

The Research on the Impact of Government Electronic Information Services Quality on Citizen Participation

Peiyun Jiang^{1,*}

¹ *School of Public Affairs and Administration, University of Electronic Science and Technology of China, Chengdu, Sichuan 611731, China*

**Corresponding author. Email: jiangpy0425@126.com*

ABSTRACT

In the age of Internet, citizens mostly access the information of government policies and activities through the Internet, and the quality of government information has a profound impact on public participation. In this paper, 338 citizens of Chengdu City who get access to government information online are taken as research samples to analyze the impact of the quality of e-government information got on public participation. It is found that the process quality, result quality, remedial quality and environmental quality of online access to information have significant positive effects on public participation. Under the background of vigorously promoting Internet + government services, the information publication, as the primary function of electronic governance, is conducive to improve public participation by optimizing the quality of public online accessing government information.

Keywords: *e-government, quality of information, citizen participation*

1. INTRODUCTION

The rapid development of information technology brings new opportunities as well as challenges to government decision-making and management. As the primary function of electronic governance, electronic information publication can not only effectively bridge the information gap between the government and the public, so as to improve the citizens' right to know, but also expand the channels of citizens' participation in politics and increase the opportunities for citizens to discuss politics. Nowadays, citizens mainly obtain the policies and event information of related government departments through network channel. Based on this, this paper focuses on the impact of e-government quality of information service on citizen participation. The core issue of this paper is to explore which dimensions of e-government quality of information service may have an impact on citizen participation, and what are the differences of the effect on each dimension.

2. BASIC CONCEPTS AND LITERATURE REVIEW

2.1. Government Electronic Information Services Quality

Most scholars agree that service quality is the difference value between the user's expected service and perceived service, and on this basis, they put forward many related models for measuring different service quality. The quality of e-government information service refers to the user's

perceived performance and actual performance level of government services in the process of accessing to the website, APP, WeChat and microblog of various government departments to obtain related policies and event information of government by internet technology, which can be regarded as the citizens' overall evaluation on the government's e-government information services. In this paper, the quality of electronic public information service perceived by the public is divided into four dimensions which include process quality, result quality, environmental quality and remedial quality. These four dimensions are partly with the reference of the dimensions of the functional quality (service result quality) and technical quality (service process quality) proposed by Gronroos[1], and the interactive quality, environmental quality and result quality proposed Brady & Cronin[2], and partly co-opted online service quality scale E-S-QUAL and the content of E-RecS-QUAL proposed by Parasuraman[3]. Specifically, the process quality is used to measure the simplicity and convenience of obtaining E-government public information; the result quality is used to measure the concrete value achievements of obtaining E-government public information; the environmental quality is used to measure the technical support, privacy protection and interface design of the system; and the remedial quality is used to measure the responsiveness of online staff to the public seeking for relevant assistance.

2.2. Citizen participation

Arnstein (1969) first put forward the concept of citizen participation, he regarded it as the process of redistribution of power, during which the citizens express their preferences, needs and suggestions to provide decision-making reference for the government.[4] According to the theory of good governance, the government should not be

the only management main body, and the citizens' active participation in political activities is instrumental in the good cooperation and interaction between the government and the people, so as to maximize the social public interest. The lack of citizen participation will weaken the people's sense of political identity, reduce the responsive capability of government, leading to the alienation between the government and the people.[5] Although scholars have different perspectives to the definition of citizen participation, the connotation is basically the same, that is, citizen participation is a process in which citizens participate in government activities orderly and try to exert influence on government decision-making in the democratic governance of modern society in the ways of suggesting, consulting and informed. Based on this, this paper attempts to define the connotation of citizen participation as the willingness and influence of citizens in the process of participating in the investigation and policy-making related to the work of local government departments.

