

CORRELATION MECHANISM BETWEEN PUBLIC GOVERNANCE EFFICIENCY, PUBLIC SECTOR TRUST AND PUBLIC PERCEPTION OF GOVERNANCE ORDER

JinLong Shao*, Chen Xu

School of Public Administration and Humanities, Dalian Maritime University, Dalian 116026, Liaoning, China.

**Corresponding Author: JinLong Shao*

Abstract: This paper constructs composite indicators of public governance efficiency and latent variables of public sector trust via factor analysis and multiple regression, so as to empirically examine the internal correlation mechanism linking governance efficiency, sector trust and public perception of governance order. The measurement system covers daily public services, law enforcement standardization and government information disclosure, which fully captures multi-dimensional characteristics of grassroots governance performance. Reliability and validity tests verify that the extracted latent variables have stable measurement effects and can reflect residents' real attitudes toward public services. Results reveal that rising public governance efficiency remarkably improves residents' perceptions of governance. Citizens demonstrate differentiated trust toward public sectors at varied administrative levels, and higher trust correlates with more positive evaluations of governance order. Social interpersonal trust serves as a promotes positive public perceptions, whereas intensive new media use easily generates information echo chambers. Individual factors including education background and subjective social status also create subtle gaps in residents' judgment standards of governance order. The coexistence of high objective governance performance and diverse public perceptions suggests that differences may exist between governance outcomes and citizens' subjective evaluations. Based on these findings, this study proposes strategies to strengthen government transparency, enhance public trust, and improve online information governance, providing empirical evidence for further improving grassroots governance and public satisfaction.

Keywords: Public governance efficiency; Public sector trust; Perception of governance order; Digital government; Public subjective evaluation

1 INTRODUCTION

Public subjective evaluation has become a core yardstick measuring grassroots governance effectiveness, as institutional output does not always fully correspond with residents' perceptions of governance order [1-3]. Digital transformation expands residents' information access channels, while differentiated experience of public services contributes to differences in residents' evaluation of governance [4,5]. National large-scale social survey data provide standardized samples for examining the relationship between objective governance performance and public perceptions, thereby providing empirical evidence for improving citizen-oriented governance [6]. Against this backdrop, this work adopts CSS2021 nationwide household sampling data to untangle the interactive logic among governance efficiency, cross-level sector trust and public perception of governance order.

Existing literature forms two mainstream analytical threads to interpret public governance perception. Institutional-performance studies confirm that standardized service delivery and transparent administration improve residents' evaluations of governance, yet most measurements only adopt single-dimensional satisfaction indicators without integrating multi-field governance performance into unified latent variables [7]. Trust-related research identifies tiered trust gaps across administrative levels but rarely discusses how such differentiated trust reshapes citizens' judgment of daily governance operation [8]. Additional studies note that digital information circulation influences public perception, yet few integrate interpersonal social trust as a buffer variable into a unified regression framework [9,10]. Current empirical designs lack a complete three-factor coupling model, failing to quantify the joint impact of governance output, institutional trust and media exposure on residents' subjective attitudes.

Distinct from prior separated single-factor analysis, this paper delivers three marginal contributions. First, a composite governance efficiency index covering medical, employment and law-enforcement fields is constructed via factor analysis, solving the defect of oversimplified single-indicator measurement. Second, hierarchical trust latent variables are extracted to quantify the tiered trust gap and its relationship with public perceptions of governance. Third, multi-layer regression models are built to compare heterogeneous effects of new media and social trust, offering targeted governance optimization paths based on nationally representative micro survey data.

2 METHODOLOGY

2.1 Dependent Variable: Public Perception of Governance Performance

"Public perception of governance performance" is set as the dependent variable to measure respondents' perceptions of the effectiveness and standardization of local public governance. It is measured based on the CSS2021 questionnaire item: "How would you rate the local government's performance in maintaining standardized administrative operations?". The original item reflects respondents' positive evaluation of local governance outcomes. To align the variable direction with the theoretical definition of public perception of governance performance, reverse scoring is applied: Score 1: Very good; Score 2: Fairly good; Score 3: Fairly poor; Score 4: Very poor.

This forms a continuous variable ranging from 1 to 4. Higher scores represent stronger governance evaluation of local public governance standardization, namely higher public perception of governance performance; lower scores indicate more positive assessments of local governance and milder public perception of governance irregularities.

