

The Impact of Township Government Governance Level on Residents' Government Satisfaction: Based on Multiple Linear Regression and Shapley Value Decomposition

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Abstract

Utilizing data from the China National Survey Data Archive (CNSDA) for 2010, 2013, and 2014, this study examines the relationship between township government governance level and residents' government satisfaction, employing Shapley value decomposition to measure its impact. Results indicate that township government governance level positively enhances residents' government satisfaction. Among the dimensions reflecting governance level, responsiveness exerts the strongest influence on resident satisfaction, followed by efficacy, accountability, fairness, and participation in descending order. This research identifies key reform priorities for improving government satisfaction among township residents and building a people-satisfied service-oriented government.

Keywords

Governance level; resident satisfaction with government; multiple linear regression; Shapley value decomposition.

1. Introduction

In recent years, with the continuous development of the economy and society, traditional government models have gradually become outdated. Residents' demands for social public affairs are constantly increasing, necessitating that governments accelerate the pace of administrative reform. The Report to the Nineteenth National Congress of the Communist Party of China proposed building a people-satisfied service-oriented government. Such a government serves the people, centering its work on their needs, making their satisfaction paramount. Currently, constructing a service-oriented government has become a key focus of administrative reforms for governments at all levels and localities. However, imbalanced economic and social development has led to urban-rural disparities in public service levels, with township public services currently lagging behind their urban counterparts. Township governments should therefore invest more resources in building service-oriented governments. Furthermore, regardless of where people reside, their satisfaction with the government decreases progressively at lower levels of government hierarchy. Thus, enhancing resident satisfaction is undeniably crucial for grassroots township governments.

Generally, government governance refers to the administration of social public affairs by the government administrative system as the governing entity. Social public affairs encompass public goods and services provided by the government. When the public directly or indirectly experiences these public goods and services and feels satisfied, they develop inner recognition, acceptance, and appreciation for the government [1]. This demonstrates that improving township residents' government satisfaction can be approached by examining the governance level of township governments. Exploring the impact of township government governance level on resident satisfaction holds significant practical value. Nevertheless, the operationalization and measurement of the concept of "governance" remain rarely addressed research topics in

domestic academia [2], and studies specifically examining the impact of government governance level on resident satisfaction are even scarcer.

This study utilizes data from the Chinese National Survey Data Archive (CNSDA) for the years 2010, 2013, and 2014. By constructing a multiple linear regression model, it empirically examines the relationship between government governance levels and citizen satisfaction with government. Furthermore, it employs the Shapley value decomposition method based on R^2 to measure the impact of each explanatory variable on citizen government satisfaction. The research aims to clarify the extent of influence that various dimensions of township-level government governance have on residents' government satisfaction. Based on these findings, it proposes recommendations and strategies for enhancing township residents' satisfaction with government and building a service-oriented government that satisfies the people.

2. Literature Review

Government governance is an extension of the concept of governance, a topic that has matured significantly in academic research. The term "governance" has been used in English-speaking countries as part of everyday language for hundreds of years, referring to the exercise of authority within a specific scope. Since the 1990s, it has become one of the frequently employed academic concepts in both domestic and international academia, with some scholars conducting in-depth research on it. For instance, Yu Keping defines governance as: "official or non-official public management organizations maintaining order and meeting public needs by exercising public authority within a defined scope" [3]. Currently, the most authoritative definition comes from the Commission on Global Governance in its report *Our Global Neighborhood: The Report Of The Commission On Global Governance*, which conceptualizes governance as "the sum of the diverse methods through which individuals and institutions, public and private, manage their common affairs" [4].

