System Design and Practical Elements of Digital Government Construction: Practice and Exploration Cases Based on the Path of Digital Government in Three Places

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Abstract: Using digital information technology to promote government transformation is an inevitable requirement to promote national governance system and governance capacity. This article will through the lateral digital government construction in Shanghai, Zhejiang, Guizhou, Hongkong and comparative study of the path, to clarify the three Numbers, emphasis of the construction of the government and the government of the construction of the theoretical logic and structural elements, in the future continue to use digital technology to increase efficiency to provide government services experience, to provide the digital construction of outbreak era "plan" in China.

1 INTRODUCTION

Since the 19th National Congress of the Communist Party of China in 2017 proposed the three strategies of building a "cyber power, digital China and smart society", digital government has become a new form of government that integrates grid governance with innovation. "Using digital technology to promote government transformation has become one of the main themes of government reform after the new public management movement" (Dunleavy, Margetts, Bastow, etal., 2006). The great attention of the state has promoted local governments to issue relevant plans in succession to accelerate the government's transformation towards the direction of digitalization. In the process of construction in various places, it is often found that people's governments at all levels have problems such as insufficient staff, complicated statistical data, many affairs to handle, long approval process, etc., and these problems can be effectively solved by using digital tools in the process of government affairs processing and disclosure. On April 15, 2019, the 11-year-old Regulations of the People's Republic of China on The Disclosure of Government Information was revised for the first time and clearly stipulated in the regulations that people's governments at all levels should strengthen the construction of Internet government information disclosure platforms, once again speaking out to support the construction of local digital governments.

In the big test of COVID-19, digital government is a powerful tool in the fight against the epidemic. In 2021, the Report on the Work of the Government clearly proposed for the first time that the construction of traditional infrastructure and new infrastructure should be promoted in a coordinated way to accelerate digital development and create a new trend of digital China. On November 18, 2021, The State Council approved the "14th Five-Year plan" to promote national government informatization, accelerate the construction of digital government to improve the level of government services. The conference from three aspects -- to break the local departments of information island should be united, China's e-government global ranking significantly improved, planning digital government construction to enhance government services stressed the importance of creating a unified national integration of government services platform.

2 THE ORIGIN AND RESEARCH PROGRESS OF DIGITAL GOVERNMENT

In January 1998, the California science center for the first time the opening ceremony of the former vice President al gore proposed set of virtual technology, 3

s technology, positioning technology, remote sensing and GIS technology, the integration technology in the integration of the concept of "digital earth", "digital government" management decisions would be for the government and e-government services provide information query and government affairs open platform to handle the data.

As early as 2001, some domestic scholars studied the operation path and regulation of digital government. Under the triple regulation of technology, morality and system, "digital government" carries out internal logical self-renewal and gives consideration to efficiency and fairness in the operation process. It was not until 2012 that some scholars confirmed the feasibility of the combination of digital government and Non-Governmental organizations based on public value assessment, but did not pay much attention to releasing the data dividend of digital government itself and the transformation and exploration of internal innovation mechanism. Many scholars have defined the connotation of data government .Some scholars believe that can be called a digital government electronic government (e-government) (Luna-Reye, Gil-Garcia, 2014), there is also a domestic scholars based on typical investigation of individual cases, such as Shanghai (Tan, LIU, 2020), Zhejiang (Xu, 2020), Guangdong (Wu, 2020), in Guizhou digital government construction started earlier, such as well-developed province (city) government data operation mechanism and innovation path of exploration and research.

Most of the existing researches on the construction of digital government are empirical studies to explore the path of innovation performance of single case digital government, and few pay attention to the comparative analysis of provincial openness level and path. This paper will focus on the governments of Shanghai, Zhejiang and Guizhou, taking the construction of digital governments in the three regions as samples to conduct horizontal analysis of several cases, and explore different paths of government data opening system and release of digital government welfare, so as to alleviate the phenomenon of unbalanced and inadequate development of digital government in China.

