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Research on Citizen Participation of Public Information Service Platform Amidst the COVID-19 Outbreak in China

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Abstract. Facing the global epidemic prevention and control situation, public information services are an important part of ensuring the smooth operation of the government and the normal life of citizens. Among them, Internet companies assume a significant part in assisting with uncovering epidemiological information, such as the "same journey query" platform that can query the public transportation itinerary of patients with pneumonia suspected diagnosis. Citizens can understand their health status and make independent declarations to avoid the spread of immunity. To better understand the requirements, willingness, and elements impacting citizen participation, this study constructs a citizen participation model based on the public service system, combined with the Chinese government's public information interactive management process. Through empirical analysis of the survey data, it is discovered that expectations and perceived quality are the key factors that can significantly affect public participation. It can be concluded that improving the quality of the platform and public expectations will help increase public satisfaction and trust, and ultimately increase public participation. The result is conducive to the better participation of enterprises, governments, and citizens in public information services, and gives insight to future related research.

1. Introduction

During the fight against the epidemic, various information needs broke out in a short time, and the services that social organizations and market systems can provide daily have a certain lag. At this time, the public information service platform becomes particularly important. In the face of a sudden outbreak, the first test is often the ability of a society to circulate materials and information. Information is one of the most vulnerable links in the epidemic. The opaqueness of information is most likely to cause panic. Due to the top-down governance model of the Chinese government, grid management needs to invest a lot of manpower and material resources at the grassroots level. Most of these measures remain in the man-to-man model. Grassroots public officials have heavy tasks and cannot rely on the traditional service system to solve various new demands, citizens urgently need timely and reliable channels and platforms to grasp the latest developments in the epidemic situation.

WeChat, Weibo, self-media and news clients have become the most common sources of information for citizens in this public health event. This is different from the SARS epidemic. According to the CNNIC report, most of the information at that time relied on top-down government releases. In 2003, 55.6% of users obtained information about "SARS" from mainstream domestic websites, and 27.4%



from TV, newspapers, magazines and other traditional media accounts for 9.9%, and 2.9% come from direct communication between classmates, friends and relatives.

A large number of Internet companies quickly launched various epidemic prevention and control platforms. For example, the Internet medical service platform carried out online free consultation of the new coronary pneumonia epidemic situation to avoid cross-infection caused by improper offline consultation; for example, various information platforms used graphic short videos and other forms to publish information on the epidemic situation, false rumors, and popularization of knowledge to fully implement prevention and control Propaganda, solid and effective guidance of public opinion.

With the continuous upgrade of epidemic prevention and control, the Chinese government has actively strengthened communication and cooperation with related Internet companies. The Internet has expanded from personal services to integration with government affairs and has achieved a top-down and bottom-up dual interactive management process. With the help of Internet companies, the government collects clues for epidemic prevention and control, breaks information silos, opens up and opens up more inter-departmental and interregional data, adopts more digital, networked, and intelligent methods to help improve the collaborative prevention and control mechanism and rationally allocate resources. Improve prevention and control efficiency. The government's use of online platforms to allow citizens to spontaneously report information also reflects that the central government has accelerated the control of the most real epidemic situation over the local government. The advancement of technology has brought about changes in the daily management and control methods that are beneficial to the control of the epidemic situation [1].

The "same journey query" platform that can query patients diagnosed by public transportation is one of the basic service segments of the service. It can let citizens know their health status promptly, and it is convenient for users to know "whether they are diagnosed" and "what to do after diagnosis", reduce user panic, and report in time to avoid the greater spread of infection. Besides, the platform also has a government-civilian interaction section, including questionnaire surveys and suggestion messages, which broadens the communication channels between citizens and the government.

Understanding the citizen's willingness to participate and influencing factors is the main goal of this study. Compared with the rigid public services such as education and medical care provided by the government, public participation and information disclosure are more important indicators for measuring the degree of government democracy and the core of building a service-oriented government [2]. The attitude of citizens as the main participants is very important. Their participation needs, levels of participation, and what factors affect citizen participation are important indicators of whether the platform can operate reasonably and effectively. The improvement of Internet enterprise services and how the government can operate better Play an important reference role [3].

