Research on the Construction of Digital Government in Digital Economy

Bingqian Chen[1*]

[1]*School of administrative management, Harbin University of Commerce & School of Finance and public administration, Harbin, Heilongjiang, 150028, China*
[*]*Corresponding author. Email: 1362816224@qq.com*

ABSTRACT

" Digital government "is an important content to promote the construction of digital China. China's digital government construction can be divided into three stages: the embryonic stage, the growth stage and the consolidation stage. Now it has entered the comprehensive promotion stage, and the theoretical system of digital government has gradually taken shape. However, in the development process of digital government construction, there are still problems such as data island, data information security risk and lack of overall strategy. By defining the concept and connotation of digital government, this paper analyzes the existing obstacles in the construction, studies the countermeasures to promote the construction of digital government, and promotes the efficient operation of digital government, so as to provide reference for accelerating the healthy and orderly development of digital government.

Keywords: Digital economy, Digital government, Reform of government institutions, Data sharing, Data opening, The top design

1. INTRODUCTION

In recent years, the rapid explosion of emerging technologies such as 5G, big data and artificial intelligence, as well as the comprehensive and extensive integration of information technology with various aspects of economic and social life, have made the digital economy a new driving force for economic development and social progress. In particular, the in-depth implementation of the "Internet plus government services" strategy has made the impact of the digital economy extremely important and rapid for the construction and development of "digital government", and unleashed the huge potential and power of digital governance in government decision-making, governance of people's livelihood and social services. From the perspective of China's development, the construction of Digital government in China has entered a comprehensive upgrading stage, which can be understood as a form of government in which all government departments and units push the government to realize digital upgrading through the in-depth application of the new generation of information technology.

Digital government is a relatively new concept, and scholars usually think that digital government is an important part of digital China. Throughout the academic research of digital government, scholars have different definitions of the concept of digital government. The definition is vague and there is a lack of a unified discourse system. Most of the literature is based on the analysis of digital government from a certain Angle, lack of comprehensive and in-depth discussion.Huang's definition of digital government is at the technical level, that is, the government can release information in a more efficient way based on digital technology. At the organizational level, governments can empower, coordinate, and restructure digital infrastructure[3]. Xie Shengcai took the digital government construction of Bantian Street in Shenzhen city as an example and proposed to analyze and discuss how to promote the modernization of China's national governance capability system and national governance capability from the perspective of overall governance[2]. Chen Dequan congruent is based on digital government construction stage of digital government in our country is put forward based on Internet technology development of a new type of government operation mode, committed to the use of cloud computing, big data, 5G, such as a new generation of information technology, through digital governance concept and government service as the guide, through

the data driven together to make a more scientific, more efficient services, management of the government's role is more accurate[1]. In the face of a new wave of digital government construction boom, it is of great significance to strengthen the theoretical research of digital government and to think deeply about the key points, efforts and breakthroughs of digital government construction for guiding local governments to advance digital government construction in a steady and orderly way.Based on this, this paper, on the basis of sorting out the relevant literature of digital government, combined with the actual situation in China, defines the connotation of digital government, analyzes the problems existing in the construction of digital government, and puts forward corresponding measures, in order to provide useful suggestions for the construction of digital government in all parts of China.

2. DEVELOPMENT HISTORY

2.1. From germination stage to consolidation stage

Table 1 Sensor network experimental results

Period	Engineering
Before the establishment of the State Council Information Leading Group (before 1996)	"San Jin Project"
The period of overall promotion of Informatization Leading Group of the State Council (1996-1999)	Government Internet Project
The first promotion period of National Informatization Leading Group (1999-2014)	"Two networks, one station, four warehouses and twelve gold mines"
Central network security and information leading group (2014-2018)	Network security; Information technology
Since 2018	"Tube service", "Internet + government service"

2001 years ago, is the bud of digital government development in our country, our country at this stage is often referred to as "E-government", from 1996 to 1999 of the leading group for information technology

advancement under the State Council as a whole advancing period, the purpose is to promote the government departments at all levels of public information resources collection and application of the Internet, realize the sharing of information resources, all levels of government website construction organization specification, improve the transparency of government work, improve the level of the government and the office staff information, improve efficiency, Government electronic office can greatly improve the efficiency to facilitate the public to exercise the democratic supervision rights of citizens, promote the democratization process of Our country, is the embryonic form of Chinese government information.

