

Digital Government Construction Perspective: A Study on the Path to Promote the Improvement of Government Public Management Capacity

Yuhao Zhang^{1,*}

¹ Faculty of Social Sciences, Hong Kong Baptist University, Hongkong 999077, China

* Corresponding author: Yuhao Zhang (Email: 22418032@life.hkbu.edu.hk)

Abstract: The report of the 20th Party Congress put forward the strategic policy of accelerating the construction of a strong network and digital China. In today's era, digital technology is booming and the digital transformation of the whole society has become the frontier of modern development. Widely applying digital technology to government management services and promoting the digital and intelligent operation of government to build a digital government is an essential aspect of digital China and a vital link to improve China's digital ecology. It is conducive to providing strong support for promoting the modernization of the national governance system and governance capacity. Strengthening the construction of digital government is an important initiative to innovate the concept and mode of government governance and an important engine to strengthen government operation, decision-making, service and supervision capabilities. From the perspective of digital government construction, this paper explores how to further improve the government's public management capacity from the application level of digital technology. It analyzes the opportunities and challenges facing the construction of digital government in the context of the current big data era. And provide policy suggestions for the construction of digital government.

Keywords: Digital government, Public administration, Digital transformation of government.

1. Introduction

The report of the 20th Party Congress points out that we should "comprehensively promote the great rejuvenation of the Chinese nation with Chinese-style modernization." In the current rapid development of the digital era, the digital transformation of the whole society has become the frontier of modernization and an essential element of Chinese-style modernization. Digital government construction is the key to shaping the digital ecosystem, leveraging the digital economy, and promoting the construction of a digital society. It is becoming an essential support for the deep integration of the digital economy with the real economy and the construction of smart cities and digital villages. To promote the development of the digital economy as soon as possible and deepen the reform of digital government, continuous increase of investment and deepening of reform is a basic direction.

Strengthen top-level design and build a coordinated construction management system and overall linkage mechanism [1]. Comprehensively promoting the digital transformation of cities has become a key task in the construction of digital China. At the end of the 20th century, developed countries represented by the UK and the US, as well as China, began to enter the era of digital government governance from the e-government era, which significantly strengthened the e-public service supply capacity of these countries, and digital governance theories emerged [2]. Around 2010, digital governance emerged in these countries one after another, the "second wave." Big data, cloud computing, and social networks were widely used in the digital governance process. The e-public service provision capacity of these countries was further enhanced, and digital governance theory was further developed. With the interaction of digital governance practices and theories, the digital era has fully arrived. Whether the digital governance

process can be promoted timely and effectively has become a matter of great concern for many countries.

After entering the digital era, enterprises and citizens and other subjects have gradually developed digital governance demands, the most obvious of which is the hope that the government, the most important subject of digital governance, can provide public services more often with the help of information technology, so as to reduce the cost and improve the efficiency of enterprises and citizens and other subjects. With the increasing influence of the digital age, the digital governance demands of enterprises and citizens have been strengthened, and the existence of such demands has helped digital governance subjects to pay more and more attention to digital governance.

On October 28, 2022, the State Council published its latest report on the development of the digital economy. It mentions that the digitization of China's public services is now in progress, accelerating the construction of digital government and continuously improving the level of digital public services with a series of achievements. First, the "Internet + government services" has achieved remarkable results. Second, the level of digital benefits to people has been continuously improved. Third, the digital urban and rural construction is deepening. At the same time also further put forward the requirements for the development of digital government. To promote the joint construction and sharing of government information, to continuously improve the effectiveness of "Internet + government services," to strengthen the sharing of government data and business collaboration, and to improve the standardization, standardization, and facilitation of government services [3]. From the perspective of digital government construction, this paper explores how to further enhance the government's public management capacity from the application level of digital technology.

2. Theoretical Research

2.1. Digital Government

The definition of digital government can encompass both technical and organizational dimensions. At the technical level, digital government refers to the government's ability to distribute information in a more efficient manner based on digital technology. At the organizational level, digital government refers to the empowerment, collaboration and reorganization of government based on digital infrastructure [4].