From a theoretical perspective, the concept of government governance has yet to achieve broad consensus within domestic academia and is often conflated with the concept of national governance. Some scholars have sought to clarify this distinction. Wang Puqu argues that national governance constitutes overarching governance, while government governance represents a sub-domain and sub-category within national governance. The relationship between national governance and government governance is characterized by subsumption, intersection, and differentiation [5]. Ding Zhigang distinguishes between national governance in the broad and narrow senses, noting that national governance in the broad sense encompasses a significantly wider scope than government governance. Broadly defined, national governance includes government governance, social governance, corporate governance, individual self-governance, and collaborative governance involving government, society, enterprises, and individuals [6]. Beyond Wang Puqu's conceptualization mentioned earlier, other scholars have also defined government governance. For instance, Jiang Bixin defines it as a form of governance where the government serves as the principal governing entity, representing the comprehensive fulfillment of government functions [7]. Chen Zhichang, examining the governmental process, contends that government governance capacity encompasses capabilities in decision-making and planning, implementation, and oversight [8]. From an empirical perspective, several scholars and institutions have already developed metrics to measure governance and government governance. For instance, Yu Keping posits that good governance comprises six elements: legitimacy, transparency, accountability, rule of law, responsiveness, and effectiveness. Ma Deyong designed a township governance evaluation index that includes assessments of township governments as a whole and evaluations of their specific functions [9]. Fu Shaojun proposed government governance indicators encompassing six metrics: Control of Corruption (CC), Government Effectiveness (GE), Political Stability and

Absence of Violence (PV), Rule of Law (RL), Regulatory Quality (RQ), and Voice and Accountability (VA) [10]. Additionally, the United Nations' urban governance indicators include five dimensions: effectiveness, equity, participation, accountability, and security. Building upon the conceptual research on government governance by numerous scholars, and drawing from the United Nations' urban governance indicators as well as evaluation frameworks proposed by some domestic scholars, this study selects measurement indicators across five dimensions—responsiveness, fairness, participation, efficacy, and accountability—to reflect and measure the level of government governance.

Government satisfaction refers to an individual's subjective perception of government actions and public servants. Scholars both domestically and internationally have conducted extensive research on the factors influencing resident satisfaction with government. Li Baocheng argued that government satisfaction is significantly positively correlated with life satisfaction, meaning that individuals with higher life satisfaction tend to exhibit higher government satisfaction [11]. Brudney J L suggested that public satisfaction tends to align well with the actual performance of public services [12], while Tobin I found that government management performance and public satisfaction are largely congruent [13]. Additionally, research by Li Wenbin and Lai Linhui also indicated that government transparency and government trust significantly and positively influence public satisfaction [14]. Other scholars have pointed out that improving government efficacy and enhancing local government credibility are key to effectively boosting public satisfaction and building a service-oriented government [15]. Furthermore, democratic participation serves as a primary driver for increasing resident satisfaction with public services and may constitute the main source of such satisfaction [16].

Based on the above analysis, this study proposes the following hypothesis: The governance level of township governments (manifested in efficacy, responsiveness, accountability, fairness, and participation) exerts a positively promotive effect on residents' satisfaction with the government.

3. Variable Measurement and Data Sources

The data employed in this study originates from the "Deliberative Democracy and Electoral Democracy Survey" within the China National Survey Data Archive (CNSDA). This database comprises field survey data collected through questionnaires and interviews conducted in 2010, 2013, and 2014. The survey targeted four township-level localities across Sichuan and Zhejiang provinces, initially collecting 1,987 questionnaires. Given this research's focus on examining the impact of government governance levels on residents' well-being, 1,192 samples lacking relevant variables were excluded. Consequently, the final analysis utilizes 795 valid samples, distributed as follows: 128 samples from 2010, 315 samples from 2013, 352 samples from 2014.

First, regarding the measurement of citizen satisfaction with government, it is defined in accordance with the CNSDA questionnaire item: "Overall, how satisfied are you with the current performance of your local township government?". Responses were recorded using the following scale: Very satisfied, Somewhat satisfied, Somewhat dissatisfied, Very dissatisfied. Figure 1 illustrates the distribution of citizen satisfaction levels across the years 2010, 2013, and 2014.