According to the CSI model (Customer Satisfaction Index) [4], this study puts forward five basic elements of the evaluation of citizen participation on the "same journey query" platform: Expectations, perceived quality, user satisfaction, user trust, user participation, that is, the evaluation model Potential variables. The potential variables are briefly explained below [5].

Expectations refer to the public expectations to provide information services before using the platform, including citizens' willingness to acquire information and their ability to acquire information. It has an important impact on satisfaction and is closely related to perceived quality. Generally speaking, if the user's perceived quality of the information service does not reach or exceed the expected level, it is difficult to satisfy the citizen.

Perceived quality refers to the user's overall evaluation of service quality after using the platform. It is a key factor that affects participation, including three influencing factors of information content, platform performance and obtains.

Information content refers to the timeliness, accuracy, credibility and publicity of various types of information provided by the platform to the citizen; Platform performance refers to the platform's construction level in terms of design interface and operating performance, including four aspects: clear interface design, simple and convenient operation, easy to understand language expression and fast and smooth operation. It is the carrier and prerequisite for public information services; Obtain means that

the public obtains public information through self-service or the interaction of service subjects. The ways of services, such as whether citizens have sufficient access to service platforms, are mainly evaluated from three aspects: the degree of recognition, stability and convenience of obtaining methods.

Citizen satisfaction generally refers to the user's confidence and support for online services after using the platform, the overall satisfaction of the public, the satisfaction level compared with the expected quality, and the satisfaction level compared with the ideal quality.

Citizen trust is mainly reflected in citizens' privacy awareness, whether they are worried about the security of the platform, whether they trust the information content published by the platform and whether they will use the platform multiple times, and recommend it to others.

Citizen participation refers to the willingness to take the initiative to make an individual declaration to the platform or community, unit, or hospital if the same journey occurs.

Structural equation modeling is a confirmatory analysis method. According to the above discussion, the public participation model established in this paper is shown in Figure 1, and on this basis, hypotheses are proposed. After constructing the model diagram, we propose hypotheses, test the validity and reliability, observe whether the model is available, and test whether each path is reasonable [7].

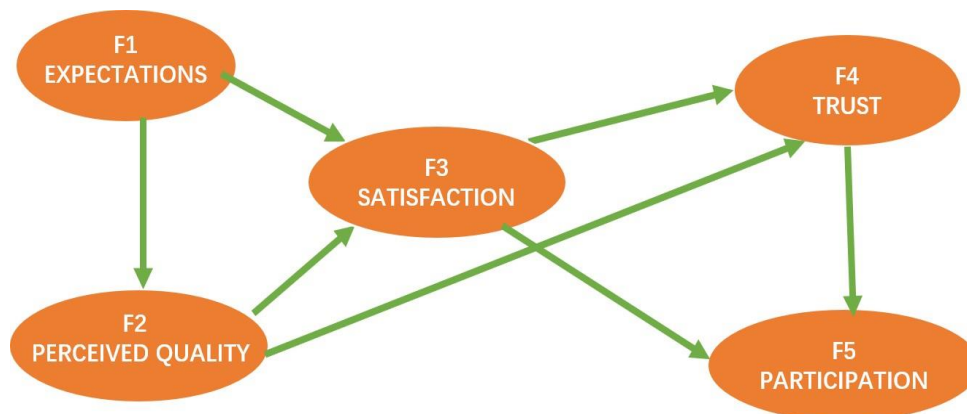


Figure 1. Example of the figure for the hypothesized causality model for public participation.

- H1. "Expectations" has a negative effect on "Perceived Quality".
- H2. "Perceived Quality" has a positive effect on "Satisfaction".
- H3. "Expectations" has a positive effect on "Satisfaction".
- H4. "Perceived Quality" has a positive effect on "Trust".
- H5. "Satisfaction" has a positive effect on "Trust".
- H6. "Trust" has a positive effect on "Participation".
- H7. "Satisfaction" has a positive effect on "Participation".

2. Main Results

2.1. Data collection

Some text. This research uses the form of an online questionnaire survey to collect the survey data of 210 Chinese citizens in multiple cities to study the public information service platform citizen participation. On this basis, it finds the main factors and problems that affect participation and makes relevant suggestions.

The questionnaire scale uses Likert's 10-level scale, which includes the basic information of the respondents and the main survey content of the questionnaire [8]. The survey distributed 230 questionnaires, recovered 216 questionnaires, eliminated invalid questionnaires, and finally collected 210 valid questionnaires.