3 GOVERNMENT THEORY AND CONSTRUCTION OF DIGITAL GOVERNMENT IN THE DIGITAL ERA

The information age and digital age have led to the change of people's collective memory. Pachok Dunleavy, the representative of digital governance theory, tried to introduce the electronic and digital tool platform into the process of government service and government governance, thus catalyzed the birth of digital governance theory. The first step, he said, is to accelerate cross-sector integration. Break the traditional bureaucratic administrative mode, flatten government departments, and achieve cross-regional and cross-department cooperation and integration. Secondly, the relationship between government and citizens should be reshaped to promote the cooperative governance of diversified subjects. Let citizens participate in the processing of government affairs. Information technology transforms the traditional civic participation into electronic participation and realizes the new form of independent choice and interaction between the government and citizens. In addition, he also embedded technology governance ideas. He believes that Internet and other information technologies are an important force to promote government reform.

According to the current situation of digital government construction in the three places, the construction of digital government in Shanghai takes people's livelihood service as the main body, and is committed to making data "taken from and used by the people". Relying on the Shanghai Public data opening platform, integrating people's livelihood resources, for the first time explicitly including public data in water, electricity, gas, communications, public transportation and other fields into the open coverage, optimizing distribution and use through information technology; The difference between Zhejiang province and Shanghai lies in that it adheres to the "data government as a platform". From the perspective of the motivation and opportunity of Zhejiang provincial government reform, "running at most once" is the product of local government's internal driving innovation reform, and "the blade is inward", starting from the government's own logic reform; Guizhou province is a relatively underdeveloped region, lacking Internet giants such as Alibaba. Therefore, in the construction of digital government, the way of "state-owned enterprises funded by the government" is adopted to solve the technical problems.

This paper will be based on the core principles of digital governance theory, expand the construction of digital government research field of vision from the horizontal, in Shanghai, Zhejiang, Guizhou samples using the method of case analysis to explore more places the development of digital government differentiation, from integration, innovation and

reconstruction, service four dimensions to clarify the digital logic of the construction of the government, This paper explores the structural elements of digital government construction from four aspects: full-chain service platform, parallel development of two engines, all-media communication and feedback, and multi-subject cooperation.

The specific data source platforms of this study are as follows: (1) Shanghai Public Data Opening Platform (" Shanghai Platform "for short, website: https://data.sh.gov.cn); (2) the Zhejiang government affairs service network (http://data.zjzwfw.gov.cn) (3) in Guizhou province government data open platform (http://data.guizhou.gov.cn) (4) China open several index Lin network (http://ifopendata.fudan.e Du. Cn /). At present, all the platforms mentioned above are in normal operation, accessible and can obtain.

4 THE SYSTEM DESIGN OF DIGITAL GOVERNMENT CONSTRUCTION

4.1 Integration: The Transformation of the Concept of Digital Government

Since 2012, Shanghai has taken the lead in exploring and promoting public data opening in China. After years of continuous promotion, such as pilot first, comprehensive promotion, optimization and innovation, various works have made good progress. In July 2018, Zhejiang province approved the "Standardization Construction Plan of Digital Transformation in Zhejiang Province (2018-2020)", and Guizhou province approved the "Standardization Construction Plan of Digital Transformation in Zhejiang Province (2018-2020)" in July 2018. However, compared with Shanghai, the root and germination of big data technology lags behind about six years. The comparison of construction time and achievements of digital government in the three places is shown in Figure 1.

"China Open Forest Index" is the first professional index focused on evaluating the level of government data openness in China. "number of roots", "number of stems", "number of leaves" and "number of fruits" correspond to four dimensions of readiness, platform layer, data layer and utilization layer of open data platforms in each region respectively. The change trend of open forest index in Shanghai, Zhejiang and Guizhou in recent four years is shown in Table 1.
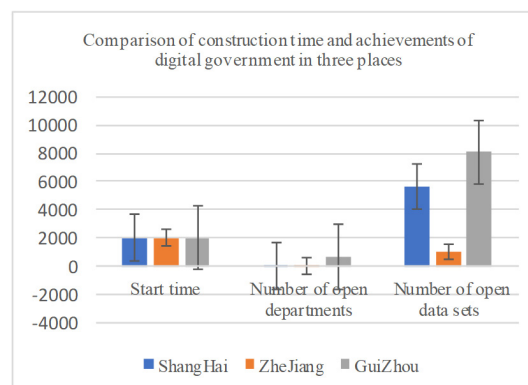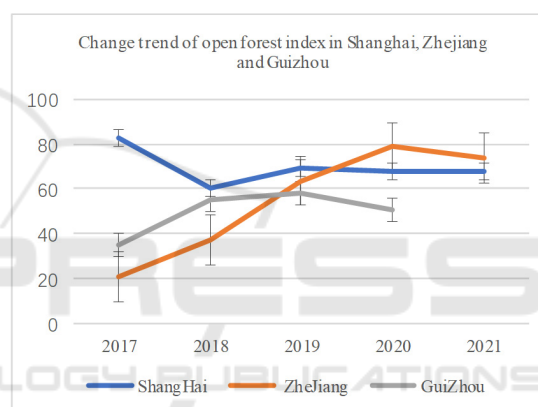