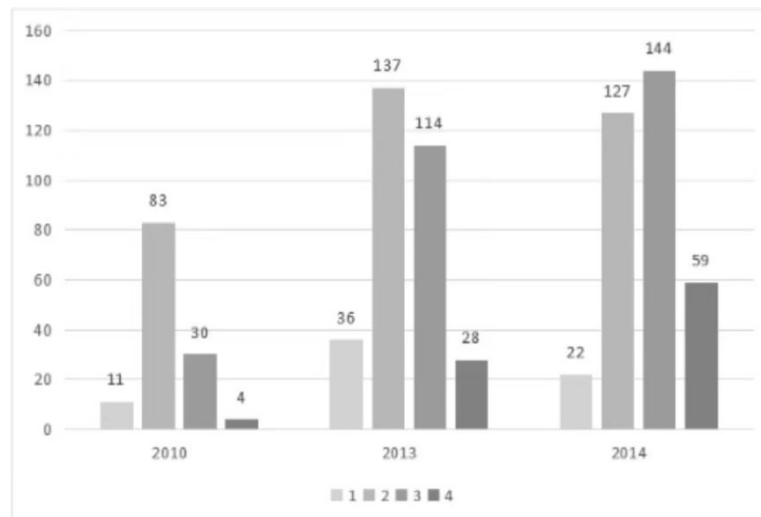


Figure 1. Distribution of Residents' Satisfaction

Second, to measure government governance level, this study adopts five dimensions: responsiveness, fairness, participation, efficacy, and accountability. Based on the CNSDA questionnaire design, seven explanatory variables were selected as measurement indicators.

Table 1. Explanation of Variables and Their Assignments

| Variable Type | Code | Variable | Scale | Value Labels |
|---------------|-----------------|--|-------|--|
| Dependent | Satis_Gov | Citizen satisfaction with government | 1-4 | 1=Very satisfied; 2=Somewhat satisfied; 3=Somewhat dissatisfied; 4=Very dissatisfied |
| | Efficacy | Township gov. self-management efficiency | 1-5 | 1=Very good; 2=Good; 3=Average; 4=Poor; 5=Very poor |
| | Responsiveness1 | Service attitude of cadres | 1-4 | 1=Excellent; 2=Acceptable; 3=Poor; 4=Very poor |
| | Responsiveness2 | Changes in cadres' work conduct | 1-5 | 1=Much improved; 2=Slightly improved; 3=No change; 4=Worsened; 5=Significantly worsened |
| Independent | Participation | Residents' engagement in public affairs | 1-4 | 1=Very engaged; 2=Moderately engaged; 3=Minimally engaged; 4=Not engaged at all |
| | Accountability | Competency of township cadres | 1-4 | 1=Most competent; 2=Majority competent; 3=Few competent; 4=Hardly any competent |
| | Fairness1 | Fairness in dispute resolution (police) | 1-4 | 1=Very fair; 2=Moderately fair; 3=Somewhat unfair; 4=Very unfair |
| | Fairness2 | Prevalence of corruption (village committee) | 1-4 | 1=Almost none; 2=Occasional; 3=Fairly common; 4=Pervasive |
| | Age | Age | - | Continuous value |
| Controls | Economic | Household economic status | 1-5 | 1=Lowest; 2=Lower-middle; 3=Middle; 4=Upper-middle; 5=Highest |
| | Education | Education attainment | 1-7 | 1=No schooling; 2=Primary; 3=Junior high; 4=Senior high; 5=Vocational; 6=Bachelor's; 7=Master's+ |

4. Empirical Analysis and Results

4.1. Descriptive Statistics

Table 2 presents the descriptive statistics for the dependent variable citizen satisfaction with government (Satis_Gov), explanatory variables, and control variables, including minimum values, maximum values, means, and standard deviations.