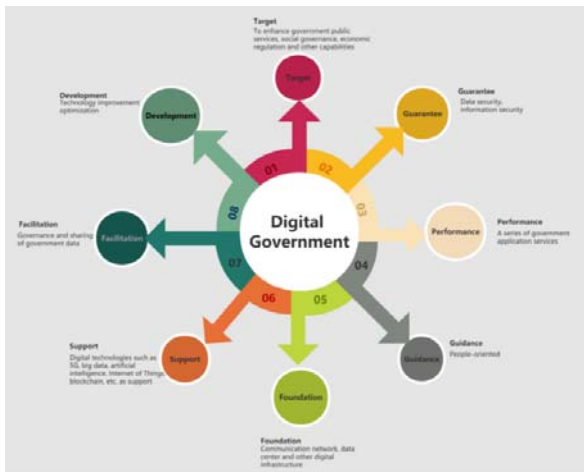


Figure 1. Interpretation of the meaning of digital government

The characteristics of digital government include the following.

Digital government is an informatization government. The information-based government uses modern information technology to obtain information, process it scientifically, make full use of it, and digitize it in various fields such as economy, society, and environment [5]. Information and data are used to optimize government governance, forming a modern governance model of "dialogue with data, decision making with data, service with data, and innovation with data" [6]. In this way, the government's ability to perform its duties can be improved comprehensively.

Digital government is a networked government. The government forms a large-scale information network system with digitalized information. The originally scattered monoliths are assembled into a systematic management network to avoid dead ends and blind spots in management. In this network, various management resources are integrated together to realize collaborative management and services across levels, regions, systems, departments, and businesses.

Digital government is office automation government. Under the condition of office automation, the whole process from drafting to issuing documents is carried out online, no longer need to go through the cumbersome process, the efficiency of running official documents is greatly improved, and urgent documents can be done at any time, cell phones and other mobile terminals make the office can be carried out on any occasion.

Digital government is an open government. Openness and transparency are the basic features of a government based on the rule of law. The digital government fully implements open government affairs, and the whole process of decision-making, implementation, management, service, and the result

is made known to the whole society through the network, so that the power runs under the sun [7]. At the same time, the government strengthens policy interpretation and enhances the consciousness of policy implementation. Government openness is not only a one-way release of information but also a two-way information exchange and interactive feedback between the government and the public, so that the government can hear the opinions and suggestions of the public at any time, respond to public concerns in a timely manner, and let the public participate in decision-making.

Digital government is a government with optimized operation procedures. Optimizing and adjusting the organization structure, operation procedures and management services within the government, and reengineering government processes are the most significant features of digital government. For example, large-scale cancellation and decentralization of approval matters, strengthening supervision in and after the event, etc. Digital government can effectively change the top-down, one-way management mode of traditional government departments, establish a modern management mode with public services as the core, and build a service-oriented government.

2.2. Opportunities for government governance in the era of big data



Figure 2. Trends in Digital Government

The positive effects of big data on government governance [8]. First, the quantity and quality of government data have been greatly improved. Data sources in the public affairs field are constantly enriched, data accuracy is constantly improved, and a "data tsunami" is coming to public management. Secondly, it is changing the behavior pattern of the government. National governance emphasizes the dual diversity of governance subjects and governance tools, and the resulting holistic governance theory and digital governance theory show that in the era of big data, actively promoting citizens' participation in public governance activities not only makes it possible to open government information and improve government transparency, but also effectively fights corruption. Third, big government data becomes an effective tool in public governance activities. With the help of advanced big data resources and information science and technology, government decision-makers can fully explore information from massive data, understand and judge the economic and social development trends, thus improving the efficiency of public decision-making and continuously promoting and enhancing the construction of smart cities.

2.3. Challenges to Government Governance in the Era of Big Data Context

At the same time, with the continuous development of digital technology, while it brings certain basis for government governance, it also objectively brings some challenges. For example, there is a shortage of talent,

inadequate infrastructure and conflicting values [9].

