The first column is the non-standardized direct path coefficient, the second is the standard error of parameter estimation, and the third is the test statistic, critical ratio (C.R.). If C.R.>1.96, it means that the path coefficient is sig-

nificant at the level of 0.05. It can be seen from Table 4 that only the path coefficient of the 3rd group is not very significant, and each p-value of other coefficients is less than 0.05, indicating that the path influence coefficients of the model are generally significant.

Table 4: Non standardized regression coefficients and significance tests.

			Estimate	S.E.	C.R.	P
SS	<---	MC	.599	.099	6.029	***
GA	<---	SS	.849	.306	2.771	.006
GA	<---	MC	.126	.205	0.616	.358
V01	<---	SS	1.000	-----	-----	-----
V02	<---	SS	1.784	.242	7.376	***
V03	<---	SS	.401	.133	3.023	.003
V04	<---	SS	.846	.163	5.180	***
V08	<---	MC	1.000	-----	-----	-----
V09	<---	MC	.447	.089	5.010	***
V07	<---	MC	.856	.104	8.188	***
V06	<---	MC	.795	.108	7.358	***
V10	<---	GA	1.000	-----	-----	-----
V11	<---	GA	.946	.104	9.069	***
V12	<---	GA	.988	.108	9.135	***
V13	<---	GA	1.050	.106	9.946	***
V05	<---	SS	.558	.138	4.053	***

Table 5 shows the covariance and significance test of the 3 residual groups of e1 and e6, e9 and e13,

e5 and e9, and each of the correlation is significant at the probability level of 0.05.

Table 5: Residual covariance and significance test.

			Estimate	S.E.	C.R.	P
e1	<-->	e6	.140	.054	2.581	.010
e5	<-->	e9	.156	.050	3.112	.002
e9	<-->	e13	.115	.039	2.963	.003

Further, each fitting index of the modified model is evaluated, and the output results are shown in Table 6 and Table 7.

Table 6: Summary of fitting indexes in the modified model (1).

Index	Value	Critical value	Index	Value	Critical value
CMIN	64.958 (p=0.277)	p>0.05	CMIN/DF	1.101	1-3
RMR	0.035	<0.05	RMSEA	0.018	<0.05
GFI	0.970	>0.90	NFI	0.927	>0.90
AGFI	0.954	>0.90	RFI	0.904	>0.90
PGFI	0.629	>0.50	IFI	0.993	>0.90
PNFI	0.702	>0.50	TLI (NNFI)	0.990	>0.90
PCFI	0.751	>0.50	CFI	0.993	>0.90

Table 7: Summary of fitting indexes in the modified model (2).

Model	NCP			ECVI	AIC	BIC	CAIC
	NCP	LO90	HI90				
Default	5.958	.000	29.786	.407	128.958	249.343	281.343
Saturated	.000	.000	.000	.574	182.000	524.347	615.347
Independence	817.925	725.303	917.982	2.908	921.925	970.832	983.832

First of all, it can be seen in Table 6 and 7, chi square and degree of freedom ratio is between 1 and 3(CMIN/DF=1.101), and the fitting index RMR<0.05, RMSEA<0.05, GFI>0.90, AGFI>0.90, and PGFI>0.50 all meet the requirement of the critical standard. Secondly, several fitting degree indexes such as NFI, RFI, IFI, TLI and CFI are all more than 0.90, and the two reduced fitting degree indexes PNFI>0.50 and PCFI>0.50. The non-centralized parameter, NCP value is small enough and its 90% confidence interval contains 0, which meets the requirement of the critical standard. Thirdly, the values of the 4 information standards ECVI (expected review index), AIC (Akaike information criterion), CAIC (adjusted ACI) and BIC (Bayesian information criterion) are all smaller than those of the saturation and independent model at the same time. To sum up, the

commonly used fitting indexes meet the requirement of the critical standard, and it can be judged that the modified model fits well. We will further conduct path analysis.