Table 2. Simple Statistics

| Variable | Min | Max | Mean | Std. Deviation |
|------------------------|-----|-----|-------|----------------|
| Satis_Gov | 1 | 4 | 2.51 | .808 |
| Efficacy | 1 | 5 | 3.18 | 1.201 |
| Responsiveness1 | 1 | 4 | 2.37 | .806 |
| Responsiveness2 | 1 | 5 | 2.31 | 1.072 |
| Participation | 1 | 4 | 2.45 | .872 |
| Accountability | 1 | 4 | 2.15 | .813 |
| Fairness1 | 1 | 4 | 2.52 | .809 |
| Fairness2 | 1 | 4 | 2.59 | .968 |
| Age | 17 | 89 | 39.68 | 12.326 |
| Economic | 1 | 5 | 2.43 | .755 |
| Education | 1 | 7 | 3.49 | 1.240 |
| Number of Observations | 795 | 795 | 795 | 795 |

4.2. Pearson Correlation Analysis

Table 3 presents the Pearson correlation coefficient matrix. The results demonstrate that all show statistically significant correlations at the 0.01 level ($p < 0.01$). This provides preliminary evidence supporting the hypothesis that township government governance levels positively promote residents' government satisfaction.

Table 3. Pearson Correlation Test Matrix+

| | Satis_Gov | Efficacy | Responsiveness1 | Responsiveness2 | Participation | Accountability | Fairness1 | Fairness2 | Age | Economic | Education |
|------------------------|-----------|----------|-----------------|-----------------|---------------|----------------|-----------|-----------|---------|----------|-----------|
| Satis_Gov | 1 | .679** | .637** | .629** | .673** | .330** | .460** | .568** | .045 | -.123** | -.062 |
| Efficacy | .679** | 1 | .607** | .563** | .618** | .314** | .465** | .577** | .003 | -.101** | .028 |
| Responsiveness1 | .637** | .607** | 1 | .617** | .598** | .240** | .363** | .491** | -.013 | -.052 | -.047 |
| Responsiveness2 | .629** | .563** | .617** | 1 | .623** | .307** | .462** | .458** | -.050 | -.157** | -.014 |
| Participation | .673** | .618** | .598** | .623** | 1 | .333** | .446** | .528** | -.014 | -.059 | -.052 |
| Accountability | .330** | .314** | .240** | .307** | .333** | 1 | .218** | .262** | -.100** | -.048 | .025 |
| Fairness1 | .460** | .465** | .363** | .462** | .446** | .218** | 1 | .405** | -.042 | -.116** | .028 |
| Fairness2 | .568** | .577** | .491** | .458** | .528** | .262** | .405** | 1 | -.043 | -.126** | .057 |
| Age | .045 | .003 | -.013 | -.050 | -.014 | -.100** | -.042 | -.043 | 1 | .019 | -.476** |
| Economic | -.123** | -.101** | -.052 | -.157** | -.059 | -.048 | -.116** | -.126** | .019 | 1 | .072* |
| Education | -.062 | .028 | -.047 | -.014 | -.052 | .025 | .028 | .057 | -.476** | .072* | 1 |
| Number of Observations | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 |

Notes: The top row displays Pearson correlation coefficients, and the bottom row indicates sig. (2-tailed) values. ** denotes significance at the 0.01 level (2-tailed), while * denotes significance at the 0.05 level (2-tailed).

4.3. Multiple Linear Regression Analysis

4.3.1. Model Specification

To investigate the relationship between government governance levels and citizen satisfaction with government, we establish the following multiple linear regression model with citizen satisfaction (Satis_Gov) as the dependent variable and governance measurement indicators as explanatory variables:

$$R'gs = a + a_1Efficacy1 + a_2Responsiveness1 + a_3Responsiveness2 + a_4Participation + a_5Accountability + a_6Fairness1 + a_7Fairness2 + a_8age + a_9economic + a_{10}education + e_1$$

In the regression model, a denotes the constant term, e_1 represents the model error term, and $a_i (i = 1, 2, \dots, 10)$ indicate partial regression coefficients (i.e., coefficients of explanatory variables).

Using 2010, 2013, and 2014 survey samples, three base models were estimated: Model 1 (2010), Model 3 (2013), and Model 5 (2014). Corresponding controlled models were then specified by incorporating individual-level characteristics (Age, Economic, Education) as control variables: Model 2 (2010 + controls), Model 4 (2013 + controls), and Model 6 (2014 + controls).