2.2. Data analyze

In the basic data of the sample in the survey data, men accounted for 33.8%, women accounted for 66.2%; those under the age of 20 accounted for 4.3%, those aged 20-30 accounted for 36.2%, those aged 30-50 accounted for 41.9%, and those aged over 50 accounted for 17.6%; In terms of education level, 36.7% have undergraduate degrees, 43.8% have undergraduate degrees, 19.5% have graduate degrees and above; professional Chinese enterprises and institutions have 45.2%, teachers 23.8%, students 15.2%, and medical staff 4.8%. Farmers accounted for 4.8% and individuals accounted for 6.2%; those with incomes below 3000 yuan accounted for 35.7%, 3000-5000 yuan accounted for 49.5%, and those with income above 5000 yuan accounted for 14.8%; the current place of residence is 65.2% in urban areas. Township accounts for 34.8%.

The Cronbach's alpha coefficient can reflect the reliability of the indicator scale, higher than 0.8 indicates that the scale has good reliability [6]. After analysis, the Cronbach's coefficient of the questionnaire data is greater than 0.7, indicating that the sample has high consistency, stability and reliability.

Table 1. Example of the table for the model fitting table

X2/df	RMSEA	GFI	AGFI	IFI
1.402	0.030	0.929	0.915	0.981

It can be seen from Table 1 that the value of X2/df is 1.402, which is less than 3, and the fit is ideal; RMSEA is 0.030, which is less than 0.05, and the fit is ideal; GFI is 0.929, AGFI is 0.915, and IFI is 0.981, which is greater than 0.9, and the result is good. Overall, the model fits well.

KMO is an index used to check the partial correlation between variables to determine whether it is suitable for factor analysis. The closer the value is to 1, the stronger the correlation. 0.7 above indicates that it is more suitable. The Bartlett spherical test significance P value less than 0.5 also indicates that the variable There is a strong correlation. After the measurement, the KMO value of this model=0.804>0.7, the significance of the Bartley spheric test P=0.000<0.05, and the sample is suitable for factor analysis.