5 PATH ANALYZING OF STRUCTURAL EQUATION MODEL

In order to compare path coefficients between different variables, we use standardized path coefficients. See Figure 2 for specific coefficients. Table 8 shows the comparison of standardized direct, indirect and total effect coefficients.

Table 8: Standardized direct coefficients, indirect coefficients and total effect coefficients

Variable	Direct effect coefficient			Indirect effect coefficient			Total effect coefficient		
	MC	SS	GA	MC	SS	GA	MC	SS	GA
SS	.848	.000	.000	.000	.000	.000	.848	.000	.000
GA	.140	.664	.000	.563	.000	.000	.702	.664	.000
V13	.000	.000	.707	.497	.469	.000	.497	.469	.707
V11	.000	.000	.630	.443	.418	.000	.443	.418	.630
V12	.000	.000	.624	.439	.414	.000	.439	.414	.624
V10	.000	.000	.670	.471	.445	.000	.471	.445	.670
V06	.528	.000	.000	.000	.000	.000	.528	.000	.000
V07	.611	.000	.000	.000	.000	.000	.611	.000	.000
V09	.337	.000	.000	.000	.000	.000	.337	.000	.000
V08	.652	.000	.000	.000	.000	.000	.652	.000	.000
V05	.000	.279	.000	.237	.000	.000	.237	.279	.000
V04	.000	.384	.000	.326	.000	.000	.326	.384	.000
V03	.000	.119	.000	.169	.000	.000	.169	.119	.000
V02	.000	.810	.000	.687	.000	.000	.687	.810	.000
V01	.000	.472	.000	.401	.000	.000	.401	.472	.000

It can be seen from Figure 2 and Table 8 that among the 5 observable variables of the latent variable "service level satisfaction"(SS), the most influential is "convenience service"(V02), and its direct path coefficient has reached 0.810, which shows that whether residents are satisfied with the community service largely depends on whether the community provides convenient services such as "vegetable distribution", "express delivery" and "housekeeping". The second is "entrance service"(V01), with a coefficient of 0.472, indicating that residents still attach great importance to entrance management, especially under the normalization of the epidemic. The third is "sanitation and greening"(V04), which is an obvious aspect of community service, with a coefficient of 0.384.

Among the 4 observable variables of "management system cognition"(MC), the most influential is the cognition of "environment management"(V08), and the direct path coefficient has reached 0.652, indicating that residents' cognition of community management is first reflected in whether the management system of garbage classification and public space is perfect, which residents can feel every day. The second is "safety management"(V07), with a coefficient of 0.611, which also has a high level, indicating that residents' safety awareness is relatively strong. In addition, under the epidemic, residents also have a high cognition of the "epidemic prevention management"(V06), and the coefficient reaches 0.528.

Among the 4 observable variables of "community governance awareness"(GA), the direct path coefficients are all above 0.6. The order is "governance behavior"(V13), "governance willingness"(V10), "social value"(V11) and "self-enhancement"(V12), which shows that residents' good awareness of community governance is reflected in their subjective will and objective behavior, and meanwhile there is a positive value judgment on participating in community governance.

In the path relationship between the 3 latent variables, the direct effect coefficient of "management system cognition"(MC) on "service level satisfaction"(SS) is as high as 0.848, which shows that in the view of residents, the improvement of community management system is of decisive significance to improve service level. The coefficient of "service level satisfaction"(SS) on "community governance awareness"(GA) also has a high level, which is 0.664, and the impact is significant, indicating that the community service level has a great impact on residents' willingness to participate in community governance.

The direct effect of "management system cognition"(MC) on "community governance awareness"(GA) is not so high, with a coefficient of 0.140, and the statistical test is not significant. But through the intermediary role of "service level satisfaction"(SS), the indirect path coefficient of MC on GA reaches 0.563, and the sum of the two makes the total effect coefficient reach 0.702, which has a very obvious impact. This shows that whether the community management system is perfect or not have little impact on Residents' awareness of community governance. Only through the intermediary role of community service level, let people experience the improvement of service level, can it be deeply rooted in the hearts of the people and stimulate residents' awareness of participating in community governance.

