Available Online: 8 May 2025 DOI: 10.54254/2977-5701/2025.22873

The impact of government response strategies on public satisfaction in Shanghai online petition system

Yulin Shi

School of Economics and Management, Tongji University, Shanghai, China

yulinshi_00@126.com

Abstract. In the realm of government response discourse, the employed response strategy not only mirrors the government's service philosophy and professional level, but also holds profound significance for improving public satisfaction. To explore the impact of response strategies on public satisfaction, a total of over 43,000 data records were screened from Shanghai Online Petition System. We use the factor analysis method to measure three types of government response strategies, namely Actional, informational, and responsive strategies respectively. The research finds that the use of response strategies by the government during the response process can significantly enhance public satisfaction. This will help the government clarify the direction for improving response strategies, and also provide guidance for the positive government-citizen interaction.

Keywords: government response strategy, public satisfaction, online petition, government-citizen interaction

1. Introduction

The government-citizen interaction is an important way to build a service-oriented government. With the rapid development of information technology, the channels for the public to access government services are becoming increasingly diversified. Online media such as government websites, government apps, and government microblogs have built bridges between the government and the public. Local governments are also actively exploring the ideas of digital transformation, and have successively opened unique online service platforms. "Zhe Li Ban", "Cloud Guizhou", and Shanghai unified online government service are all successful examples.

Taking the leadership mailbox on government websites as an example, it records a large number of public appeals. This puts higher demands on the government's response. Government Responsiveness narrowly refers to the government's behavior of formulating and adjusting policy agendas based on public opinions and preferences [1], while broadly speaking, it reflects the degree to which government behavior conforms to citizens' opinions. Nowadays, government responsiveness extends to daily governance, in an aim to win public trust and satisfaction with the government. The government may adopt certain strategies in response to public appeals, which are often reflected through discourse characteristics. The use of response strategies demonstrates the government's serious attitude when responding. Text has become the main form of data presentation in online government-citizen interaction, and the strategies in response discourse can be more measured and quantified, making response strategies of great academic research value.

The satisfaction evaluation from the public has the potential to become an important indicator for measuring the effectiveness of government-citizen interaction. Government websites have opened up the function of rating positive and negative feedback to the public, and publicly display the comprehensive satisfaction score of each response. In order to improve public satisfaction, the government may continuously optimize the use of response strategies. How to use response strategies appropriately may become a focus of discussion for the government to enhance the effectiveness of government-citizen interaction. Therefore, in the context of government digital transformation, exploring the impact of government response strategies on public satisfaction in online petitions is of great research significance.

2. Literature review

Existing research has delved into government responses in the online environment, with response speed, response quality, response length, and response selectivity [2] being common research subjects. The academic community has proposed various classification

Copyright: © 2025 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (https://creativecommons.org/licenses/by/4.0/).

standards and models to describe the ways in which governments respond, such as symbolic and substantive responses. A substantive response is the response given after the practical problem has been solved, and it is more goal-oriented. It is generally believed that the effect of a substantive response is better than that of a symbolic response. However, Zhong et al. found that when facing major public opinion events, the government can use symbolic responses to convey positive information, which can appropriately stabilize public emotions and avoid large-scale panic [3]. Symbolic response can also serve as a positive strategy to win public recognition, and it also highlights the importance of the government's choice of response strategies.

In recent years, some studies have gradually focused on the impact of government response strategies on public satisfaction. Through questionnaire surveys and empirical tests, Zhang et al. found that, informational and actional strategies can directly improve public satisfaction with online complaint handling, while responsive strategies have no significant direct impact. However, all these three strategies can indirectly improve satisfaction by enhancing the public's perception of interactive fairness or procedural fairness [4]. The classification method of this government response strategy and the research results are somewhat representative in the academic community.