Difficulties in data sharing and shortage of big data analytics talent. Each government agency or department usually has its own repository involving public or confidential information, and agencies are often reluctant to share proprietary data that they might consider, resulting in discrete datasets that cannot be shared between different government departments and between government departments and the private sector. Poor quality of datasets leads to communication failures between different organizations and departments, making departmental collaboration difficult to achieve and making data collection, especially across departments, difficult. The shortage of big data talents is another difficulty in the current development of big data technology abroad. Therefore, many economies facing a shortage of big data talent, including government departments, cannot simply fill that gap by changing the demand for graduates, waiting for people with more skills to graduate, or by importing talent. As a result, it is urgent to accelerate the training of big data talents and fully develop the technologies needed for big data.

Low information infrastructure leads to insufficient scientific government decision-making. First, the phenomenon of the "digital divide" brings bias in regional distribution. Whether it is the "digital divide," or "digital inequality" or "digital disparity," the different concepts reflect the current situation of the large information gap in the digital era. There are gaps in the level of Internet infrastructure construction and access to information technology, and the public opinion in remote or poor areas cannot be delivered in a timely manner, which makes the effectiveness of citizens' access to Internet information vary, and the phenomenon of digital divide widely exists in the process of big data application by foreign governments. Second, the over-reliance on network data leads to biased sample groups. The information covered by large data sets from the Web usually comes from a group of Internet users who use specific social networks; however, they do not provide a true picture of the overall situation as a sample. In other words, the use of low-quality data that are unverified and unvalidated, or collected in the wrong way, can lead to serious biases in public decision-making and policy-making. Thus, rich data provide researchers with opportunities to understand and address social issues, but large amounts of data do not necessarily mean that they are representative and reliable.

Big data era raises value conflicts. Traditional pre-processing of data is mainly through anonymization, pseudonymization, encryption, key coding, and other de-identification methods to divorce data from its source. However, even anonymized data can often be cross-checked for accurate restoration of the original data, thus making it necessary for governments to properly address privacy protection issues in their governance activities. It should also be noted that as data volumes and forms of existence become more diverse, legal systems are designed with a time lag, making it difficult to fully protect personal information that is always in flux. It is necessary for policymakers to set privacy protection standards in the era of big data within the acceptable range of general public awareness, and to acquiesce to the norms in the process of government governance.

3. Digital Government in Public Administration

With the continuous innovation of digital technology, the governance application of digital government in the field of government public management is also progressing and developing. In the service model function-driven has changed to demand-driven. In the governance model from one-way governance to shared governance. In the decision-making model from human analysis to intelligent decision-making. In the operation mode from government-led to socialized operation [10]. The combination of digital transformation and government functions further changes the government's administrative processes and public services.

3.1. Digital service and development environment optimization

Promote the optimization of the business environment. On the one hand, give full play to the role of data to create a "digital intelligence" business environment. Efforts to realize the business environment standard interconnection, information flow, convenient and efficient, promote data sharing and use, to support business operations and organizational decision-making with data. Integrate government data, industry data and social data to stimulate the value of data elements. Integrate online and offline government service channels and resources, promote decentralization, improve service efficiency, regulate market order, accelerate the promotion of "integrated approval," optimize the approval process, compress the approval cycle, and continuously innovate administrative approval methods to achieve approval services "near to do" "immediately," to promote the rapid improvement of the service level of government departments at all levels. On the other hand, the comprehensive upgrade of government services, to promote the optimization of the business environment to make substantial progress. Create a transparent, fair and efficient government service system, fully use big data technology to carve a credit portrait of market subjects, predict and analyze risk conditions, and provide market guidance for enterprises. Through digital technology, we promote the cross-sector, cross-level and cross-regional flow of production factors, improve the efficiency of factor allocation, expand the space for economic development and enhance the quality of economic growth.

Promote service model transformation. On the one hand, it deepens digital transformation and promotes collaborative governance. Around the business scenario, eliminate data silos, break down departmental barriers, build a unified national "big platform, big data, big system," the formation of cross-sectoral, cross-regional, cross-level government information sharing application platform. On the other hand, focus on the actual needs of the masses, to achieve the precision of public services. Promote the digitization of basic public services, enhance the capacity of universal, basic and bottom-up services, encourage regions to actively explore in construction management, service model and process optimization, and promote the benign interaction between top-level design and local practice. In-depth understanding of diversified and complex service needs, around the difficult, slow and complicated to do things, changing passive services to active services, to maximize the satisfaction of personalized and customized service needs.