From 2001 to 2014, it is the growth period of China's digital government development and the rapid development of the national informatization (work) leading group in the coordinated promotion period around the " Two networks, one station, four warehouses and twelve gold mines" plan. The plan covers all aspects of the construction of e-government, and initially constitutes the basic framework of China's e-government construction.

The period from 2015 to 2018 is the consolidation period of China's digital government development, and the informatization of network security has become the focus of China's central Network Security and Informatization Leading Group to promote the construction of digital government in this period as a whole.

2.2. Overall promotion period

2018 so far, it is comprehensive promotion of digital government development stage, the departments of deepening the reform of "pipes" jointly set up a national electronic government affairs committee of experts, online government service platform to build the national integration, further advance the goal of "Internet+" E-government service, to carry out the online approval service, free net phone, long distance can be run online services, such as to promote open government information sharing, achieve coordination office. In 2020, since the outbreak of COVID-19, the "digital response" has exerted a tremendous impact. At the national level, a national integrated government service platform "Health Code" has been built, with a total of nearly 900 million registered users and over 40 billion users, ensuring that hundreds of millions of people have access to "One code". China's "Internet + Supervision" system has shared 33 billion epidemic prevention data, and big data analysis platforms such as source tracking and prediction, contact tracing, and resumption of work and production have provided strong support for leadership decisions and precise epidemic prevention and control. At the local and sectoral levels, various regions and relevant departments have also launched a

large number of innovative "Digital anti-epidemic" initiatives, which have achieved important results. Through the successful experience of this "Digital protest", it shows our country's potential and strength in the construction of digital government, and it is also a test for the construction of digital technology in China in recent years.

3. DEVELOPMENT HISTORY

3.1. Significant differences and sharing of data between government departments

Open data sharing is the premise and foundation of digital government construction, but since China's long-term traditional dissecting the influence of the administrative management system, information sharing, business synergy is common problem existing in the digital government long-term construction and development process, the problem is that government information from the data collection, to the construction of the system, and then to the final service all presents the trend of fragmentation, "Data island" still exists between government departments, such as inefficient data sharing.With more diverse data sources is between government departments, large amount of data, the lack of data acquisition, storage and use of the standard, cause the information asymmetry, inconsistent data, the cause of the government in the process of data management, the phenomenon of the divide and data redundancy, thus unable to share data and services, have a huge impact on construction of the government. However, China's administrative management system is more of a bureaucratic level. Carry out horizontal division of functions and vertical power operation. Therefore, communication between functional departments and regional departments is not smooth, data sharing is difficulty and efficiency is low. Vertical operation of business processes by functional departments at all levels has become a fixed pattern. The speed of data transmission between different levels is limited, and the accuracy and perfection of data are guaranteed. The more specialized the department, the more standardized the business process, and the less willing it is to actively expose and share the department's data. It is difficult to form the driving force of intra-department data sharing, whether it is horizontal resource sharing between departments or vertical data docking. The current management system has not clearly stipulated and arranged the process of data resources from acquisition to application, which also reflects the insufficient attention paid to data resources sharing, making information closed. With the progress of digital technology, the construction of digital government is gradually accelerated. Due to the influence of traditional approaches and leaders, the sharing of data resources among departments presents an extreme phenomenon of polarization. However, with

the emergence of data blockade, digital divide and other phenomena. The lack of internal force in sharing data leads to the disjointed phenomenon of data resource sharing in departments. Data islands are also the biggest obstacle to sharing government data.

