

The impact of cognition on owners' satisfaction with the use of housing maintenance funds

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Abstract: We selected five communities in Nanjing that are using maintenance funds to repair their outer walls and roofs as research samples, and took the use efficiency of maintenance funds as the research object to conduct a survey on the satisfaction of the owners using special maintenance funds. Through the homogeneity test of variance, we find that the owner's cognition has a significant effect on the satisfaction. Based on the results of the survey, this paper puts forward some suggestions on how to promote the owner's cooperative governance.

1. Introduction

In the context of China, residential community is the grass-roots unit of the community, so residential community governance is an activity in which the government, community organizations and community people jointly manage community public affairs and provide community services [1]. At present, most of the housing maintenance funds in China are in the mode of government escrow. Under this mode, there are many problems in the actual use of the maintenance funds, such as complicated application process, low utilization rate and abuse of maintenance funds, which bring direct loss of interests to the owners. Previous studies on the relationship between individual behavior and group order show that cooperative governance of Shared resources can be realized through informal systems such as group norms and formal systems such as rules [2]. At present, our country residence area management is transforming from the administration to the cooperation management, we think that the self-management autonomy is the highest form of owner autonomy, is also the highest form of owner cooperation requirements.

The expansion of the concept of utility in economics offers a greater possibility to reveal the behavior mechanism of people in the real world. Through the diagnostic utility, the corresponding incentive mechanism can be established to urge people to make decisions in line with the established policy objectives [3]. We believe that on the basis of in-depth understanding of the utility of the maintenance funds of the owners, it is possible to find ways to improve the owners' willingness to participate, so as to promote the self-management autonomy, and further promote the formation of a "win-win" and co-governance situation between the government and the community.

On the basis of the above research, our team conducted a survey on the satisfaction with the use of housing maintenance funds, and from the perspective of owners' cognition, we discussed the reasons affecting owners' satisfaction, based on which we proposed targeted and feasible Suggestions, hoping to promote the effectiveness of public affairs decision-making.

2. Research and design

2.1 Sample Details and Takeup

In the process of collecting data, we found that there were many maintenance projects of external wall leakage, accounting for about 1/3 of all maintenance projects, and the repair rate was high. Therefore, we selected external wall and roof maintenance projects as the research object. In order to make the samples more universal, the communities under maintenance in Nanjing were selected as

large samples, and then five communities were selected as samples for investigation, including MuxiYuan, Zhongshan garden city, Huiixanju, Fengdanbailu, Langshixiyuan. To save space, the specific units are not described here. To be clear, all we selected communities were using maintenance funds to repair the external walls and roofs during the research period, so these samples can reflect the latest information more accurately.

The survey was carried out in the middle of July, 2018, mainly in the form of paper questionnaires, which lasted for 7 days. A total of 120 questionnaires were collected, 8 invalid questionnaires were eliminated (the key items were not filled in, the whole items were not logical, etc.), and 112 valid questionnaires were collected. The following tables shows the owner's understanding of the maintenance funds and the owner's satisfaction with the repair.

Table 1. Distribution of owners' perception of maintenance funds(N=112)

Questions*	Variable labels	Mean	The percentage
What do you think of the maintenance fund?	Money for all the households	1.22	91.1
	Part of the household's money		0.9
	No family money		2.7
	I don't know		5.4
Do you know where to repair this time?	Know very well	3.00	11.6
	Understand better		26.8
	A basic understanding		24.1
	Do not know much about		25.0
	Have no idea		12.5
Do you know the amount of this repair?	Completely know	3.94	4.5
	More know		4.5
	Basic know		17.9
	Don't know		39.3
	Have no idea		33.9
Is it clear how much money is left after this maintenance?	Completely clear	4.23	2.7
	More clear		2.7
	Basic clear		5.4
	Don't know much about it		47.3
	Not at all clear		42.0

As shown in table 1, owners have a better understanding of the basic nature of maintenance funds, and 91.1% of them chose the correct answer (maintenance funds are the money of all households). As for whether they know where to repair, the percentage of owners who have a complete understanding is 11.6%, and the cumulative percentage of owners who know is 62.5%. About the use of maintenance funds: how much is the maintenance amount this time and how much is left after the maintenance, the owner knows little, and the proportion of complete understanding is 4.5%, 2.7%, the cumulative proportion of basic understanding is 26.8% and 10.7%.

We can see from the above data, although some owners have the desire to know how much maintenance funds are used, but attention is insufficient. The understanding of the maintenance fund of maintenance fund is only in its concept and significance. Among the five communities we investigated, only Muxiyuan community had a better understanding of the use amount of each maintenance fund and the remaining amount. This general lack of awareness indicated that the utilization efficiency of housing public maintenance funds was low. The main body of housing public maintenance funds is the owners, if the owners do not know the use of funds, not to mention the use efficiency of housing public maintenance funds.

Table 2. Distribution of owners' maintenance satisfaction(N=112)

Questions	Variable labels	Mean	The percentage
Are you satisfied with the repair?	Great satisfaction		6.3
	Satisfaction		26.8
	No opinion		56.3
	Dissatisfied	2.73	8.9
	Very dissatisfied		1.8

As can be seen from table 2, only 6.3% of the owners are very satisfied, indicating that the utility of maintenance funds is very low, and that's exactly what we're working on.