Many scholars have also analyzed the impact of individual response strategies on satisfaction. Feng et al. showed that the attention and authenticity in the actional strategy of government responses both positively affect public satisfaction [5]; Eom et al. pointed out that public dissatisfaction with government responses may stem from information asymmetry between the public and the government [6]. Wang et al. found that text redundancy in government responses can improve public sentiment [7], while Wei et al. further showed that citing policies and regulations also benefits satisfaction.[8] However, some studies have also measured the persuasiveness of government responses by combining three indicators: special symbols, regulations, and logicality, and found that the persuasiveness of responses has a negative impact on satisfaction.[5] There is still controversy regarding whether responsive strategies can improve public satisfaction. The research by Nie et al. suggests that, unlike actional responses and explanatory responses, referral responses have a negative impact on citizen satisfaction [9].

The degrees of influence of different response discourse strategies on public satisfaction may vary. Most studies generally believe that actional response strategies are more effective in positively influencing public satisfaction than informational or responsive strategies. When the response quality is low, the contribution of emotion-oriented discourse pattern to satisfaction is significantly lower than that of rational-oriented and mixed-oriented response patterns [10]. Jia also pointed out that although both task-based and non-task-based values have a significant positive impact on public satisfaction, the former has a more prominent role [11].

In Conclusion, current research has not delved deeply enough into the impact of the characteristics of response discourse on public satisfaction at the micro level. Secondly, there is no unified classification standard for government response strategies in discourse, and there are few articles that specifically analyze government response strategies and public satisfaction in online petitions within the same framework. Although there is basically a consensus that actional strategies can improve public satisfaction, opinions on informational and responsive strategies are mixed. Some studies have also found that they have no significant impact on public satisfaction.

3. Theoretical basis and research hypothesis

In the American Customer Satisfaction Index (ACSI) model, perceived quality has an impact on customer satisfaction. Similarly, in the field of government services, the quality of government response may also affect public satisfaction. Government responses, manifested as textual discourse in online leadership mailboxes, convey a lot of information through their strategic inclinations. Therefore, the government response strategies constitute one of the core elements of response quality.

Zhang et al. classified government response strategies into three types through qualitative research: responsive strategies, informational strategies, and actional strategies [4]. Each of them emphasizes distinct aspects, respectively showcasing the government’s capability in attending to public appeals. No matter what strategy is adopted, it may have a positive impact on public satisfaction. Therefore, we propose:

[Hypothesis 1: In the government response discourse, the more obvious the response strategy demonstrated, the higher the public satisfaction will be.]

In many governments’ response texts, specific expressions about offline investigation, governance, or mediation can often be seen. For, example, action words like "inspection", "visit", and "comprehensive rectification" are specific manifestations of the actional strategy. These not only intuitively reflect the government's efforts in handling appeals, but also grant the public the right know about the process of handling the incident and the subsequent plans [12]. The response strategy that implements actions offline is the key to solving the problems of public appeals [13].

In specific language expressions, actional strategies are presented through descriptions of investigation, handling, explanations of substantial progress, and further commitments in addressing issues. Zhang pointed out in a similar impact study that the degree of authenticity and emphasis in government responses are important factors affecting public satisfaction. The empirical evidence shows that the impact of these two variables is both significantly positive [14]. A study also verified the positive effect of actional strategies on satisfaction with online complaint handling through questionnaire surveys [4]. Therefore, we propose:

[Hypothesis 1a: In government response discourse, the actional strategy has a significant positive impact on public satisfaction.]

The information released by the government can trigger a lot of public attention and discussion. With the popularization of new media platforms for government affairs, information disclosure has become more instantaneous, which puts higher demands on government replies. The transparency of government information disclosure can significantly affect the public's behavior of

browsing, forwarding, and commenting on government microblogs [15]. The openness and transparency of information is to safeguard the public's right to know. When information is vague or inaccurate, it will increase public uncertainty and potentially damage their trust in the government. As emphasized by Feng, efforts should be made to actively promote the disclosure of information, so as to not let the public's right to know become a mere decoration [16].