Theoretically, public perception of governance performance differs from objective governance performance. It is a subjective judgment shaped by daily experience, information exposure and institutional reception. This variable synthesizes public perceptions of standardized public power operation, accountability restraint and governance responsiveness. Incorporating it as the core dependent variable enables further analysis of how public governance performance and public institutional trust shape residents' perceptions of governance performance. Descriptive statistics regarding the perception of public governance norms are presented in Table 1.

Table 1 Descriptive Statistics of Public Perception of Governance Performance

Classification	Frequency	Percentage	Cumulative Percentage	Mean	Standard Deviation
Very standardized	1,337	21.15	21.15	1	—
Fairly standardized	3,766	59.56	80.71	2	—
Fairly irregular	988	15.63	96.33	3	—
Very irregular	232	3.67	100	4	—
Total	6,323	100	—	2.018188	0.7170924

2.2 Core Independent Variables

2.2.1 Public governance performance

The first core independent variable, public governance performance, is quantified via 13 public service evaluation items from the CSS2021 questionnaire, covering multiple dimensions of public services, including healthcare, education, environmental management, and law enforcement services (e.g., satisfaction with local medical and health services). The scale adopts a 4-point scoring rule (1 = Very poor, 4 = Very good); higher scores correspond to stronger recognition of public governance performance. Descriptive statistics show the mean value of all items ranges from 2.9 to 3.2, indicating generally favorable public evaluations of governance performance.

Principal component analysis is adopted to extract latent factors and verify the reliability of measurement tools. The KMO value reaches 0.955 (Bartlett's test $p < 0.001$), confirming the dataset is suitable for factor analysis. After varimax orthogonal rotation, all items converge into a single factor with an eigenvalue of 7.74 and cumulative variance explanation ratio of 59.57%, indicating the factor effectively summarizes information from all original indicators. Reliability test shows the Cronbach's α coefficient is 0.940, far exceeding the 0.7 threshold, which verifies high internal consistency when integrating multiple indicators into the latent variable of public governance performance. This method retains hierarchical differences in public service evaluations while constructing a concise and robust measurement framework for subsequent regression analysis. The factor analysis of public governance performance is shown in Table 2.

Table 2 Factor Analysis of Public Governance Performance

Measurement Indicator	Factor Loading	Uniqueness	Mean	Standard Deviation
Provision of medical and health services	0.7426	0.4485	3.033445	0.600973
Social security provision for residents	0.8022	0.3565	2.996301	0.6206612
Environmental governance and pollution control	0.7008	0.5088	2.977114	0.6908702
Protection of citizens' legitimate rights	0.7871	0.3805	3.054865	0.6081205
Safeguard social order and public safety	0.7082	0.4984	3.222434	0.5894610
Standardized administrative law enforcement	0.8024	0.3562	3.031300	0.6705627
Economic development and resident income growth	0.8004	0.3593	2.900934	0.7103546
Job expansion and employment opportunity creation	0.7896	0.3766	2.900555	0.7035105
Government information disclosure and transparency improvement	0.8059	0.3505	2.962358	0.7142420
Service awareness and timely public demand response	0.8110	0.3423	2.902491	0.7193868
Equitable access to high-quality educational resources	0.7778	0.3950	2.989303	0.6660778
Food and drug safety guarantee	0.7537	0.4319	3.076300	0.6158764

Measurement Indicator	Factor Loading	Uniqueness	Mean	Standard Deviation
Cultural and sports development for residents	0.7409	0.4510	3.071624	0.6167765
Eigenvalue	7.74	—	—	—
Cumulative Explained Variance	0.5957	—	—	—
Cronbach's Alpha	0.940	—	—	—
KMO	0.9550	—	—	—
P Value	0.0000	—	—	—

2.2.2 Public institutional trust

The second core independent variable, public institutional trust, is measured via six questionnaire items covering trust in municipal/district authorities, township authorities, mass organizations, courts and public service departments. The scale adopts a 4-point scoring rule (1 = Complete distrust, 4 = Full trust); higher scores represent stronger trust in corresponding institutions.

Factor analysis is conducted on six indicators to guarantee measurement validity and parsimony. The KMO value reaches 0.809 (Bartlett's spherical test $p < 0.001$), proving the dataset fits factor analysis. After principal component analysis and varimax orthogonal rotation, all six items converge into a single factor with an eigenvalue of 3.775 and cumulative variance explanation ratio of 62.91%. Factor loadings range from 0.597 to 0.865, among which municipal/district authorities (0.865) and township authorities (0.852) hold the highest loadings, demonstrating grassroots institutions contribute most to the overall public institutional trust factor. Reliability test shows the Cronbach's α coefficient is 0.8745, exceeding the 0.7 threshold and verifying high reliability of the measurement tool. The factor analysis of trust in public institutions is shown in Table 3.