Table 4. Partial Regression Coefficients of Multiple Linear Regression Model

| Independent | 2010 | | 2013 | | 2014 | |
|--|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
| Efficacy | .1514 (3.135) *** | .1516 (3.0782) *** | .1910 (3.7544) *** | .1959 (3.8656) *** | .1695 (4.9589) *** | .1667 (4.8417) *** |
| Responsiveness1 | .1919 (2.319) ** | .1946 (2.3264) ** | .1663 (4.2512) *** | .1693 (4.3072) *** | .2083 (4.4438) *** | .2070 (4.3843) *** |
| Responsiveness2 | .1646 (3.224) *** | .1594 (3.0653) *** | .1954 (3.8914) *** | .1919 (3.7892) *** | .0817 (2.2156) ** | .0790 (2.1234) ** |
| Participation | .1281 (1.949) * | .1266 (1.8811) * | .1356 (3.5329) *** | .1465 (3.8161) *** | .2576 (5.4867) *** | .2449 (5.1792) *** |
| Accountability | .0015 (.028) | -.0010 (-.0184) | .1260 (3.1342) *** | .1270 (3.1648) *** | .0194 (.5385) | .0257 (.7152) |
| Fairness1 | .1084 (1.703) * | .1089 (1.6891) * | .1404 (3.9509) *** | .1414 (3.9711) *** | .0739 (1.8247) * | .0731 (1.8131) * |
| Fairness2 | .1759 (3.435) *** | .1516 (3.0782) *** | .1910 (3.7544) *** | .1959 (3.8656) *** | .0692 (1.7333) * | .0683 (1.7062) * |
| Constant Term | .6787 (3.773) *** | .8188 (2.5090) | .2068 (1.8214) * | -.0073 (-.0330) | .2576 (1.9715) ** | .3446 (1.4577) |
| Control for Individual Characteristics | NO | YES | NO | YES | NO | YES |
| F | 26.384 *** | 18.210 *** | 86.265 *** | 77.692 *** | 50.049 *** | 69.711 *** |
| Number of Observations | 128 | 128 | 315 | 315 | 352 | 352 |

Note: *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. t-statistics are reported in parentheses.

4.3.2. Linear Relationship Test (F-test)

As shown in Table 4, the F-statistic values for all six models substantially exceed the critical F-value at the $\alpha = 0.01$ significance level. This indicates that each model is statistically significant at $\alpha = 0.01$.

Specifically, these results confirm: a significant linear relationship exists between the explanatory variable, and the overall regression is statistically significant for all specified models.

4.3.3. Linear Regression Results

As presented in Table 4, the explanatory variables Efficacy, Responsiveness1, Responsiveness2, Accountability, Fairness1, and Fairness2 exhibit statistically significant positive relationships with the dependent variable (Satis_Gov) across all models. This empirically confirms that: Responsiveness, efficacy, accountability, and fairness dimensions significantly enhance residents' government satisfaction.

5. Measuring the Contribution of Government Governance Level

To examine the influence of various indicators reflecting the level of government governance on resident satisfaction—specifically, to decompose the contribution share of each measurement indicator—this study employs the Shapley value decomposition method. The Shapley value decomposition method is built upon regression equations and decomposes the regression coefficients of estimation results[17]. It overcomes the limitations of simple regression analysis and conventional index decomposition, enabling the quantification of each influencing factor's contribution to variations in the dependent variable and its relative importance ranking[18].

This study adopts the R^2 -based Shapley value decomposition method for calculation. The fundamental approach is as follows: When measuring the contribution of a specific explanatory variable, the R^2 of the model including that variable is first computed. Then, the variable is removed to observe the change in R^2 . A more pronounced change in R^2 indicates a greater marginal contribution and contribution rate of that variable. Additionally, the Shapley value decomposition method allows for grouping variables to quantify the total contribution of each group[19].

This study employs the Shapley value decomposition method to categorize variables into six groups:

Efficiency, Accountability, and Participation as distinct groups; Responsiveness1 and Responsiveness2 combined under Responsiveness; Fairness1 and Fairness2 combined under Fairness; Age, Economic, and Education grouped as Individual Characteristics.

