

Study on the Influencing Factors of e-Government Service Capacity of Provincial Governments in China

Yang Jing

School of Public Administration, Sichuan University, Chengdu Sichuan 610065, China

E-mail:18778284242@163.com

ABSTRACT. Based on the TOE model, this paper uses the csQCA method to study the influencing factors and their combinations on the e-government service capacity of 31 provincial governments in China. This paper innovatively constructs a research model and conducts qualitative comparative analysis of the whole country and its three regions. The conclusion is that the impact of platform construction is more significant and three regions show the differences in main impact factors. Policy suggestions are made from these features.

KEYWORDS: chinese e-government, Service capacity, Influencing factors, Qualitative comparative analysis

1. Introduction

In the information society, the combination of the Internet and government services is an effective way to improve government administrative efficiency and service quality. China's national policies highly focus and strongly support on improving e-government services. However, there are still constraints such as the lack of personalized services. What is said above leads to thinking: what are the main influencing factors and the combination of the capacity of provincial e-government services? Do the combinations vary by region? How to optimize provincial e-government service capacity?

2. Literature review

The choice of influencing factors can be divided into three aspects. In terms of technological factors, scholars (Melitski, 2003; Moon M J, Norris D F, 2005; Schedler K, Summermatter L, 2007; Li Zongfu, 2017) generally recognize the level of information technology. In terms of organizational factors, Han Nana (2019) and Wang Fashuo (2019) focus on the government's financial status and the degree of recognition; Gil-Garcia & Pardo (2005) and Ma Liang (2016) consider the government's organizational planning capability as important factors; Chen Qiang and Zhang Wei (2019) concentrate on the influence of superior support and pressure, and Tang Zhiwei et al. (2019) believe that the provincial government's platform construction has an influence. In terms of environmental factors, scholars have proposed influencing factors such as the level of economic development, public demand (Han Nana, 2019), and legal protection (Li Chao and Huang Qisong, 2018).

Above studies indicate that information technology is indispensable, but its role is controversial. In addition, China emphasizes the construction of e-government platform, but there is little research on its impact. At present, most relevant studies focus on the whole country and few were conducted on the division of regions for in-depth analysis. This study sets information technology as an influencing factor and focuses on the platform and also analyzes the influencing factors and combinations from the whole to the regions to fill the research gap.

The theory adopted in this paper is the technology-organization -environment framework (TOE model) which refers to the fact that an organization's adoption of an innovative technology is influenced by the technical, organizational and environmental aspect.

3. Study design

The research method used in this paper is crisp-set qualitative Comparative analysis (csQCA) which combines Boolean algebra and set theory to analyze binary variables. This study selects all 31 provincial governments in China as samples as to eliminate the problem of under -representation. The explanatory variable refers to the e-government service capability of provincial governments. In terms of explanatory variables, based on the TOE model, this paper formulates four dimensions and five influencing factors and establishes the study

model (Figure 1).

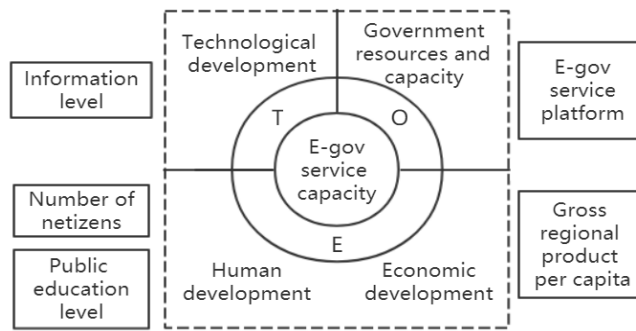


Fig.1 Research Model

(made by the author)

In order to make the threshold value of variable measurement scientific and reliable, the author chose authoritative reports as the data source and took the mean value or a certain ranking as the dividing line. Assignments of variables are designed as a table (Table 1).

Table 1 Variable Assignment

(made by the author)

	Variable name	Comparison to threshold	Assignment	Source
Result variable	RESULT (Y)	Above average	1	Party School of the Central Committee of CPC
		Below average	0	
Conditional variable	PLATFORM	TOP 10	1	China Software Evaluation Center
		Beyond TOP 10	0	
	ECONOMY	Above average	1	National Bureau of Statistics
		Below average	0	
	INFORMATION	Above average	1	National Information Center
		Below average	0	
	PUBLIC EDUCATION	Above average	1	National Bureau of Statistics
		Below average	0	
NETIZEN	Above average	1	Baidu statistics	
	Below average	0		

4. Qualitative comparative analysis

4.1 Overall analysis for the 31 provinces

(1) Univariate Necessity Analysis

The consistency of five conditional variables are less than 0.8. Therefore, they cannot be proved to be sufficient or necessary conditions.

(2) Conditional Combination Analysis

Conditional combination analysis is to analyze the influence of different combinations of conditional variables on the results. After standard analysis, the intermediate solution is selected for scientific consideration. The unique coverage of Combination 1 and 2 are both well above the 0.1 threshold, indicating that they strongly explain the result. Boolean minimization of the two combined modes can be obtained as follows:

$$\text{Result} = \text{Platform} (* \sim \text{Information} * \sim \text{Economy} + * \text{Information} * \text{Economy} * \text{Netizens})$$

The two combinations emphasize to construct good provincial service platforms and indicate the limited influence of information and economy.