3.2. Risks of data information security and privacy

The opportunities and innovations brought by big data itself, as well as the risks and uncertainties brought by it, and the personal privacy leakage caused by big data, no longer need to be proved too much. How to effectively guarantee data security and protect public privacy has also become a challenge for data governance. Although more attention has been paid to data opening and sharing, there is no corresponding risk prevention mechanism. The risk of data security makes most departments concerned about promoting data governance, which leads functional departments to close all their data. Compared with western countries, China's digital governance starts late with backward technology and insufficient security protection measures for big data, which also leads to problems such as data leakage and network information security.

3.3. The government's understanding of digital government construction is inconsistent and lacks an overall strategy

The construction of digital government is faced with the problem that the social demands are blurred, and the understanding of digital government within the government is inconsistent and even erroneous. Civil servants often simply see digital government as a migration from traditional offline to online processes driven by IT, while ignoring its important role in government business process restructuring, organizational structure innovation and cultural change. In addition, government bureaucracy and entrenched thinking lead to insurmountable organizational inertia that makes it difficult to change the way governments think, innovate business processes, and foster a digital culture.

There is a lack of digital top-level design based on the overall government. In the process of providing digital services, especially cross-departmental services, there are problems such as repeated investment, unclear division of labor and even overlapping functions. The first is the lack of standards and norms, mainly reflected in the establishment of technical standards on government governance digital content, technology application, data sharing and other aspects. There is no consensus on the concept of government digitization, and the lack of construction standards leads to uneven government digitization construction. Second, the obstacle of data sharing, the lack of high-level design

and clear standards and norms, coupled with the backward means of data collection, leads to the internal integration of government digitization.

3.4. Lack of digital talents in government departments and insufficient digital ability of civil servants

The main obstacles to digital government are the lack of sufficient digital talent to support the government's future strategy needs, the lack of a reasonable organizational structure to enable institutions to operate in a digital environment, and in particular the lack of good digital leaders. Most government departments still regard IT as the key to the government's digital transformation, while ignoring the cultivation of civil servants' digital skills, which largely leads to the weakness of IT governance within the government. And the heavy reliance on project outsourcing not only increases the cost of digital government but also hinders the government's timely understanding and feedback of the public's digital needs. For example, the new outbreak occurs, to make people's demand for masks, disinfectant and other medical supplies rapid and massive growth, Guangzhou, Xiamen and other places in order to solve the strained masks, rushing masks reservation system is developed, large-scale users access to make up the e-government system operation and the problem of insufficient, cannot take large flow at the same time, the impact of the access system crash occurs, the outbreak is temporary, but how to reasonable deployment of digital government background bear ability, make digital government background can cope with the huge traffic, at the same time how to make the government internal talent with the top number and the related technical experts, is a question worth thinking about. At the same time, the government's lack of technology in data mining, acquisition, integration and analysis, and the value of professional big data are being buried. Due to the lack of awareness of mining technology and data application to solve practical problems, data analysis generally lacks a clear direction, and relevant systems and mechanisms are difficult to form, which makes data analysis mostly stay on the surface, lacking in depth and hard to give full play to its value. The quality of data analysis results is not high, and it is difficult to effectively support other government departments to improve their management and decision-making, and the data application effect is not good. Therefore, data governance should use better technology and create an excellent technical environment to ensure the normal operation of data analysis and application. In the increasingly fierce human resource market, how to cultivate and retain top digital talents is an important challenge for the construction of digital government.