Table 5 presents the contribution rates of various factors derived from Shapley value decomposition using Stata. The results demonstrate that Responsiveness constitutes the most influential factor on resident satisfaction, with its contribution peaking at 30.8364% in 2010 (Responsiveness1: 13.9423%; Responsiveness2: 16.8941%), moderating to 26.6204% in 2013 (Responsiveness1: 12.2321%; Responsiveness2: 14.3883%), and rising to 28.8348% in 2014 (Responsiveness1: 16.7814%; Responsiveness2: 12.0534%). This pattern aligns with China's national strategy of building a service-oriented government—a governance model emphasizing attentiveness to public opinions and effective response to citizens' demands to enhance satisfaction.

The second-ranking factor, Efficiency, maintained stable contributions across the surveyed years: 24.3318% (2010), 23.1083% (2013), and 23.8076% (2014). Accountability and Fairness secured the third and fourth positions respectively. Notably, Participation registered the lowest impact among the five core explanatory variables. This outcome reflects the persistent limited

political engagement awareness among Chinese township residents, where democratic participation remains undervalued.

The control variable group Individual Characteristics recorded the minimal contribution among all six variable groups, underscoring the dominance of institutional governance factors over demographic attributes in shaping resident satisfaction.

Table 5. Contribution Rates of Various Factors Based on Shapley Value Decomposition (%)

| | 2010 | 2013 | 2014 |
|----------------------------|---------|---------|---------|
| Efficiency | 24.3318 | 23.1083 | 23.8076 |
| Responsiveness | 30.8364 | 26.6204 | 28.8348 |
| Responsiveness1 | 13.9423 | 12.2321 | 16.7814 |
| Responsiveness2 | 16.8941 | 14.3883 | 12.0534 |
| Accountability | 17.6257 | 23.2460 | 23.2500 |
| Participation | 2.9910 | 7.6629 | 2.6802 |
| Fairness | 22.1074 | 18.1681 | 18.5365 |
| Fairness1 | 2.8988 | 8.5633 | 6.6953 |
| Fairness2 | 19.2086 | 9.6048 | 11.8413 |
| Individual Characteristics | 2.1076 | 1.1942 | 2.8908 |
| Age | 0.3005 | 0.6323 | 1.2001 |
| Economic | 1.1823 | 0.3301 | 0.6640 |
| Education | 0.6249 | 0.2318 | 1.0267 |

6. Robustness Checks

To verify the reliability of our findings, this study conducts robustness checks from three perspectives—model specification, variable grouping, and collinearity control: First, by replacing the linear regression model with an ordered logit model to validate conclusion consistency when treating the dependent variable as an ordinal categorical variable. Second, through adjusting dimension categorization by modifying variable groupings in Shapley value decomposition, thereby testing the sensitivity of contribution rate rankings to dimension definitions. Third, by addressing multicollinearity through eliminating highly correlated variables to examine whether core conclusions are affected by collinear interference. All checks are performed using the full sample data from 2010, 2013, and 2014.

6.1. Ordered Logit Model Validation

Given that the dependent variable “Satis_Gov” is an ordinal four-category variable (1 = very satisfied, 4 = very dissatisfied), linear regression may overlook the discrete nature of the data. For this robustness check, we re-estimated the model using an ordered logit specification. The original conclusions are considered robust provided that the signs and statistical significance of core variables remain consistent with the baseline model, thereby confirming that findings are not model-dependent artifacts.

Table 6 demonstrates that the positive effects of governance dimensions remain robust in the ordered logit model: Efficiency, Responsiveness, Accountability, and Fairness consistently exhibit statistically significant positive impacts on resident satisfaction across all three years. The marginal effect of Participation aligns with the baseline results—showing significance only in 2013 (coefficient = 0.1132, $p < 0.05$)—further reinforcing the conclusion of limited civic engagement awareness among residents.