An informational response strategy, characterized by clear logic, sufficient citations, and rich named-entity words, helps to enhance the credibility of the government, shape a responsible public image of the government, and strengthen public trust in the government. Therefore, we propose:

[Hypothesis 1b: In government response discourse, the informational strategy has a significant positive impact on public satisfaction.]

The responsive strategy is a supplement to the actional and informational strategies. Although on the surface it does not directly solve practical problems, it plays an irreplaceable role through emotional interaction, communication and coordination. Zhang studied the response choices of the Chinese government to online public appeals. He then found that the symbolic responses can effectively alleviate negative emotions and reduce previous dissatisfactions among citizens in China [17]. One possible explanation is that the government addresses the public's psychological cravings for respect and acknowledgment.

Zhang categorized the responsive strategy into six key dimensions through axial coding: timely response, polite expression, active attention, problem confirmation, communication and coordination, and clear responsibility attribution [4]. Just as everyone has different preferences, the ingenious application of the responsive strategy may reflect the government's thoughtfulness and care, and may also guide the public to shift their attention appropriately, which helps to ease the original conflicts. Therefore, we propose:

[Hypothesis 1c: In government response discourse, the responsive strategy has a significant positive impact on public satisfaction.]

4. Research design

4.1. Data

The data for this study is sourced from the the Shanghai Online Petition Platform. To ensure the timeliness and representativeness of the data, the time window for the public disclosure of letters is limited to the period from 2018 to 2022, and the data is crawled using the Octoparse software.

During the data preprocessing stage, complete interaction records that simultaneously include the appeals letter, the government responses, and the public's satisfaction ratings are screened. Missing values in the selected data is processed, outliers are removed, and the data is filtered according to the date range. Finally, 43,759 valid cross-sectional data records are obtained.

4.2. Measurement of independent variables

In order to verify the above hypotheses, we adopt the variable measurement method from previous empirical researches on online petitions. It extracts potential common factors from the frequency of response keywords, which are then used as comprehensive evaluation indicators to measure the tendency of response strategies. The detailed method is as follows: take a one government response text as a measurement unit. Calculate the frequency of keywords within the pre-set keyword dictionary. The higher the frequency, the more comprehensive the feature is reflected in this response.

The construction of the keyword dictionary draws on the experience of Zhang, Feng and others [4, 5, 14]. Moreover, it has been refined according to the actual collected samples to comprehensively represent different types of response strategies used by the government. The classification of indicators and specific measurement methods are shown in Table 1.

Table 1. Keyword dictionary of government response characteristics

primary indicator	Secondary indicators	Measurement keywords
Actional strategy	Investigation and verification	inspect, investigate, visit, rush, survey, collect evidence, exanimate, after investigation, etc.
	Processing intensity	highly value, strengthen, supervise, implement, effectively promote, seriously handle, actively lead, etc.
	Substantive progress	already solved, negotiated, processed, requested, etc
	Continuous improvement	further, in the future, strive to, as soon as possible, etc.
Informational strategy	Named-Entity words	Personal-Name, Location-Name, Organization-Name, Time-Name
	Logical structures	firstly, secondly, and finally; 1) 2), 3), etc.
	Reference symbol	"…"

Table 1. Continued

Responsive strategy	Timely response	in time, instantly, immediately
	Suggestions and coordination	You can…, We suggest…, please, contact by phone, through coordination
	Polite language	sorry, thank you, understanding, support, patience, concern, waiting, valuable opinions, etc.

We employed text mining techniques to extract the keyword frequencies of these secondary indicators, followed by factor analysis for measurement. The Kaiser-Meyer-Olkin (KMO) values for the factor analysis of secondary indicators of the actional strategy, informational strategy, and responsive strategy were 0.645, 0.725, and 0.513, respectively. All of them showed a p-value of 0.000 in the Bartlett's Test of Sphericity, indicating that the data were generally suitable for further factor analysis. Each of the three factor analyses extracted one common factor, which corresponded to the response strategy variables of their respective primary indicators.