Figure 1: Comparison of construction time and achievements of digital government in three places.

Table 1: Change trend of open forest index in Shanghai, Zhejiang and Guizhou.

4.2 Innovation: The Endogenous Driving Force of Digital Government

General Secretary Xi Jinping pointed out during his visit to Shanghai that the key to the construction of Shanghai's data government lies in "two networks" -- "one network for government services" and "one network for urban operation". These are the two focal points of Shanghai digital government innovation mechanism reform. In the past three years, 357 reform measures have been implemented, more than 3,200 items have been connected to the Platform, and the number of public service items has reached 165 million, exceeding administrative power. Shanghai continues to strengthen the integration of offline and online services, and the offline layout of "door-to-door" extension services. Government affairs and information inquiry can be handled independently as online shopping. Relying on Shanghai Public Data Opening Center to set up WeChat mini program and

provide convenient services along with the application of citizen cloud APP.

The "Shanghai Public Data Opening Platform" has opened 51 data departments, 100 data opening institutions, 5,666 data sets, 58 data applications, 46,943 data items and 1,003,899,949 pieces of data. Among them, 673 data services are the most important. (Data collected as of December 7, 2021)

4.3 Reconstruction: The Profound Transformation of Digital Government

Zhejiang province carries out the reform of "running at most once" based on the innovation of service mode of "one window acceptance, integrated service and one time settlement". "The blade is inward", which forces the reform and reconstruction of government service mode and government service process, which is a profound transformation of digital government itself. "Is it one window comprehensive handling or multiple Windows professional handling?" There is constant controversy about this issue. Professional handling is indeed more professional than comprehensive handling, but Zhejiang Provincial government pays attention to the reform of the logic of government agencies themselves, which forces the coordinated and efficient operation between government departments. The original expanded special Windows of departments are reduced to the comprehensive Windows of the government, forming a workflow of "streamlining the front desk, refining the middle desk and precision the back desk" -- taking the integrated government service center as the "front desk", streamlining institutions, reducing Windows and receiving zero difference; Call professional management as the "center", to achieve urban "events" fine docking; With big data center as the "background", data construction and sharing accurately feed the center and the front desk.

4.4 Reconstruction: The Profound Transformation of Digital Government

Services according to the construction of large comprehensive test data in Guizhou as an example, the government fusion data leading enterprise agglomeration effects, break between the government and enterprises, between government and citizens, enterprises and citizens, the barriers to information and data barrier between the seven digital industry agglomeration rate soared, as of the end of 2020, 208 has introduced cultivate leading enterprises,

"Manbang" has become the largest unicorn enterprise in southwest China (Cai, 2021). Occupied in Zhejiang province with Alibaba & apos; s geographical advantage, and compared with the lack of Internet industry giant enterprises in Guizhou belongs to the less developed provinces, the participation of government and enterprises, innovative ideas to open data sharing platform, official endorsement to coordinate to solve the plight of the enterprise, enterprise also share the risk of big data project, Accelerated industrial agglomeration and economic development in Guizhou Province.

5 PRACTICAL ELEMENTS OF DIGITAL GOVERNMENT CONSTRUCTION

5.1 Full-Chain Service Platform

The development level and operation and maintenance level of the "Internet + government service" platform under the concept of "overall government" are particularly important. Local governments have also launched "Internet plus government services" platforms to implement the "whole chain of services" thinking. In the traditional administrative management mode, business management departments are scattered, leading to repeated submission of data and communication barriers of data materials of various departments. However, the current full-chain services are connected with centralized management online and offline, cross-department business collaboration, unified processing of public data, and diversified service platforms (Mao, Nie, Shen, Yu, Xu, He, 2021). See Table 2 for the service platform and mobile application construction of the three places.