Table 6. Verification Results of Ordered Logit Model

| | 2010 | 2013 | 2014 |
|--|----------|-----------|-----------|
| Efficiency | 0.3521** | 0.3943*** | 0.4102*** |
| Responsiveness1 | 0.2783* | 0.3427*** | 0.3796*** |
| Responsiveness2 | 0.1501 | 0.2134*** | 0.1201* |
| Accountability | 0.1002 | 0.1756*** | 0.2503*** |
| Participation | 0.0204 | 0.1132** | 0.0403 |
| Fairness1 | 0.0893 | 0.1257** | 0.0801* |
| Fairness2 | 0.1598* | 0.1729*** | 0.1502** |
| Control for Individual Characteristics | Yes | Yes | Yes |

Note: *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

6.2. Shapley Value Decomposition Dimension Adjustment

In the baseline analysis, "corruption in village committees" (Fairness2) was categorized under the Fairness dimension, though corruption issues may equally reflect officials' lack of accountability. This robustness check reassigns Fairness2 to the Accountability dimension and recalculates contribution rates to test sensitivity to variable grouping. As shown in Table 6.2, the contribution share of the Accountability dimension increased by 3.57% (2010), 2.85% (2013), and 4.85% (2014) post-adjustment. Crucially, the ranking stability persists—Responsiveness > Efficiency > Accountability > Equity > Participation – confirming that core conclusions remain unchanged.

Table 7. Results of Dimension Adjustment for Shapley Value Decomposition

| Dimension /Year | 2010 Original Contribution Rate | 2010 Adjusted | 2013 Original Contribution Rate | 2013 Adjusted | 2014 Original Contribution Rate | 2014 Adjusted |
|----------------------------|---------------------------------|---------------|---------------------------------|---------------|---------------------------------|---------------|
| Efficiency | 0.2433 | 0.2210 | 0.2311 | 0.2180 | 0.2381 | 0.2250 |
| Responsiveness | 0.3084 | 0.2850 | 0.2662 | 0.2530 | 0.2883 | 0.2730 |
| Accountability | 0.1763 | 0.2120 | 0.2325 | 0.2610 | 0.2325 | 0.2810 |
| Participation | 0.0299 | 0.0280 | 0.0766 | 0.0720 | 0.0268 | 0.0250 |
| Fairness | 0.2211 | 0.1840 | 0.1817 | 0.1560 | 0.1854 | 0.1420 |
| Individual Characteristics | 0.0211 | 0.0200 | 0.0119 | 0.0100 | 0.0289 | 0.0280 |

6.3. Multicollinearity Control

Table 8 indicates a correlation coefficient of 0.617 between Responsiveness1 and Responsiveness2 in 2014, suggesting potential multicollinearity. This robustness check addresses the issue by excluding Responsiveness2 and re-running the regression to observe changes in significance levels and explanatory power of remaining variables. Results demonstrate that the coefficients of Responsiveness1 increased significantly across all three

years, indicating that its independent contribution was not overestimated in the original specification. Crucially, the core conclusions regarding governance dimension rankings remain robust.

Table 8. Results of Multicollinearity Control

| Variable /Year | 2010 Original Coefficient | 2010 Coefficient after Exclusion | 2013 Original Coefficient | 2013 Coefficient after Exclusion | 2014 Original Coefficient | 2014 Coefficient after Exclusion |
|-----------------|---------------------------------|---|---------------------------------|---|---------------------------------|---|
| Efficiency | 0.1514 * | 0.1723 ** | 0.1910 *** | 0.2105 *** | 0.1695 *** | 0.1782 *** |
| Responsiveness1 | 0.1919 * | 0.2301 ** | 0.1663 *** | 0.2037 *** | 0.2083 *** | 0.2354 *** |
| Accountability | 0.1281 | 0.1521 | 0.1356 *** | 0.1264 ** | 0.2576 *** | 0.2413 *** |
| Fairness1 | 0.1084 | 0.1302 | 0.1404 *** | 0.1598 *** | 0.0739 * | 0.0801 * |
| Fairness2 | 0.1759 ** | 0.1503 * | 0.1910 *** | 0.1728 *** | 0.0692 * | 0.0502 |

Note: *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Through three robustness checks—model substitution, dimension reconfiguration, and multicollinearity control—this study confirms the robustness of key findings: Ordered logit and linear regression outputs exhibit striking consistency; Contribution rankings demonstrate insensitivity to dimension adjustments, with Responsiveness and Efficiency persistently emerging as core determinants; Statistical significance of key variables remained materially unaffected after excluding highly correlated indicators.