4. MEASURE TO PROMOTE DIGITAL GOVERNMENT CONSTRUCTION

4.1. Strengthen the top-level design of digital government and promote big data legislation

In the current construction of digital government, there are many problems, such as different standards, independent policies and hidden data security problems, which make it difficult for grassroots governments to have enough resources and capacity to solve them. Therefore, important top-level design needs to be strengthened and unified decision-making needs to be made. One is from the national level to establish related to digital government management approach or guidance, clear unity government big data management rules and regulations of our country, accelerate the exploration in open government data and privacy protection, and large data in network security legislation, to promote the opening of government information resources sharing and utilization of the related laws and regulations to establish and perfect, indicate the direction for the construction of digital government, provides possesses more operational guidance opinion. 2 it is to the country and province all levels of the construction of system and mechanism, actively make upper and lower linkage, the mechanism of transverse flow system, and based on the principle of equal with responsibility, and a greater degree to the highest in terms of administrative leadership as a whole and the coordinated ability, at the same time around the inter-departmental coordination agency should be construction, pushing the construction of digital government working together. Third, strengthen publicity. Let more leading cadres realize the importance of digital leadership, and enhance the awareness and willingness of building digital government. As for the lack of digital literacy, we need to carry out digital literacy training in various fields, improve the digital ability of the public, and let more people realize that the reasonable use of the system is more important than the construction of the system.

4.2. Promote the reform of organizational structure and realize the flattening of governance structure

The realization of data open sharing is the premise and foundation of the construction of digital government. However, too many administrative levels of traditional bureaucracy in China lead to the emergence of data sharing barriers. Therefore, it has become the top priority to greatly promote the reform of organizational structure and realize the flattening of governance structure. First, push for a flat organizational structure. The rapid development of information technology has provided a technical foundation for cross-level

collaborative communication. On this basis, rapid communication channels between different levels should be built to reduce the redundant levels in the middle and build a cross-boundary and cross-level technology system. Second, carry out departmental system reform. Build departments that meet the needs of data informatization, integrate departments with similar or duplicate functions, strengthen cooperation between departments, and provide conditions for data sharing and integration across departments. At the same time, it is necessary to reform China's existing performance appraisal system, analyze the digital government functions of each department, clarify the functions of each department, divide the authority, and finally bring the clear authority and scope into the conventional performance appraisal standard system. Finally, the establishment of a specialized agency responsible for government data management. Specialized digital management institutions can establish a unified high standard of data quality management, manage from the data source, improve the efficiency of data processing, and ensure the authenticity of data; The decentralized data will be integrated and further analyzed and optimized to make it a data resource and provide a foundation for further data application. For example, the digital government work leading group was established to make overall planning and organize and lead the construction of digital government, complete top-level design planning, overall coordination, guarantee data security, supervision and control, etc.

4.3. Launch the digital skills upgrading plan to train government digital talents

In the era of big data, in the digital government system, the ability of civil servants to grasp data and promote work with big data has a profound impact on the construction effect of digital government. In the face of a complex professional digital government administration system construction, the government urgently needs to improve its sharpness and insights for data and information, give full play to the advantages of the government in planning and overall enterprise cooperation and explore an effective pattern to combine the two advantages, key is whether the government's regulatory capacity will be able to keep up with the requirements of enterprise cooperation. This will require the government to advance the digital skills of civil servants. First of all, digital and technical professionals within the government should be trained, and opportunities for learning and development should be provided for professionals through digital colleges, and government data capacity should be built through data science campuses and data science accelerator training programs. Digital government involves many disciplines, including public management science and computer application science. In terms of discipline construction, attention should be paid to the application

of knowledge to combine efficient knowledge system with practical application. In promoting the construction of subject system, digital government project as a key subject areas, with the combination of basic subject knowledge, and develop a universal talent, the "intellectual capital" into the high-speed development of digital government construction, promote the main body to actively participate in various fields of the government's construction, into the main innovation point, improve the innovation and development in the field of digital technology, to promote the construction of the field. Secondly, build expert technical service platform and technical support system. Sharing expert resources in various fields and building professional institutions, so as to better and faster promote the construction of digital government, thus providing decision-making advice. Strengthen exchanges and cooperation with other Non-Governmental organizations and enterprises, ensure the integration and integration of digital technologies into various industries, jointly build the Department to serve the people, let digital experts understand the government, and strive to build a service platform that serves the people and benefits enterprises and the people. It also ensures that government leaders have the digital training and experience to effectively manage digital projects and organizations.