4.3. Introduction of variables

4.3.1. Dependent variable

Public satisfaction: specifically refers to the satisfaction score obtained by the public rating of the government response to public appeals. The variable has a value range from 0 to 100. The higher the rating, the more satisfied the public is with this government response. After testing, the skewness of the public satisfaction variable is 0.0000, which confirms to a normal distribution and meets the requirement of the Ordinary Least Squares (OLS) regression.

4.3.2. Independent variables

The government's response strategy can be specifically divided into three variables, synthesized through principal component factor analysis.

The actional strategy takes the keyword frequency of investigation and verification, processing intensity, substantive progress and continuous improvement in the government response as the secondary indicator.

The informational strategy uses the keyword frequency of Named-Entity words, logical structures, and Reference symbol in government responses as secondary indicators.

The responsive strategy uses the keyword frequency of timely response, suggestions and coordination, and polite language in government responses as secondary indicators.

The larger the values of these variables, the higher the tendency of the government to adopt corresponding strategies in response to discourse.

4.3.3. Control variables

Response speed, response length, response similarity and the extent in solving appeals are taken as control variables. Simultaneously, dummy variables are controlled according to the belonging region of the letter and the theme of the appeal letter. The regions to which the letters belong are classified according to the 16 districts of Shanghai; The theme of the appeal letter is analyzed using the TF-IDF matrix transformed from the segmented text of the letter. The LDA model is implemented using the Python toolkit Sklearn. A total of 10 themes are extracted, including community issues, consumer rights protection, medical treatment, etc., which comprehensively cover common daily life problems of the public.

Table 2. Metering methods for all variables

Variable	Variable Name	Symbol	metering method
Dependent variable	Public satisfaction	RATE	Collected public satisfaction evaluation scores
Independent variables	Actional strategy	AS	Common factors from relevant action word features in response discourse
	Informational strategy	IS	Common factors from logical word features of relevant information in response discourse
	Responsive strategy	RS	Common factors from relevant response word features in response discourse
Control variables	Response speed	spe	The reciprocal of the interval between government response time and public comments
	Response length	len	The number of Chinese characters in the reply text

Table 2. Continued

Response similarity	sim	The maximum similarity between the text and other responses from the same department is measured using TF-IDF cosine similarity
Extent in solving appeals	sol	If there are words such as 'not resolved' in the response, mark them as 0; The rest is 1

4.4. Descriptive statistics

The descriptive statistics of the core variables are shown in Table 3. The independent variables-three response strategies are measured through factor analysis and have been standardized, so the mean is 0 and the standard deviation is 1.

Table 3. Descriptive statistics of research variables

Variable	Symbol	Observation	Mean	Std. Dev.	Min	Max
Dependent variable	RATE	43,759	56.82	39.49	0	100
Independent variables	AS	43,759	0.000	1	-1.041	11.383
	IS	43,759	0.000	1	-1.236	11.668
	RS	43,759	0.000	1	-1.731	11.161
Control variables	spe	43,759	0.237	0.384	0	2
	len	43,759	282.1	194.2	16	2,449
	sim	43,759	0.417	0.317	0	1
	sol	43,759	0.738	0.660	0	1

4.5. Model

Due to the fact that the dependent variable, independent variable are all continuous variables, the ordinary least squares (OLS) model was chosen as the baseline regression model for empirical testing. To control the influence of heteroscedasticity, the results were analyzed using heteroscedasticity robust standard error. The baseline model is shown in the Equation (1):

$$RATE_i = \alpha_0 + \alpha_1 Strategy_i + \alpha_2 X_i + \varepsilon_i \quad (1)$$

$RATE_i$ represents the public satisfaction rating for the i^{th} government response. $Strategy_i$ represents the degree of the i^{th} government response strategy, represented by Actional Strategy (AS), Informational Strategy (IS), and Responsive Strategy (RS), which will be regressed separately in sequence. X_i is the control variable, including response speed (spe), response length (len), response similarity (sim) and the appeal solving extent(sol). Meanwhile, we control the region and the theme of the letter as dummy variables. ε_i denotes the random error term. α_0 is the intercept term. $\alpha_1$is the regression coefficient of the government response strategies. α_2 is the regression coefficient of the control variable.