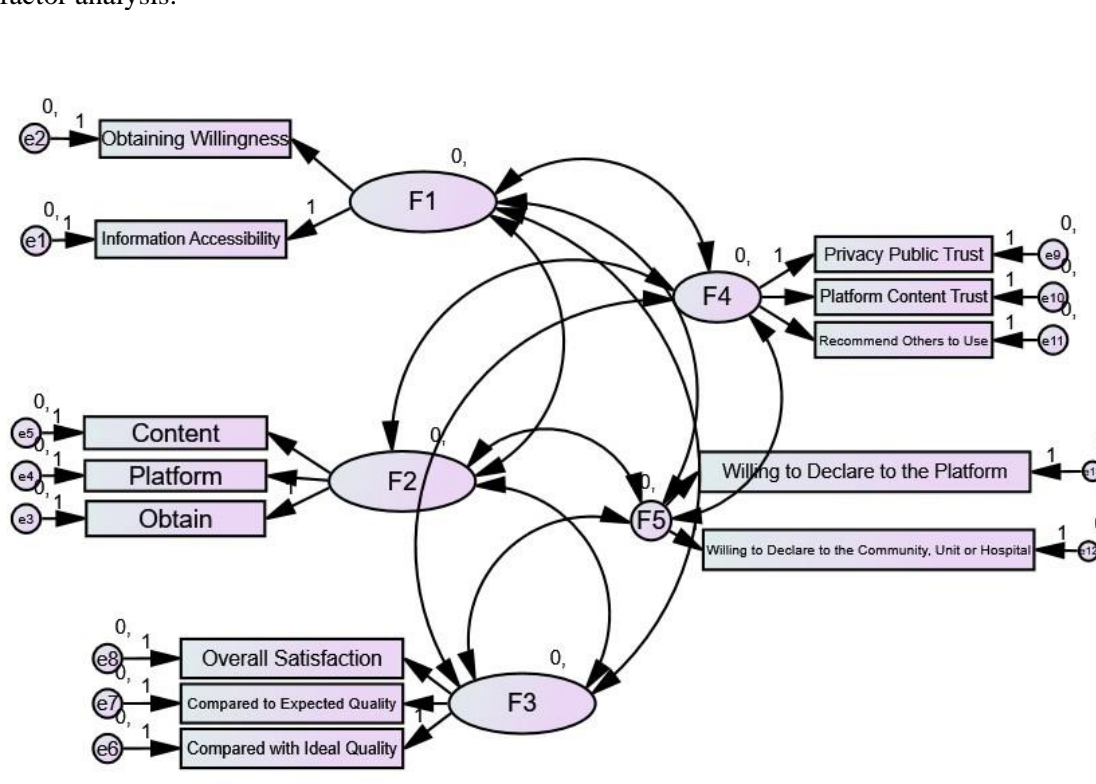


Figure 2. Example of the figure for the model for public participation.

Table 2. Example of the table for the validity test table

PATH		ESTIMATE	AVE	CR	
Obtaining Willingness	<---	Expectations	0.802	0.5459	0.834
Information Accessibility	<---	Expectations	0.79		
Obtain	<---	Perceived Quality	0.774		
Platform	<---	Perceived Quality	0.857	0.668	0.856
Content	<---	Perceived Quality	0.874		
Compared with Ideal Quality	<---	Satisfaction	0.73		
Compared to Expected Quality	<---	Satisfaction	0.756	0.5641	0.8039
Overall Satisfaction	<---	Satisfaction	0.827		
Privacy Public Trust	<---	Trust	0.702		
Platform Content Trust	<---	Trust	0.785	0.5033	0.8428
Recommend Others to Use	<---	Trust	0.708		
Willing to Declare to the Community, Unit or Hospital	<---	Participation	0.794		
Willing to Declare to the Platform	<---	Participation	0.844	0.6714	0.8032

Based on confirmatory factor analysis to obtain the factor load for each test item, the results are shown in Table 2. It can be seen from the table that the latent variables of expectations, perceived quality, satisfaction, trust and participation correspond to each topic with a factor load greater than 0.7, indicating that each latent variable corresponds to the topic to which it has high representativeness. The average variance variation AVE is greater than 0.5, and the combined reliability CR is greater than 0.8, indicating that the convergence validity is ideal, indicating that the scale has good convergence and is consistent with the factor load standard [9].

According to the analysis of the calculation results of the measurement model, it can be seen that the path coefficients of the latent variable perceived quality for the three measurable variables are 0.874, 0.857, and 0.774. The information content, platform performance, and obtain can explain the perceived quality. Therefore, improving the quality of public information service platforms for the “same journey query” can be carried out from the aspects of service platform construction, information content and obtain methods.

Table 3. Example of the table for the discrimination validity table

	F1	F2	F3	F4	F5
F1	0.432	0.046**	0.036**	0.034**	
F2		0.368	0.030**	0.030**	
F3			0.564	0.026**	
F4				0.493	
F5	0.048**	0.035**	0.027**	0.024**	0.671
AVE Square Root	0.657	0.606	0.751	0.702	0.819

** P less than 0.01; The diagonal line is the amount of variance variation extracted by AVE evaluation.

From Table 3, we can see that there is a significant correlation between expectations, perceived quality, satisfaction, trust and participation ($p < 0.01$). Also, the absolute value of the correlation coefficient is less than 0.5, and all are less than the corresponding The square root of AVE means that there is a certain correlation between each latent variable, and there is a certain degree of discrimination between each other, which means that the validity of the scale data is ideal.

Table 4. Example of the table for the path factor table

PATH RELATION		ESTIMATE	SE	T	P	
Perceived Quality	<---	Expectations	-0.50	0.045	1.834	*
Satisfaction	<---	Expectations	-0.74	0.066	2.856	*
Satisfaction	<---	Perceived Quality	0.65	0.042	4.756	***
Trust	<---	Perceived Quality	0.47	0.056	4.672	***
Trust	<---	Satisfaction	0.33	0.064	6.803	***
Participation	<---	Satisfaction	0.55	0.036	5.312	***
Participation	<---	Trust	0.82	0.054	1.976	***

Table 4 shows the relationship between the five latent variables of citizen participation and the relationship between latent and observed variables.