Collectively, these tests validate the reliability of township governments' governance efficacy in enhancing resident satisfaction, offering empirically grounded guidance for evidence-based policy formulation.

7. Conclusions and Countermeasures

7.1. Research Conclusions

Based on data from the China National Survey Data Archive (CNSDA) for 2010, 2013, and 2014, this empirical study demonstrates:

First, there is a positive correlation between the governance level of township governments and resident satisfaction with the government. That is, higher governance levels of township governments can positively enhance resident satisfaction.

Second, regarding the dimensions reflecting governance levels, their impact on resident satisfaction ranks from highest to lowest as follows: responsiveness, efficacy, accountability, fairness, and participation. Responsiveness contributes most significantly to resident satisfaction, indicating that strengthening the government's response to residents' needs offers the greatest potential for improving satisfaction. Participation contributes the least, suggesting that residents currently do not prioritize their role in the township governance system, reflecting weak awareness of democratic and political engagement.

In recent years, with the deepening reform of the administrative system, public service levels at all government tiers have improved considerably. However, imbalances in economic and social development have led to an urban-rural disparity in public service provision. Compared

to residents' growing social and public demands and to cities with higher public service standards, township governments' public service functions remain weak, resulting in low resident satisfaction. Yet, building a service-oriented government that satisfies the people is a key objective of China's current administrative reforms. Low resident satisfaction evidently falls short of this requirement.

7.2. Policy Implications

7.2.1. Build a Two-Way Interaction Mechanism to Enhance Government Responsiveness

Township governments should promote open governance, safeguarding residents' right to access basic administrative information and policies through government bulletins, official websites, and social media.

Establish efficient and sustained communication channels and decision-making mechanisms for resident participation. Design procedures and institutional arrangements—such as systems for expressing public sentiment, public hearings, and representative engagement mechanisms—to create platforms for residents to engage in public affairs governance through equal dialogue and consensus-building.

Innovate feedback and response mechanisms. Implement real-time response systems for public inquiries and cross-departmental communication to ensure residents' demands and evaluations reach decision-makers promptly and accurately, enabling proactive, timely, precise, and responsible government responses.

7.2.2. Optimize the Performance Evaluation System with a Focus on Public Satisfaction

Center residents in township government performance evaluations, increasing the weight of resident satisfaction and incorporating third-party assessments.

Innovate performance indicator systems. Replace existing frameworks with one oriented toward "public satisfaction" and centered on public services to align with service-oriented government goals.

Refine evaluation procedures and methods. Use scientifically designed processes, big data analytics, and empirical quantitative methods to enhance comprehensiveness, fairness, and rationality. This promotes standardized, regular evaluations and improves the reliability and validity of results, ensuring objectivity and fairness.

7.2.3. Reshape Service-Oriented Administrative Culture to Advance Governance Philosophy Transformation

Update service concepts: discard the "official-oriented mindset" and adopt a "people-centered" philosophy. Strengthen civil servant education to instill service values, fostering proactive service attitudes to shift from a management to a service orientation.

Shift administrative perspectives: move from traditional efficiency-centric approaches to democratic and service-oriented governance. Provide equitable public services across social strata, balancing diverse interests to ensure all residents access sufficient, high-quality services. Strengthen civil servants' accountability. Cultivate responsibility through education on values and outlooks, alongside incentive mechanisms and disciplinary systems.

7.3. Research Prospects

While revealing the contribution hierarchy of governance dimensions, this study also exposes institutional challenges in participation mechanisms. Future research should explore:

Innovative participation models empowered by digital technology.

Mechanisms through which generational differences affect perceptions of governance efficacy. This could provide theoretical support for resolving the "participation paradox."

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