5. Results

5.1. Baseline model results

Table 4. Baseline regression result

	(1)	(2)	(3)	(4)	(5)	(6)
Variable	RATE	RATE	RATE	RATE	RATE	RATE
AS	3.089***			2.197***		
	(0.231)			(0.228)		
IS		1.312***			0.860***	
		(0.303)			(0.298)	
RS			1.724***			1.381***
			(0.195)			(0.197)
spe	0.509	0.155	0.088	1.914***	1.692***	1.649***
	(0.505)	(0.507)	(0.507)	(0.492)	(0.492)	(0.492)

Table 4. Continued

len	-0.022***	-0.018***	-0.015***	-0.015***	-0.012***	-0.010***
	(0.001)	(0.002)	(0.001)	(0.001)	(0.002)	(0.001)
sim	-10.306***	-10.968***	-10.625***	-12.691***	-12.954***	-12.680***
	(0.603)	(0.603)	(0.604)	(0.612)	(0.612)	(0.613)
sol	6.875***	7.465***	7.160***	6.788***	7.155***	6.940***
	(0.290)	(0.289)	(0.291)	(0.296)	(0.295)	(0.296)
cons	62.022***	60.991***	60.277***	79.670***	78.154***	77.916***
	(0.556)	(0.634)	(0.527)	(1.043)	(1.049)	(1.021)
district controlled	NO	NO	NO	YES	YES	YES
theme controlled	NO	NO	NO	YES	YES	YES
N	43,759	43,759	43,759	43,759	43,759	43,759
Adj. R^2	0.033	0.030	0.031	0.093	0.092	0.093

As presented in columns (1) to (3) of Table 4, the coefficients of the three independent variables - actional strategy, informational strategy, and responsiveness strategy - are 3.089, 1.312, and 1.724, respectively. All these coefficients are significantly positive at a 1% confidence level. In columns (4) to (6), regional and thematic virtual control variables are incorporated for fixed-effects regression. Notably, the signs and significance levels of the coefficients for the three response strategies remains unchanged, while the adjusted R^2 increases, indicating an enhanced model fit. Given that the Variance Inflation (VIF) of each variable is below 3, there is no evidence of multicollinearity. This indicates that using actional, informational, and responsive strategies in government response discourse can significantly improve public satisfaction. Consequently, H1a, H1b and H1c are all supported. Apparently, H1 is validated.

5.2. Robustness analysis

5.2.1. Endogenous test

To ensure the reliability of the results, it is necessary to test the model for potential endogeneity issues. Given that there may be measurement errors and selection biases in government response strategies, or there is a risk of omitted variables, the instrumental variable method is adopted. Use the mean value of the response strategies of other individuals in the samples from the same month of the same year and the same department as the instrumental variable. This method not only meets the requirement of the correlation between the instrumental variable and the endogenous variable, but also satisfies the exogenous condition because the instrumental variable do not directly affect individual public satisfaction. Table 5 shows the regression results of the two-stage OLS results.

Table 5. Results of two-stage OLS regression

First Stage Regression				Second Stage Regression			
	(1)	(2)	(3)		(4)	(5)	(6)
Variable	AS	IS	RS	Variable	RATE	RATE	RATE
IV1	0.475***			AS	7.188***		
	(0.017)				(1.479)		
IV2		0.467***		IS		12.458***	
		(0.012)				(1.285)	
IV3			0.721***	RS			4.766***
			(0.014)				(0.824)
spe	-0.113***	-0.012*	-0.017*	spe	2.442***	1.840***	1.571***
	(0.008)	(0.007)	(0.011)		(0.517)	(0.499)	(0.494)
len	0.003***	0.004***	0.001***	len	-0.029***	-0.059***	-0.015***
	(0.000)	(0.000)	(0.000)		(0.004)	(0.005)	(0.002)