3. RESEARCH HYPOTHESIS AND MODEL CONSTRUCTION

There is nothing more damaging to democracy than secrecy. In the information age, it is of great importance to guarantee people's right to acknowledge government policies and activities. The so-called autonomy and the so-called maximum citizens participation in state affairs are just empty words if the public is under the situation of being not aware anything. The premise of participation is publicity, and the foundation of citizens participation in the survey feedback and the degree of policy-making of related government departments is the quantity and quality of government information that citizens can obtain. Only when citizens have a good knowledge of politics can they be able to participate in politics, and the result of participating in politics is significant. And electronic information service can expand the channels of information acquisition, effectively promote the information interaction between the government and the people, and ensure the universality and sufficiency of citizen participation. The publicity of government information is the necessary way to rebuild the relationship between the government and the people, as well as to realize the public participation. The efficient information service provided by the government for citizens can not only improve the enthusiasm and initiative of citizens' participation in social governance, but also promote the government to further improve and optimize the participation mechanism, so as to realize the co-governance of multiple subjects, promote the scientific and democratic public decision-making, as well as improve citizens' trust in the government. The precondition of the significant participation of the public in the activities of government departments is that the public can obtain and take advantage of the information smoothly, and only the rich and comprehensive information support can guarantee the orderly and efficient participation of citizens.

H9: The higher the quality perception of e-government information service process, the higher the degree of citizen participation

H10: The higher the quality perception of e-government information service results, the higher the degree of citizen participation

H11: The higher the perception of remedial quality of e-government information service, the higher the degree of citizen participation

H12: The higher the perception of environmental quality of e-government information service environment, the higher the degree of citizen participation

4. RESEARCH DESIGN

4.1. Research sample

In this paper, online questionnaire survey is employed to collect sample data. And the respondents are ordinary citizens who have used websites, APP, WeChat and Microblog of government to obtain related government information. They are asked to evaluate the quality of e-government information acquisition and the degree of citizen participation according to their own experience of obtaining related government information. A total of 363 questionnaires were sent up online, and after eliminating the invalid questionnaires, the number of valid questionnaires is 338, with an effective rate up to 93%. Among them, the specific distribution of survey samples is as shown in the figure:

Table 1: Composition of sample

Variables	Numbers	Ratio
1.Gender		
Male	178	52.66%
Female	160	47.33%
2.Politic status		
Party member	70	20.71%
Non-party member	268	79.39%
3.Age		
18-24	38	11.24%
24-29	114	33.73%
30-39	87	25.74%
40-49	67	19.82%
50 and above	32	9.47%
4.Education status		
Junior high school and below	11	3.25%
High school	76	22.49%
University /Technical college	203	60.06%
Postgraduate and above	48	14.20%
5.Monthly income		
3000 and below	92	27.22%
3001-5000	74	21.89%

5001-10000	92	27.22%
10001-20000	66	19.53%
Above 20001	14	4.14%
6.Political interest		
Very uninterested	31	9.17%
Uninterested	64	18.94%
A little uninterested	77	22.78%
Commonly	64	18.93%
A little interested	43	12.72%
Interested	39	11.54%
Very interested	20	5.92%
7.Time of online		
Within 2 hours	53	15.68%
2-4 hours	98	28.99%
4-6 hours	108	31.95%
6-8 hours	51	15.09%
8 hours and above	28	8.29%

4.2. Definition and measurement of Variables

In order to ensure the reliability and validity of the measurement technique, the items of the questionnaire are designed mainly based on the modification of the scale resulted from relevant scholars' research. The E-government information quality is mainly expanded in the dimensions of Gronroos' technical quality and functional quality, which is classified according to the difficulty of public information acquisition, the actual results of acquisition, the service remedy after failed information acquisition and the platform environment for information acquisition. And the scale of citizen participation is based on Kim[6] to conduct the questionnaire design. The specific variable items is as shown in the figure:

Table 2: Main variables and their measurement items

Variables	items
Citizen participation	<ol style="list-style-type: none"> 1. My suggestions have effect on the policy-making of relevant departments of the municipal government. 2. I believe that the municipal government concerns about the ideas and needs of ordinary people 3. I have a clear understanding of the work and functions of relevant departments of the municipal government 4. I would like to participate in the investigation and voting of relevant departments of the municipal government.
Process quality	<ol style="list-style-type: none"> 1. The way I get demand information through the network is simple, fast and easy to operate. 2. Online government platform provides functions of navigation and

	search, which can guide me to find information in need.
Result Quality	<ol style="list-style-type: none"> 1. Online government platform updates related information in time to help me understand the latest developments of the government 2. The information provided by online government platform is rich and comprehensive, which can basically meet my needs. 3. Online government platform provides authentic and accurate information which is worthy of my trust. 4. The information provided by online government platform is clear and easy to understand.
Remedial quality	<ol style="list-style-type: none"> 1. In case of failed information seeking, contact personnel online for relevant guidance is available. 2. Seeking professional explanations through online consultation is available when feel difficult of information interpretation. 3. The online service staff is sincere, friendly and professional.
Environmental quality	<ol style="list-style-type: none"> 1. Online government platform runs stably, loads fast, and resources are accessible. 2. Online government platform can resist hacker attack and ensure the information security of users. 3. The interface design of online government platform is aesthetic and simple, and the layout reasonable, conforming to my usage.