Table 3 Factor Analysis of Public Institutional Trust

Measurement Indicator	Factor Loading	Uniqueness	Mean	Standard Deviation
Municipal and district authorities	0.8653	0.2512	3.158692	0.7570369
Township authorities	0.8518	0.2744	2.997078	0.8345178
Mass organizations	0.7986	0.3622	3.038065	0.7373259
Courts	0.8094	0.3449	3.154992	0.7039318
Public service departments	0.8072	0.3484	3.207873	0.7106699
Central administrative authorities	0.5965	0.6441	3.631898	0.5749629
Eigenvalue	3.77469	—	—	—
Cumulative Explained Variance	0.6291	—	—	—
Cronbach's Alpha	0.8745	—	—	—
KMO	0.8099	—	—	—
P Value	0.0000	—	—	—

2.3 Control Variables

To mitigate interference from individual traits, social background and information access channels on public perception of governance performance, this research incorporates the following control variables into the model:

Gender: Binary variable (1 = Male, 0 = Female). Existing studies indicate gender differences may shape perceptions of governance irregularities through differentiated public participation channels; Previous studies suggest that gender differences may be associated with variations in public participation, information acquisition, and governance evaluations.

Age: Continuous variable ranging from 18 to 100 years old. Life cycle theory suggests elder groups accumulate more experience of service gaps and may differ in their evaluations of governance performance because of accumulated life experiences and public service interactions.

Education level: Coded as: 1 = No formal schooling, 2 = Primary school, 3 = Junior high school, 4 = Senior high school, 5 = Technical secondary school, 6 = Vocational college, 7 = Junior college, 8 = Bachelor's degree, 9 = Postgraduate degree. Higher education may enhance individuals' ability to access, interpret, and evaluate public information, thereby influencing perceptions of governance performance.

Religious belief: Binary variable (1 = Holding religious belief, 0 = No religious belief). Religious belief may be associated with differences in social values and evaluations of public governance.

Subjective social stratum: 5-point scale (1 = Lower stratum to 5 = Upper stratum). Subjective social status may influence individuals' evaluations of governance through differences in social experiences and access to resources.

Social trust: Measured via the item "How would you rate the credibility of most people in current society?", adopting a 10-point scale (1 = Extremely distrustful, 10 = Fully trusting). Higher levels of social trust may influence residents' perceptions of governance and public institutions by promoting cooperative social norms.

New media usage frequency: 6-point scale (1 = Never browse public affairs news, 2 = Several times per year, 3 = At least once per month, 4 = At least once per week, 5 = Multiple times per week, 6 = Almost every day). New media provides important channels for obtaining public information and may influence residents' perceptions of governance through differences in information exposure. The measurement rules for control variables are shown in Table 4.

Table 4 Measurement Rules of Control Variables

Variable Name	Measurement Method
Gender	Binary variable (1 = Male, 0 = Female)
Age	Continuous variable, range 18–100 years old
Education Level	1 = No formal schooling, 2 = Primary school, 3 = Junior high school, 4 = Senior high school, 5 = Technical secondary school, 6 = Vocational college, 7 = Junior college, 8 = Bachelor's degree, 9 = Postgraduate degree
Religious Belief	Binary variable (1 = With religious belief, 0 = Without religious belief)
Subjective Social Stratum	5-point scale (1 = Lower stratum, 2 = Lower-middle stratum, 3 = Middle stratum, 4 = Upper-middle stratum, 5 = Upper stratum)
Social Trust	Item score for interpersonal trust evaluation (1–10; higher scores mean stronger trust)
New Media Usage Frequency	6-point scale measuring frequency of public affairs news browsing, ranging from "never" to "almost every day"

2.4 Model Specification

Multiple Linear Regression (MLR) is adopted to test the independent effects of public governance performance and public institutional trust on public perception of governance performance. The baseline regression model is set as follows:

$$\text{CorruptionPerception} = \beta_0 + \beta_1 \text{Gov Performance} + \beta_2 \text{Political Trust} + \gamma X_i + \epsilon_i \quad (1)$$

Variable Definition: CorruptionPerception: Public perception of governance performance, continuous variable ranging from 1 to 4; GovPerformance: Public governance performance, standardized factor score; InstitutionalTrust: Public institutional trust, standardized factor score differentiated between central and local authorities; X_i : Vector of all control variables (gender, age, education level, etc.); ϵ_i : Random error term.