Table 5. Continued

sim	-0.091***	0.037***	-0.112***	sim	-12.165***	-13.371***	-12.082***
	(0.014)	(0.010)	(0.015)		(0.631)	(0.627)	(0.632)
sol	0.165***	0.010**	0.140***	sol	5.914***	6.911***	6.367***
	(0.006)	(0.005)	(0.006)		(0.391)	(0.304)	(0.328)
cons	-1.018***	-0.844***	-0.382***	cons	84.687***	87.492***	79.029***
	(0.022)	(0.017)	(0.025)		(1.807)	(1.469)	(1.058)
district controlled	YES	YES	YES	district controlled	YES	YES	YES
theme controlled	YES	YES	YES	theme controlled	YES	YES	YES
N	43,759	43,759	43,759	N	43,759	43,759	43,759
				Adj. R2	0.084	0.063	0.087
Kleibergen-Paap Wald rk LM	460.65***	776.75***	2,184.43***	Cragg-Donald Wald F	922.79	2,423.99	2,705.00
	(0.000)	(0.000)	(0.000)				

Columns (1), (2), and (3) of Table 5 show the results of the first-stage regression. The coefficients of influence for IV1, IV2, and IV3 are 0.475, 0.467, and 0.721, respectively. It verifies the significant correlation between instrumental variables and response strategies. The Chi – sq values of their unidentifiable test (Kleiberen Paap Wald rk LM) are 460.65,776.75 and 2184.43, with P = 0.000. This rejects the hypothesis of "insufficient tools". Besides, in the weak instrumental variable test, the Cragg Donald Wald F statistics are 922.79, 2423.99, and 2705.00 in sequence, all exceeding the Stock Logo 10% critical value of 16.38. This shows that there are no weak instrumental variables, and the weak instrument bias can be ignored.

Columns (4), (5), and (6) represent the second-stage regression results of these three response strategies, with positive coefficients and significant at the 1% level. Their coefficients are all higher than those in the baseline regression, indicating that the impact of government response strategies on public satisfaction rating would be underestimated before introducing the instrumental variables. Overall, this result ensures the robustness of the research conclusions.

5.2.2. Replacing independent variables

To ensure the stability of the research conclusions, another factor analysis method was used to simultaneously measure the three response strategies. All the response keyword indicators are incorporated into a unified framework for dimensionality reduction. The KMO test result is 0.815, indicating that the data is highly suitable for factor analysis. The P-value of Bartlett's Test of Sphericity is 0.000, suggesting that the data has a significant correlation structure.

Subsequently, factor analysis was used to measure and replace independent variables, and three primary indicators are automatically extracted. By analyzing the rotated factor loading matrix, it is found that the first principal component is mainly composed of indicators such as Named-Entity words, logical structure, and citation symbols, which closely matched the core characteristics of the informational strategy (IS2). The second principal component mainly comes from keyword frequencies of words with action characteristics, and could be clearly identified as actional strategies (AS2); Similarly, the third principal component embodies the responsive characteristics of suggestion and polite language, corresponding to the responsive strategy (RS2). The results of automatic clustering of these secondary indicators through factor analysis are basically consistent with the original manual classification approach, which verifies the scientific selection of the measurement indicators for original independent variables.

In order to reduce the risk of omitted variables and improve the model's goodness of fit, the alternative independent variables are simultaneously incorporated into the regression model. The regression results are shown in Table 6.