4.3. Testing of reliability and validity

To test the reliability of the variables using coefficient α , the larger the coefficient α is, the higher the reliability of the consistency of the scale is. Generally, the reliability of the scale is above 0.7, which indicates that the reliability is about good. The reliability coefficients of each variable are 0.856, 0.849, 0.881 and 0.813 respectively, and of the overall dimension is 0.831. while the dimension of citizen participation is 0.883, which accounts for the high reliability of this questionnaire. After inspection, four shared elements were extracted by the extraction method of principal component analysis applied by the e-government information scale. And the eigenvalues before the four shared elements' spin axis were 4.332, 2.512, 1.204 and 1.142 respectively. While the eigenvalues after the spin axis of direct oblique method were 2.775, 2.423, 2.198 and 1.795 respectively. The four elements can extract 76% of the information, indicating that the construction validity of the extracted four elements is good and suitable for factor analysis.

5. EMPIRICAL ANALYSIS

First of all, without substituting control variables and independent variables, to estimate citizen participation with null model. The result of model 1 shows that the explanatory power of basic population characteristics on citizen participation is 7.1%. And in the regression of model 1, age, political status, gender and education status all have positive significance to the citizen participation while in different degrees, only the monthly income shows non-significant relationship. Among them, gender and political status present a reverse relation with citizen participation, indicating that male or party members relatively high participation. While the age and education status follow a positive relation with citizen participation which shows that with the increase of age and education level, the willingness and behavior of citizen participation are also improving.

Based on Model 1, the model 2 introduces the control variables that may have an impact on citizen participation, which mainly includes the time of online and the interest of citizen participating in politics. And the results show that citizens who are interested in politics have a higher inclination of citizen participation. However, the impact of the time of online on citizen participation is not significant. While the significance of political status has decreased, and the overall explanatory power of the model increased to 9.8%.

In model 3, taking citizen participation as the dependent variable, and on the foundation of controlling basic variables of time of online, degree of political interest and of population characteristics, to introduce the independent variables of public perception of process quality, result quality, remedial quality and environmental quality of e-government information service. The regression results show that process quality, result quality, remedial quality and environmental quality are related to citizen participation in a significant positive correlation, and its explanatory power is 28.9%. Among which, after the introduction of independent variables, only political interest, political status and education status are still with some significance. Specifically, among the four independent variables, remedial quality, result quality, process quality and environmental quality, the impact of them on citizen participation weakens successfully, which shows that citizens pay more attention to the actual value of information acquisition and interaction with online personnel than the process of it.

Table 3 Regression Model

Mode Variables Illustration	Model1 Citizen participation	Model2 Citizen participation	Model3 Citizen participation
Process quality			0.138** (2.533)
Result quality			0.196*** (4.036)
Remedial quality			0.213*** (3.702)

Environmental quality			0.138** (2.473)
Political interest		0.153*** (2.811)	0.119** (2.423)
Time of online		0.065 (1.194)	0.005 (0.101)
Gender	-0.124** (-2.331)	-0.117** (-2.221)	-0.057 (-1.193)
Political status	-0.136** (-2.565)	-0.104* (-1.943)	-0.122** (-2.540)
Age	0.095* (1.764)	0.095* (1.757)	0.044 (0.911)
Educational status	0.183*** (3.462)	0.162*** (3.068)	0.082* (1.717)
Monthly income	-0.037 (-0.686)	-0.036 (-0.665)	-0.021 (0.446)
Constant term	(8.355)***	(6.075)***	(2.536)**
Adjust R ²	0.071	0.089	0.289
Variation of R ²		0.023	0.204
F value	6.122	5.683	13.425