4.4. Promote government data sharing and openness, mining and releasing potential value

The huge amount of data owned by the government is regarded as an important asset, and cross-departmental services can be realized through data sharing. Data opening is conducive to data innovation and data value release. Open government data increases the access of the society to valuable government data, so that individuals and third-party institutions can easily access government data. It supports all kinds of social subjects to participate in the construction of digital government, and discovers the collaborative mechanism of government and enterprise cooperation. In the construction of digital government, it enables the government to fully combine its advantages in planning and management with the advanced ideas, capital investment and technological innovation of enterprises, so as to promote the operation efficiency of the government, reduce costs and improve efficiency. We will establish an appropriate and effective institutional system, clarify the rights and responsibilities of all parties, avoid the risks of building a digital government, and steer it on the right path of development. At present, the government's public data opening is still in the initial stage, with single-direction data transmission, data sharing between enterprises and governments, and then it will move forward to the fields of two-way transmission and high-level. Through the sharing of data, the original information blockade and the phenomenon

of strict boundaries are broken, and through the integration and optimization of shared data among departments, a new type of information governance network is created. Based on this, government departments took timely epidemic prevention and control measures. Through the real-time interaction and dynamic coordination of each subject, the value of data sharing is greatly improved.

5. CONCLUSION

In the era of "Digital China" and "Big data", traditional government functions can no longer meet people's living needs. Building a digital government is an important factor to promote the modernization of government governance and realize the digital China under the new situation. However, there are still shortcomings in the development of digital government. To build a good digital government, we need to strengthen top-level design, promote organizational structure reform, train digital government personnel, and promote government data sharing and opening up. Therefore, this paper briefly discusses and analyzes the current situation of digital government construction, and puts forward some development suggestions, hoping to promote the sustainable development of digital government construction.

REFERENCES

[1] Chen Dequan, Wang Li, Zheng Yumei. Research on the Governance System for the Efficient Operation of Digital Government[J]. Information and Communication Technology and Policy,2020,pp.42-46.

[2] XieShengcai,Ye Lin, Lin Yitao. (in Chinese) Digital Government Construction from the Perspective of holistic Governance -- A Case study of Bantian Street in Shenzhen [J]. Journal of guangdong university of administration,2020,pp.5-12+73.

[3] Huang huang. Digital government: policies, characteristics and concepts [J]. Governance research,2020,pp.6-15+2.

[4] Thoughts on Luxury. "Digital Government" under the Concept of Holistic Government [J]. Chinese Leadership Science,2019,pp.56-59.

[5] Dai Changzheng, Bao Jing. Digital Government Governance -- An Investigation based on the Evolution of Social Forms [J]. Chinese Administration, 2017,pp.21-27.

[6] Liu Yuting, Wu Wei. Some Suggestions on promoting the construction of "Digital Government" [J]. Ict and Policy, 2018,pp. 81-84.

[7] Wang Weiling. Accelerating the Implementation of Digital Government Strategy: Realistic Dilemma and Solutions [J]. E-government,2019,pp.86-94.

[8] Feng Xian, Li Jin, Cui Kai. Digitization of Rural Governance: Research on Current Situation, Demand and Countermeasures [J]. E-government,2020,pp.73-85.

[9] Qu Tian, Zhang Xiaojin. Foreign Experience of Big data Social Governance Innovation: Frontier Trends, Model Optimization and Dilemma Challenges [J]. E-government,2020,pp.92-102.

[10] Huang Wei, Chen Jiayou. Promoting digital Government construction by innovating administrative management and service Modes [J]. Guizhou Social Science,2019,pp.16-19.

[11] Mi Ganing, Peng Kangjun, Zhang Changping. Can Big data drive local government institutional reform? [J]. E-government,2020,pp.13-19.

[12] Zheng Yueping, Gan Qi Xuan, Zhang Caiwei, Zhang Xiaofei. Current Situation and Problems of Local Government Data Governance -- An empirical Study based on 43 Government hotline Departments [J]. E-government,2020,pp.66-79.