Table 6. Regression results after replacing independent variables

	(1)	(2)	(3)
Variable	RATE	RATE	RATE
AS2	3.323***	2.614***	2.198***
	(0.244)	(0.241)	(0.244)
IS2	2.380***	1.620***	1.102***
	(0.302)	(0.298)	(0.307)

Table 6. Continued

RS2	2.041***	1.480***	1.331***
	(0.188)	(0.194)	(0.198)
spe	0.453	1.950***	2.079***
	(0.504)	(0.491)	(0.492)
len	-0.030***	-0.020***	-0.018***
	(0.002)	(0.002)	(0.002)
sim	-10.054***	-12.248***	-12.068***
	(0.611)	(0.619)	(0.625)
sol	6.334***	6.451***	6.454***
	(0.298)	(0.301)	(0.304)
cons	64.589***	80.489***	90.205***
	(0.676)	(1.074)	(1.449)
district controlled	NO	YES	YES
theme controlled	NO	YES	YES
department controlled	NO	NO	YES
N	43,759	43,759	43,759
pseudo R2	0.035	0.094	0.099

Table 6 reveals that, after sequentially controlling for sample regions, letter themes, and government departments, all three government response strategies show a positive and significant impact on public satisfaction. It is worth noting that, the impact coefficient of the actional strategy is higher than those of the other two strategies. This finding suggests that, compared to providing explanations or offering emotional appeasement, the government's demonstration of tangible actions within response discourses is more effective in enhancing public satisfaction. Moreover, these empirical results further validate the robustness of the model.

5.2.3. Replacing the regression model

To test the robustness of the hypothesis under different models, the public satisfaction values are divided into three ordered levels based on percentage intervals and assigned values of 0, 1, and 2, denoted as RATE2. Given the inherently ordinal nature of satisfaction ratings, an ordered Logit model was employed for parameter estimation.

The regression results are shown in Table 7. The actional strategy yields a regress coefficient of 0.134, the informational strategy 0.069, and the responsive strategy 0.041, all with highly significant p-values ($p<0.01$). This indicates that, after replacing the regression model with the Logit model, the positive impact of the three types of government response strategies on public satisfaction remains significant. This finding validates the robustness of the baseline regression results, and underscores the efficiency of adopting government response strategies in improving the level of public satisfaction as well.

Table 7. Logit regression results

	(1)	(2)	(3)
Variable	RATE2	RATE2	RATE2
AS	0.134***		
	(0.014)		
IS		0.069***	
		(0.018)	
RS			0.041***
			(0.012)
spe	0.096***	0.083***	0.081***
	(0.030)	(0.029)	(0.030)
len	-0.001***	-0.001***	-0.000***
	(0.000)	(0.000)	(0.000)
sim	-0.745***	-0.761***	-0.752***
	(0.035)	(0.035)	(0.035)
sol	0.312***	0.333***	0.329***
	(0.017)	(0.017)	(0.017)

Table 7. Continued

cons	2.108***	2.026***	1.988***
	(0.069)	(0.069)	(0.068)
district controlled	YES	YES	YES
theme controlled	YES	YES	YES
N	43,759	43,759	43,759
pseudo R^2	0.065	0.064	0.064

6. Conclusion

The conventional view holds that symbolic responses are prone to evoke negative emotions among the public. However, the empirical findings of this study challenge this assumption. The results demonstrate that, apart from the actional strategy, both the informational and responsive strategy can also significantly improve public satisfaction. This discovery not only enriches the theoretical connotation of government response strategies, but also offers insights for for practical government operations.

From the perspective of government response, this study serves as a crucial tool for identifying communication gaps in government-citizen interactions. It clarifies the direction for improving response strategies, compelling the government to effectively respond to people's concerns raised through online petitions. The three response strategies can exhibit a complementary effect. When addressing appeals, the government can make a diversified combination of three strategies. By leveraging the unique positive impacts of each strategy, the government can enhance the language's affinity and the content's specificity beyond taking actions. This approach aims to cultivate greater public goodwill towards government responses, enabling them to be both institutional sound and emotionally warm.