***Bilateral significant at 0.01

**Bilateral significant at 0.05

* Bilateral significant at 0.1

6. CONCLUSION, INSPIRATION AND PROSPECT

6.1. Conclusion exploring

Based on the existing research results at home and abroad, this paper randomly selected data of online access to government information of 338 citizens in Chengdu through the way of online questionnaire, and specifically analysed the impact of the quality of citizens' e-government information acquisition on citizen participation. And The research results of it show that the citizens' quality perception of online access to information are with a significant positive prediction on citizen participation. Among them, the remedial quality and the result quality have a relatively strong impact on citizen participation, which indicates that the actual value of information acquisition and the real-time response are more associated with citizens' willingness and behavior to participate. Specifically, remedial quality refers to the online real-time service available to citizens when they are blocked in the process of information access. It can help citizens obtain the information in need, solve their doubts, so as to make up for the shortcomings and omissions of the information services in a timely manner. This indicates that providing guidance to citizens to solve problems in a timely manner can help citizens improve their acknowledge of and understanding of the government, which is also the support of the government can with ability to guarantee the quality of information services. While the result quality refers to the actual value of the information that citizens ultimately obtain, and the quality of it reflects the government's capacity for

management and willingness to act. It is an important window from which citizens come to understand the operation of government institutions and it is also the necessary premise for them to participate in the management of government affairs.

6.2. Experimental inspiration

In the context of the Internet era, with the help of the electronic platform, the government departments have expanded the channels of citizen participation to a certain extent and increased the opportunities for citizen to participate. The study results of this paper reveal that citizens' quality perception of e-government information is with a positive impact on citizen participation, which brings some policy implications for improving citizens' participation. Citizens participate in the governance process of government departments actively, which can make citizens legally and reasonably resort to their interest demand, help to form rational expectations, and further promote the democratization and scientization of government decision-making. The quality of e-government services perceived by the public defines a clear direction for improving citizen participation. Acknowledge is the premise of participation. The higher the citizens' perception quality of the e-government information services is, the more comprehensive and in-depth their acknowledgments of government departments are, so that they have the ability to directly participate in public affairs and be more exposed to related activities of government departments. Therefore, the government must pay much attention to the transparency and openness of government information, actively establish an e-government service platform of intelligent government which is centered on citizens, expand the development, utilization and management of government information resources, and guarantee the information publicity system. In addition, the government should adhere to the principle of openness, taking it as a normalcy while the non-openness as the exception, and of fairness, legality and convenience for the people and strive to provide the public with high-quality information service experience, guarantee the people's right to know and of supervision, so as to promote the public to know more about the operation of the government, then improve the willingness and behavior of citizens to participate in the administration and discussion of state affairs.

6.3. Study prospect

There are still some deficiencies in this study of this paper, which need further improvement. First of all, the samples in this study are confined within Chengdu City, which is with a strong regional character. It is needed to expand the samples throughout the country so as to make the conclusion more universal and scientific. Secondly, the variable operation of this paper is relatively rough. There can be a further refinement of the citizen participation, for

instance, it can be further divided according to the mode and motivation of citizen participation to explore the impact of different forms of participation.

REFERENCES

- [1] Grönroos, Christian. "A Service Quality Model and Its Marketing Implications." *European Journal of Marketing*, vol.18,no.4,1984,pp.36–44.
- [2] Brady, Michael K., and J. Joseph Cronin. "Some New Thoughts on Conceptualizing Perceived Service Quality: A Hierarchical Approach." *Journal of Marketing*, vol.65,no.3,2001,pp.34–49.
- [3] Parasuraman, A, et al. "E-S-QUAL: A Multiple-Item Scale for Assessing Electronic Service Quality." *Journal of Service Research: JSR*, 2005, pp.213–233.
- [4] Arnstein, Sherry R. "A Ladder Of Citizen Participation." *Journal of the American Institute of Planners*, vol.35, no.4, 1969, pp.216–224.
- [5] David H. Rosenbloom, Robert S. Kravchuk, Richard M. Clerkin. *Public Administration: understanding Management, politics* seven edition, McGraw-Hill higher education press, 2008.
- [6] Soonhee Kim, Jooho Lee. E-Participation, Transparency, and Trust in Local Government [J]. *Public Administration Review*. 2012 (12):830.