4.2 Analysis for different regions

China is divided into eastern, central and western regions in the analysis.

(1) Univariate Necessity Analysis

In the eastern region, except for the “Public education”, the consistency of the other four conditional variables is 1. In the central region, none exceeded the threshold of 0.8. Only the consistency of “Platform” exceeds 0.6. All five conditional variables in the western region are lower than 0.8. “Platform” and “Public education” are 0.5 and 0.1667 respectively.

The influence of “Platform” in the three regions is more significant. “Public education” only has a certain influence in the western region.

(2) Conditional Combination Analysis

In the eastern region, the intermediate solution which can explain the result well proposes such a combination:

Result = Information * Platform * Economy * Netizens

This combination indicates that the necessary conditions for the eastern region are high information and economic level, the construction of a good provincial service platform and a large number of netizens.

In the central region, by combining the two necessary combinations, we can get:

Result = ~ Information * ~ Public education * ~ Economy * Netizens (* Platform + * ~ Platform)

This shows that in the central region, the number of netizens has obvious impact.

In the western region, by combining the two necessary conditional variable combinations, we can get:

Result = ~ Information * ~ Public education (* Platform * ~ Economy + * Platform * Economy * ~ Netizens)

This means that in western China information and public education level do not need to be very high. The construction of platforms and the economic level have little influence.

5. Conclusion

Through the study, there is no single necessary condition among the five conditional variables but they play an important role.

(1) The overall conclusion

In the analysis of the factors affecting the e-government service capacity of provincial governments, the data shows that: (1) “Platform” is a necessary condition; (2) the information level does not play a significant role; (3) the effect of economy, public education and the number of netizens is not obvious.

Data of influencing factors in three regions shows: (1) regional differences in influencing factors are very significant, and the influence degree in eastern regions is far greater than that of the other two regions; (2) the necessary condition combination in the eastern region includes the information, platform, economy and the number of netizens; (3) the number of netizens in the central region has an obvious impact; (4) in the western region, the five factors have little impact.

(2) Policy Suggestions

Overall, China needs to strengthen the integration of the provincial government service platform and to improve service quality. Provincial governments should shift to be customer-oriented.

Governments in the eastern region need to improve the Internet infrastructure, to accelerate the standardization of services, and to make the platform provide richer content. Meanwhile, maintaining sustained and steady economy is vital. In the central regions, governments need to focus on the number of netizens and conduct stratified survey for them. When providing e-government services, governments should accurately meet the diverse needs of netizens and take the initiative to provide personalized and customized services. The five

influencing factors in the western region are not significant, so the policy suggestions for it need further exploration.

References

- [1] Melitski J (2003). Capacity and E-government Performance: An Analysis Based on Early Adopters of Internet Technologies in New Jersey. *Public Performance & Management Review*, vol.26, no.4, pp.376-390.
- [2] Moon M J, Norris D F (2005). Does Managerial Orientation Matter? The Adoption of Reinventing Government and E-government at the Municipal Level. *Information Systems Journal*, vol.15, no.1, pp.43-60.
- [3] Schedler K, Summermatter L (2007). Customer Orientation in Electronic Government: Motives and Effects. *Government Information Quarterly*, vol.24, no.2, pp.291-311.
- [4] Li Zongfu (2017). Research on Government Wechat Information Service Model and Service Quality Evaluation From the Perspective of Information Ecology. Jilin University.
- [5] Han nana (2019). Generative logic and model of online government service capability of Chinese provincial governments: qualitative comparative analysis of fuzzy sets based on 31 provincial data. *Public Administration Review*, vol.12, no.4, pp.82-100+191-192.
- [6] Wang fashuo (2019). Influencing Factors of “Internet + Government Service” Capability of Provincial Governments: qualitative comparative analysis based on 30 provincial government samples. *Journal of Northeastern University (social science edition)*, vol.21, no.2, pp.173-179.
- [7] Gil-Garcia J R, Pardo T A (2005). E -government Success Factors: Mapping Practical Tools to Theoretical Foundations. *Government Information Quarterly*, vol.22, no.2, pp.187-216.
- [8] Chen Tao, Dong Yanzhe, Ma Liang, Mei Dongfang (2016). Promoting “Internet + Government Service” To Improve Government Service And Social Governance Capability. *E-government*, no.8, pp.2-22.
- [9] Chen Qiang, Zhang Wei (2019). The Institutionalization of WeChat Management in Chinese Government Affairs: content and influencing factors. *China administration*, no.10, pp.62-68.
- [10] Tang Zhiwei, Zhang Longpeng, Li Mei (2019). Research on local Government Internet Service Capability and its Influencing Factors: a survey analysis based on 334 prefecture-level administrative regions in China. *E-government*, no.7, pp.79-92.
- [11] Li Chao, Huang Qisong (2008). Research on intelligent Government Service Ability of provincial Governments -- Based on csQCA Analysis of 32 cases Nationwide. *Government Governance Review*, vol.4, no.2, pp.14-30.