From the perspective of public participation, this study provides guidance for fostering positive interaction between the Chinese government and its citizens. Local governments should intensify their efforts in publicizing public rating channels. By leveraging social media promotion or community outreach, more people would learn about and use online petition platforms and participate in satisfaction ratings on government responses. Additionally, user-friendly guidelines can be provided on government websites or applications to reduce usability barriers. Implementing measures such as popping up thank-you windows after users submit satisfaction ratings and releasing monthly reports on user participation can significantly enhance the public's sense of engagement. If these incentive methods are put into practice, it may not only expand the scope and depth of public participation, but also contribute to the development of a social-governance pattern characterized by co-construction, co-governance, and shared benefits.

References

[1] Hagemann, S., Hobolt, S. B., & Wratil, C. (2017). Government responsiveness in the European Union: Evidence from Council voting. *Comparative Political Studies, 50*(6), 850-876.

[2] Su, Z., & Meng, T. (2016). Selective responsiveness: Online public demands and government responsiveness in authoritarian China. *Social Science Research, 59*, 52-67.

[3] Zhong, Z. (2021). Internet public opinion evolution in the COVID-19 event and coping strategies. *Disaster Medicine and Public Health Preparedness, 15*(6), E27-E33.

[4] Zhang, Y., Deng, W., & Gong, Y. (2022). The influence mechanism of governmental response strategy on public satisfaction with online complaint handling. *Journal of Intelligence, 41*(05), 124-132.

[5] Feng, X., Zhang, Y., & Wang, J. (2023). Government response expression and public satisfaction on online petition platform: An empirical study based on automatic text analysis. *Journal of Intelligent Society, 2*(01), 40-68.

[6] Eom, S. J., Hwang, H., & Kim, J. H. (2018). Can social media increase government responsiveness? A case study of Seoul, Korea. *Government Information Quarterly, 35*(1), 109-122.

[7] Wang, L., & Yi, Y. (2022). How does government responsiveness alleviate negative public opinion during Covid-19? —Evidence from "Message Board for Leaders" in People.cn. *Journal of Public Management, 19*(04), 65-78+169.

[8] Wei, Z., & Tang, X. (2024). Research on the effectiveness of online administrative inquiry based on explainable methods — Taking the "Please Speak Up" Online Administrative Inquiry Platform as an example. *Journal of Systems Science and Mathematical Sciences, 44*(05), 1478-1500.

[9] Nie, L., & Wang, H. C. (2023). Government responsiveness and citizen satisfaction: Evidence from environmental governance. *Governance: An International Journal of Policy Administration and Institutions, 36*(4), 1125-1146.

[10] Gao, X., & Lian, J. (2024). The impact of government response discourse patterns on citizen satisfaction in the context of digital governance: Based on emotional and rational perspectives. *E-Government*, (12), 65-78.

[11] Jia, K. (2025). Public value preference and public satisfaction of government responses in network politics. *Information Research*, (02), 94-101.

[12] Gauld, R., Flett, J., McComb, S., et al. (2016). How responsive are government agencies when contacted by email? Findings from a longitudinal study in Australia and New Zealand. *Government Information Quarterly, 33*(2), 283-290.

[13] Li, C., & Li, H. (2017). The construction of citizen network inquiry and government response mechanism. *E-Government*, (01), 69-76.

[14] Zhang, Y. (2023). *Research on the influencing factors of citizens' satisfaction with government response on the internet political platform*. [Doctoral dissertation] University of Electronic Science and Technology of China.

[15] Ling, S., Liu, Y., & Liu, X. (2024). Effect of government information open's impact on public participation and its mechanism test: Take the local government microblog in China as an example. *Information Technology and Management Application, 3*(01), 78-90.
[16] Feng, Z., & Sun, Z. (2009). On the realization of citizen's right to know—From the angle of public participation. *Journal of Gansu Administration Institute*, (03), 123-129.
[17] Zhang, T. (2022). *Whose voice matters? Conformists, non-conformists, and responsiveness in China*. [Doctoral dissertation] Stanford University.