2.2 Reliability and validity test

In order to measure the stability and reliability of questionnaire survey data, we take reliability and validity analysis. Table 3 shows the reliability analysis, and the Cronbach coefficient is 0.814, indicating that the sample data obtained from the questionnaire and the questionnaire have good reliability and high internal consistency. Meanwhile, the statistical analysis results based on the questionnaire in this paper are relatively reliable.

Table 3. Reliability table

Reliability statistics		
Klonbach Alpha	Clonbach Alpha based on standardized terms	N
.814	.806	21

Table 4. Validity analysis (KMO and Bartlett test)

The number of KMO sampling appropriateness		.691
Bartlett test of sphericity	The approximate chi-square	1034.617
	Degrees of freedom	210
	Significance	.000

KMO and Bartlett test were used for validity analysis, and the number of appropriateness of KMO sample was close to 0.7. The validity test showed that factor analysis could be conducted among item variables.

3. Empirical results and analysis

3.1 Descriptive statistics

Through the homogeneity test of variance, we tested the impact of owners' cognition on maintenance satisfaction, including the understanding degree of the owners on the amount of maintenance funds used in the construction project and the understanding degree of the owners on the remaining amount of maintenance (Q3 & Q4). Descriptive statistics of the sample are shown in the following table.

In terms of "satisfaction" according to variables, all valid observations were 112, the total mean was 2.73, the standard deviation was 0.782, and the 95% confidence interval of the mean was (2.59, 2.88). The estimated 95% confidence interval of the fifth group of means did not include the total mean, so the F statistic of the whole test of ANOVA reached the significance level. Also, from table 6, we can see that the F statistic of the overall test of ANOVA reaches the significance level.

To further examine the effect of cognition on satisfaction, we present the results of the test for homogeneity of variance in the next section.

Table 5. The impact of owners' understanding of the amount of maintenance funds on satisfaction

	Cases	Mean	Standard deviation	Standard error	95% confidence interval for the average	
					lower	upper
Completely know	5	2.20	1.304	.583	.58	3.82
More know	5	2.40	.548	.245	1.72	3.08
Basic know	20	2.40	.821	.184	2.02	2.78
Don't know	44	2.77	.711	.107	2.56	2.99
Have no idea	38	2.97	.716	.116	2.74	3.21
Sums	112	2.73	.782	.074	2.59	2.87

Table 6. The influence of the degree of understanding of the remaining amount on satisfaction

	Cases	Mean	Standard deviation	Standard error	95% confidence interval for the average	
					lower	upper
Completely clear	3	2.00	1.732	1.000	-2.30	6.30
More clear	3	2.67	.577	.333	1.23	4.10
Basic clear	6	1.83	.753	.307	1.04	2.62
Don't know much	53	2.64	.710	.097	2.45	2.84
	47	3.00	.692	.101	2.80	3.20
Not at all clear	112	2.73	.782	.074	2.59	2.87
Sums						

3.2 Descriptive statistics

Table 7 shows the results of homogeneity test of variance. As for the test variable of "satisfaction", the F value of Levin statistic is equal to 2.532, $p = 0.045 < 0.05$, reaching the significance level of 0.05. It can be seen from table 8 that as far as "satisfaction" is concerned, the F value of the overall test is 2.811 ($P=0.029 < 0.05$), indicating that the degree of owners' understanding of the amount of maintenance funds has reached a significant level of difference in satisfaction.

Table 7. Homogeneity test of variances (Based on the average)

Questions	Mean	df1	df2	p
Satisfaction with this repair	2.532	4	107	.045

Table 8. ANOVA

	Mean	df	Mean square	F	p
Satisfaction with this repair	6.463	4	1.616	2.811	.029
	61.501	107	.575		
	67.964	111			

Table 9 shows the results of the test of homogeneity of variance. As for the test variable of "satisfaction", the F value of Levin statistic is equal to 3.561, $p = 0.009 < 0.05$, reaching the significance level of 0.05.

As can be seen from table 10 of ANOVA abstract: in terms of "satisfaction", the F value of the overall test is 4.765 ($P=0.001 < 0.05$), indicating that the difference between owners' cognition of the remaining amount of maintenance fund and satisfaction has reached a significant level.

Table 9. Homogeneity test of variances (Based on the average)

Questions	Mean	df1	df2	p
Satisfaction with this repair	3.561	4	107	.009

Table 10. ANOVA

		Mean	df	Mean square	F	p
Satisfaction with this repair	between groups	10.276	4	2.569	4.765	.001
	within groups	57.689	107	.539		
	sums	67.964	111			

4. Conclusion and recommendation

Our study shows that there are many problems in the use of maintenance funds under the government escrow mode, leading to the phenomenon of "double low" in the use efficiency of maintenance funds and the satisfaction degree of maintenance funds. Through the F test, we found that the owner's cognition has a significant impact on the satisfaction. Specifically, owners' cognition of the amount of maintenance funds used and the remaining amount of maintenance funds reached a significant level in terms of satisfaction, and owners tended to gain more decision-making power in the use of maintenance funds.

In order to improve the efficiency of the use of maintenance funds and improve the satisfaction of the owners' use of maintenance funds, we suggest to provide multi-channel, comprehensive maintenance funds publicity way. Including the use amount of each maintenance fund and the publicity of the remaining amount to promote the owners' awareness of the maintenance fund and raise the owners' attention to the maintenance fund; making good use of bulletin boards and other ways. On this basis, strengthen the owners of the public affairs of the cognition, promote the owners to actively participate in the maintenance funds of the cooperative governance work.

In the future, our team will further study the standardization of housing maintenance fund publicity.

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