Table 2: Service platform and mobile application construction in the three places.

Provincial/ City	integrated government service platform	mobile applications
Shanghai	GOVERNMENT ONLINE-OFFLINE SHANGHAI	SuiShen
Zhejiang	Province, city, county, township, village linkage Zhejiang government service network	Zheliban
Guizhou	Guizhou Government Service Network	Yun of guizhou

Since scholar Nakamoto proposed Bitcoin white paper Bitcoin: A Peer-to-peer Electronic Cash System in 2008, blockchain technology has attracted the attention of A large number of scholars in the field of computer. Based on the imtamability and traceability of blockchain technology, some scholars put forward the concept of blockchain as a service, believing that blockchain as a service is a new application way to embed blockchain framework into cloud computing platform. Based on the blockchain as a service platform, multi-chain concurrency can be tried out and multi-sub-transactions can be processed in parallel, which improves the efficiency of the government affairs management platform and reduces the pressure of operation and maintenance personnel.

5.2 The Two Engines are Neck and Neck

Relying on the digital engine to provide higher quality platform development, platform operation and maintenance, so that enterprises and individuals enjoy the dividend released by information technology. The application of big data, block chain, cloud computing and object-connected technologies in community governance, urban management and government affairs processing is an inevitable requirement for building a digital China and deepening the informatization level of local governments. Online data open platforms, smart mobile applications and offline one-window access are running side by side, and people and information technology are connecting to build a digital government and a digital China. The online data open platform will integrate and summarize spatial geographic data resources, population data resources, people's livelihood feedback information and other data to break the data barriers between different fields; Offline business management forms a service system of "zero difference acceptance", which greatly reduces the legwork cost of government affairs management and realizes "running at most once".

5.3 All-Media Communication and Feedback

New media originates from the rapid development of information network. The mechanism of communication and feedback between the government and citizens in the new media environment mainly includes the following aspects: First, we need to make government affairs more open and transparent. Citizens can check the information released by government officials on the website at any time through the Internet, such as news, introduction of lawmakers and national news, which is the convenience provided by Internet government affairs. Only by creating an integrated data opening and government affairs handling platform and mobile applications, and making government affairs important news open and transparent, can citizens participate in government affairs and supervision mechanisms. Second, strengthen publicity and distribution. Many citizens are not aware of convenience platforms such as WeChat mini programs and mobile apps. Through mobile apps, citizens can report inconvenience in livelihood services and make an appointment for government affairs online. For example, Shanghai held SODA Open data Innovation and application Competition and the announcement of brand logo solicitation to raise the attention of people from all walks of life to the building of Shanghai digital government.

5.4 Multi-Stakeholder Coordination and Cooperation

Use data to construct communication channels between the government and enterprises and between the government and citizens, and establish a multi-subject collaborative governance mechanism. First of all, "government-led cooperation with enterprises" is an effective practice of cooperation among diversified subjects. In February 2018, Guizhou officially established Cloud Guizhou Big Data Co., LTD., a state-owned enterprise funded by the Guizhou Government. Secondly, the university research force represented by the Digital and mobile Governance Laboratory (DMG) of Fudan University investigated the four dimensions of readiness, platform layer, data layer, utilization layer and subordinate multi-level index evaluation index system to rank and compare the open forest index in each region.

6 CONCLUDING

We can find that the construction of digital government is one of the main themes of government transformation in the digital era by combining the governance theory in the digital era and the practice and exploration of the path of digital government in the three regions. In the era of the epidemic, local governments called for the implementation of "palm office", "online office" and "online appointment", avoiding offline contact. It can be seen that digital government is inevitable for the current government reform. "Do" free net phone in Shanghai development

of the practice, the Zhejiang province "up to run a" reform itself, Guizhou enterprise cooperation construction big data effectively is the positive exploration and practice of digital government construction in China, and in other parts for the construction of digital government provides the demonstration, put forward to cope with the digital age, and after the outbreak of the era of "plan" in China. The concepts of integration, reconstruction, innovation, collaboration and service provide new possibilities and thoughts for digital governance schemes. The comprehensive promotion of service chain, the construction of digital China driven by two engines and the cooperation of media platforms should also form a collaborative mechanism dominated by the government and the participation of diversified subjects.

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