6 MAIN CONCLUSIONS AND POLICY SUGGESTIONS

Based on the above analysis, the main conclusions are as follows.

(1) Higher community service level has a direct positive effect on improving residents' participating in community governance. Convenience service is the most important aspect that affects the satisfaction of community service. Whether the convenient services in the aspects of "vegetable distribution", "express delivery" and "housekeeping service" are in place will directly affect the residents' satisfaction with the overall service of the community.

(2) The management system has a great direct effect on the service level, and the perfect management system determines the higher service level. However, the management system has no obvious direct effect on residents' awareness of participating in community governance, but has a strong indirect impact through the intermediary role of service level, so the total effect is also at a high level. Research shows that residents' cognition of the environment management system is the most important aspect to reflect the community management system. When the community improves various governance measures, it is particularly necessary to strengthen the management of public space environment such as garbage classification and vehicle parking. At the same time, residents also have a high cognition of the institutional requirements of "safety management" and "epidemic prevention management", which reflects that in community governance, safety and health management are closely related to people's lives.

(3) Residents' awareness of community governance has high path coefficients in the 4 aspects of "governance behavior", "governance willingness", "social value" and "self-enhancement". It shows that to enhance residents' awareness of community governance, we need to do a good job in the management of "people", to be "people-oriented" and from the perspective of residents.

In view of the above conclusions, we put forward the following suggestions.

(1) Improve the service level of the community itself, and expand the items of community autonomy services. Strengthen publicity, enhance residents' awareness of participating in community governance, gather consensus, and strengthen the value concept of shared governance. For example, by holding a variety of cultural, sports, entertainment and other group activities or public welfare activities such as fund-raising and publicity, residents can be guided to actively participate, create a good atmosphere of public order and good customs, enhance community cohesion, and enhance residents' sense of belonging.

(2) Improve the management mechanism, especially the community self-government management system, and promote the institutionalization, standardization and procedure of residents' participating in community governance. Provide better policy and institutional guarantees for residents' participating in community governance, unblock residents' autonomous service channels, stimulate residents' sense of community ownership and responsibility, encourage residents to give full play to their own advantages, establish various forms of group organizations, and introduce social organizations when necessary, so as to organize residents to effectively participate in community governance.

(3) Introduce incentive mechanism and attach importance to interest drive. Only by linking residents' participating in community governance with their own interests can their autonomous behaviors be sustainable. Residents' participating in community security, neighborhood rescue, community environment governance and other autonomous behaviors can be recognized by publicity or certain material rewards.

(4) Do a good job in community training and talent mining. At present, residents' participating in community governance is mostly limited to low-level community affairs such as public cultural activities and voluntary services, while their willingness to participate in relatively high-level management affairs involving public security, environmental governance, greening, political activities and so on is low. We should strengthen community education and

publicity, organize targeted community training, and improve residents' autonomous management ability. At the same time, we should tap all kinds of professionals in education, law, medical treatment, safety management and other aspects among residents, and encourage these residents to effectively participate in higher-level community governance.

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REFERENCES

- Jianwei Li, etc. Development achievements, problems and suggestions of China's community service industry[J]. Economic aspect, 2021 (05),48-60.
- Juan Pang. Analysis on Influencing Factors of satisfaction with new rural community governance[J]. Guangxi social sciences, 2017 (04), 21-25.
- Keqiang Ren. Modern transformation of government led urban grass-roots governance mode[J]. Nanjing social sciences, 2021 (03), 64-70.
- Qingqing Zhu. Visual analysis of social organizations' participation in community governance[J]. Social scientist, 2021 (06), 107-111.
- Wenhao Zhuo, etc. Model construction of influencing factors of community participatory governance[J]. Administrative forum, 2020, 27 (06), 116-121.
- Yaoyao Shi, Yuping Song. Ideas of community empowerment to promote the efficiency of community governance[J]. Leadership science, 2021 (06), 19-21.