3 RESULTS

3.1 Descriptive Statistics

This research finds presented as follows: Public perceptions of governance performance show a pattern of "an overall moderate evaluation with some variation across respondents"; The mean value of perceptions of irregularities in public governance stands at 2.02 (standard deviation = 0.72), falling between the rating of "relatively clean" (score of 2) and "respondents giving less favorable evaluations" (score of 3). This indicates the public holds generally moderate judgments about local governance integrity. However, frequency distribution reveals prominent divergences among respondents. A total of 80.71% of interviewees rated local authorities as "clean" or "relatively clean" (scores 1–2), yet 19.3% of the public perceived authorities as "relatively corrupt" or "extremely corrupt" (scores 3–4). This finding differs from objective institutional statistics showing a year-on-year decline in recorded misconduct cases, suggesting that public perceptions may not always be fully aligned with objective governance indicators.

Imbalanced performance across subfields of public governance: Cross-domain evaluation of public governance performance yields uneven scores. The item "crime prevention and public order maintenance" receives the highest mean score of 3.22, reflecting strong public recognition of local order management. In contrast, "expanding employment opportunities" and "proactive service awareness with timely response to public demands" both register a mean score of 2.90, emerging as prominent underperforming areas. This reveals livelihood-related sectors remain a core priority for governance optimization.

Hierarchical disparity in trust toward public institutions: Mean trust scores for central-level public institutions reach 3.63, markedly higher than those for district/county and township-level authorities, verifying the hierarchical trust pattern observed in public opinion surveys. The public holds the highest trust in central bodies (mean = 3.63, standard deviation = 0.57), while trust in township-level authorities hits the lowest (mean = 2.99, standard deviation = 0.83). Relatively lower trust of grassroots authorities may exacerbate a split in public cognition: high approval of upper-tier administration alongside comparatively lower evaluations of local-level institutions.

Control variables reflect structural characteristics of the sample population: Demographic traits: The sample features balanced gender distribution (45.5% male respondents), with an average age of 41.17 years. Educational attainment clusters at junior high to senior high level (mean = 4.53, corresponding to senior high/technical secondary school).

Social psychology: The mean subjective social stratum score is 2.38 (near the lower-middle tier), and the mean social trust score stands at 6.70 on a 10-point scale, demonstrating cautiously optimistic public attitudes toward social environments.

Media consumption: The mean frequency of new media usage is 4.48 on a 6-point scale, equivalent to near-weekly use. This confirms digital new media platforms have become the primary channel for the public to access administrative information. The descriptive statistics of control variables are shown in Table 5.

Table 5 Descriptive Statistics of Control Variables

Measurement Indicator	Minimum Value	Maximum Value	Mean	Standard Deviation
Gender	0	1	0.4550055	0.4980108
Age	18	70	41.16907	13.73701
Educational Attainment	1	10	4.530761	2.219409
Religious Belief	0	1	0.1333228	0.3399501
New Media Usage Frequency	1	6	4.480152	1.759246
Subjective Social Stratum	1	5	2.377194	0.8954692
Social Trust	1	10	6.703305	1.991813

3.2 Regression Results

Table 6 and Table 7 present regression outputs for core independent variables. The results demonstrate that both public governance performance and trust in public institutions exert significant significant effects on public perceptions of governance performance, with structurally differentiated effect magnitudes.

3.2.1 Normative institutional effects of public governance performance

The standardized regression coefficient of public governance performance equals -0.530 ($p < 0.01$). This means every one-standard-deviation improvement in government operational efficiency reduces public perceptions of systemic governance irregularities by 0.53 standard deviations. This finding strongly supports Hypothesis H1 and validates core tenets of institutional constraint theory: modern governance measures including transparent public service disclosure and standardized law-enforcement procedures may enhance the transparency and standardization of public administration, thereby improving public evaluations of governance performance. Within the domestic context, streamlined administrative approval procedures and digital government services driven by administrative optimization reforms have substantially alleviated public anxiety over systemic improper institutional conduct. This confirms transparent administrative workflows contribute to more positive public evaluations of governance performance.