2.3. Discussion

2.3.1. Public expectations are negatively correlated with platform perceived quality and public satisfaction. The coefficients between public expectations, platform perceived quality, and public satisfaction are -0.50 and -0.74, indicating that the level of public expectations is weakly negatively correlated with the platform quality and satisfaction perceived by them. It may be caused by the public's lack of rational expectations and the correct perception of public information platform services. The higher the expectations, the higher the standard. This means that there is still room for improvement in the quality of the "same journey query" public information service platform. Increasing public expectations can be carried out by improving the willingness to acquire and the ability to obtain information to reduce public complaints, improve satisfaction, and indirectly promote citizens' level of participation in platform affairs [10].

2.3.2. The perceived quality of the platform is positively correlated with public satisfaction and trust. This article describes the platform's perceived quality in terms of information content, platform performance, and obtain methods. The timeliness, accuracy, credibility, and openness of the information content, the interface design of the platform is clear, the operation is simple and convenient, the language expression is easy to understand, and the operation is fast and smooth. The factors such as the degree of recognition, stability, and convenience of the acquisition method are all belongs to the perceived quality of the platform and have a great impact on public satisfaction and trust. The impact coefficients are 0.65 and 0.47. The coefficient is positive and significant, indicating that taking relevant measures to improve the perceived quality of the platform, especially in improving information content, improving platform performance and expanding the applicability of obtaining methods, can increase public satisfaction and trust.

2.3.3. Public satisfaction is positively correlated with public trust and participation. Public satisfaction is positively correlated with trust and participation, and it is significant. This shows that to increase public trust and participation, we must start with how to increase satisfaction. The most important thing is to understand public needs and affect the influence factors of public behavior.

2.3.4. Public trust is positively correlated with participation. The correlation between public trust and participation is the largest, with a coefficient of 0.82, which shows that the improvement of trust has a crucial role in the participation of citizens' platform construction. The login of the "same journey query" platform requires real-name verification. Citizens need to enter their ID numbers and perform face recognition to enter the platform. This is to ensure the privacy and security of citizens. The premise is that the public also trusts the platform. Therefore, it is necessary to ensure the fairness and openness of information content and increase public trust in terms of reducing public concerns about privacy and

security and improving citizens' understanding of the form of cooperation between government and enterprises.

3. Conclusion

In this study, the public information service platform of "same journey query" was used as the research object, a conceptual model of citizen participation was constructed, a questionnaire was designed to investigate citizens' participation in the platform during the epidemic, and 210 Chinese Internet users were collected through the network. data. Through empirical analysis, the following conclusions are drawn, and relevant feasible suggestions are put forward from the perspective of platform and industry supervision [11].

Improving public participation in public information service platforms should consider measures to improve public expectations and perceived quality. Only by establishing rational expectations and correct quality perceptions of public information service platforms can we increase public satisfaction and increase their trust and loyalty to government and enterprise public information services to participate better.

First, vigorously publicize the public information service platform, correctly guide the public's understanding of the public information service, increase attention, and increase citizens' willingness to use the platform; Besides, improve citizens' ability to obtain information, on the one hand, citizens should improve information from their accomplishment, improve the adaptability of the information age. On the other hand, the government can unite communities, enterprises, schools and other groups to provide universal education and training of knowledge for different ages and professional groups from point to face, so that more people can master the basic platform use capabilities.

Second, strengthen the infrastructure construction of the public information service platform. According to marketing principles, no matter how technology develops, consumers are still most concerned about products and services [12]. Therefore, increase investment in science and technology from the aspects of operation and management, improve the construction level of the information platform, ensure the timeliness, accuracy, credibility and openness of the information content, and improve the platform in interface design, language expression, operation and operation The construction of aspects and the expansion of public information service obtain methods are the fundamental way to improve the perceived quality of public information service platforms and ultimately to improve citizen participation.

While improving public expectations and perceived quality, try to understand the public's personalized needs for public information services and behavioral influencing factors as much as possible. Formulate plans to carry out various forms of surveys and evaluations of citizens, improve the scope and depth of public information services, enhance the platform's attractiveness, increase citizen satisfaction, and strengthen citizens' willingness to participate.

Because of the rapid development of the current information service platform, the government should also play a role in macro-control, effectively control and regulate the overall quality of the public service platform industry, through two-way promotion to make the public information service platform play the greatest role during the epidemic, for a healthier future provide an effective reference for orderly development.

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