Table 6 Regression Analysis Results: Public Governance Performance

Dependent Variable: Perceptions of Irregularities in Public Governance	Coefficient	Standard Error	t Statistic	P> t	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Public Governance Performance	-0.529826	0.006773	-78.220000	0.000000	-0.543104	-0.516548
Gender	0.000905	0.012674	0.070000	0.943000	-0.023941	0.025751
Age	0.000842	0.000500	1.680000	0.093000	-0.000139	0.001823
Educational Attainment	-0.003359	0.003114	-1.080000	0.281000	-0.009464	0.002746
Religious Belief	0.015672	0.018358	0.850000	0.393000	-0.020317	0.051661
Subjective Social Stratum	-0.006214	0.007820	-0.790000	0.427000	-0.021543	0.009116
Social Trust	-0.003220	0.003732	-0.860000	0.388000	-0.010536	0.004097
New Media Usage Frequency	-0.001564	0.004201	-0.370000	0.710000	-0.009798	0.006671
Constant	2.021553	0.038289	52.800000	0.000000	1.946491	2.096614

3.2.2 Tiered mitigating effects of trust in public institutions

Trust in public institutions is significantly associated with public perceptions of governance performance ($\beta = -0.326$, $p < 0.001$). A one-unit increase in institutional trust is associated with a 0.33-unit improvement in public evaluations of governance performance. This finding supports Hypothesis H2 and is consistent with previous studies suggesting that institutional trust plays an important role in shaping citizens' evaluations of governance. However, the magnitude of this relationship differs across administrative levels. Combined with the observed differences in trust across levels of government, the results suggest that variations in local institutional trust may influence public evaluations of governance performance.

Among the control variables, interpersonal social trust is also significantly associated with public evaluations of governance performance ($\beta = -0.035$, $p < 0.001$), indicating that higher levels of social trust are related to more favorable governance evaluations. Educational attainment shows a significant positive relationship with governance evaluations ($\beta = 0.014$, $p < 0.01$), suggesting that differences in educational background may influence how individuals access, interpret, and evaluate public information. The negative coefficient for subjective social status ($\beta = -0.021$, $p <$

0.05) indicates that perceived social position is associated with differences in governance evaluations, possibly reflecting variations in social experiences and access to public resources.

Table 7 Regression Analysis Results: Trust in Public Institutions

Dependent Variable: Perceptions of Irregularities in Public Governance	Coefficient	Standard Error	t Statistic	P> t	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Government Trust	-0.326420	0.010496	-31.100000	0.000000	-0.347000	-0.305842
Gender	0.014629	0.017026	0.860000	0.390000	-0.018750	0.048006
Age	-0.000016	0.000681	-0.020000	0.981000	-0.001350	0.001319
Educational Attainment	0.013535	0.004072	3.320000	0.001000	0.005550	0.021519
Religious Belief	-0.021229	0.025845	-0.820000	0.411000	-0.071900	0.029438
Subjective Social Stratum	-0.021061	0.010079	-2.090000	0.037000	-0.040820	-0.001302
Social Trust	-0.035261	0.005209	-6.770000	0.000000	-0.045470	-0.025049
New Media Usage Frequency	0.004452	0.005746	0.770000	0.439000	-0.006810	0.015716
Constant	2.194993	0.054617	40.190000	0.000000	2.087920	2.302065

4 CONCLUSIONS

This study constructs multidimensional indicators of public governance performance and public institutional trust and examines their relationships with residents' evaluations of governance performance using factor analysis and hierarchical regression models. The empirical results indicate that improvements in public service delivery, administrative transparency, and standardized governance practices are associated with more favorable public evaluations of governance performance. Public institutional trust differs across administrative levels, and higher levels of institutional trust are associated with more positive governance evaluations. In addition, interpersonal social trust is positively associated with governance evaluations, whereas differences in new media exposure may influence how residents evaluate public governance. Educational attainment and subjective social status are also associated with differences in governance evaluations. Together, these findings suggest that residents' evaluations of governance performance are shaped by both governance-related factors and individual characteristics. All measurement scales demonstrate satisfactory reliability and validity, and the regression models provide empirical support for the proposed analytical framework.

The indicator construction framework and empirical analysis approach developed in this study provide practical implications for understanding grassroots public service evaluation and governance in digital contexts. These measurement tools may provide references for regular resident satisfaction surveys conducted by local service departments, helping institutions monitor changes in public perceptions and identify areas for improvement in service delivery. Future research may further explore three directions. First, longitudinal panel data can be used to examine how the relationships among the three variables evolve over time under changing public service policies. Second, future studies may examine potential moderating and mediating mechanisms between governance performance and public perceptions to further clarify the underlying pathways. Third, future research may evaluate strategies related to online information environments and further develop analytical frameworks for understanding public perceptions in digital governance contexts.

COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

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