3.2. Digital Collaboration and Government Operational Efficiency

Improve the operational efficiency of agencies through digital collaboration. Promote the digitization of approval, services and offices within government organizations and among government agencies. Build a government data resource system, strengthen the effective supply of government data resources, promote data-driven business collaboration between departments, build an integrated collaborative office system with data integration, business collaboration and capacity sharing, comprehensively improve the level of common government office applications, promote the integrated online processing of internal service matters, and continuously improve the operational efficiency of organs. Coordinate and promote the intensive construction, interconnection and collaboration of government application systems in various industries and fields, enhance the efficiency of collaboration, and build an up-and-down coupling, collaborative and mutually-promoting governance system.

Optimize internal business processes through digital collaboration. We give full play to the advantages of digital technology, innovate the way of collaboration, and promote the continuous optimization of the government's performance efficiency. Improve the internal processes and structures of government organizations through digital synergy, realize the connection and synergy of digital technology and government business, and help realize "one network for all," "one network for all," and "one network for all across provinces."

3.3. Digital regulation and regulatory modernization

Speed up the construction of the digital regulatory system. Relying on the national integrated online regulatory platform, strengthen the various regions and departments' "Internet + supervision" system interoperability, promote the construction of digital regulatory platform, the full implementation of regulatory responsibilities, improve the classification and supervision policy, improve the comprehensive cross-sectoral regulatory system, the establishment of standardized regulatory standards and rules system, and constantly enhance digital supervision Capacity. Through intelligent supervision and other means, enhance the monitoring and early warning capabilities, and improve the level of supervision in the aftermath of the incident, to achieve precision, standardized supervision.

Continue to promote the innovative application of regulatory data. Actively use big data to strengthen the services and supervision of market subjects, and fully deploy data resources from various places, fields and industries to enhance data aggregation capabilities. Establish a continuous and dynamic regulatory data formation mechanism, promote the collection and sharing of regulatory data and administrative law enforcement data and effective coordination, and build a large data center for market supervision. Promote the full coverage of important regulatory data, and gradually realize the system through, data through, business through. Sound risk warning, off-site supervision, big data analysis and other application functions, and strive to meet the needs of the regulatory business.

Focus on enhancing the ability to collaborate and linkage supervision. To digital regulatory system construction, system platform interconnection, regulatory data convergence as an

opportunity to establish regulatory cooperation and linkage mechanism, promote from functional departments "alone" to comprehensive supervision, intelligent supervision, improve the efficiency and effectiveness of joint law enforcement, cross-domain law enforcement, crack the problem of insufficient regulatory power and regulatory means lagging behind. The comprehensive use of digital technology and other means to perceive the regulatory situation, timely and proactive discovery of potential risks and clues, to achieve "a discovery, multi-linkage, joint supervision," to enhance the overall digital supervision of precision, synergy, intelligent level.

3.4. Digital transformation and administrative system reform

Organizational reform. Digital government construction needs to form an organizational structure that is compatible with the development of the digital era. On the one hand, digital reform should be carried out in accordance with the law, and on the other hand, digital transformation should be promoted through organizational reform. For example, Guangdong Province in the construction of digital government from institutional reform, the construction of "management and operation" of the digital government reform management system, the establishment of government services data management bureau, to explore the combination of institutional innovation and technological innovation of the new model; Shanghai set up to promote the "one network to do Shanghai has set up a leading group to promote "one network for all," "one network for all" and open government services, led by the General Office of the municipal government, with the cooperation of all relevant departments in each district and the implementation of the city's big data center.

Duty system optimization. The construction of digital government helps to accelerate the removal of institutional and institutional barriers and promote the transformation of government functions. Insist on leading the digital transformation of the government by optimizing the government responsibility system, support the accelerated transformation of government functions with the construction of digital government, promote the deep integration of institutional reform and digital technology application, and improve the government responsibility system that is compatible with digital development. Through digital reform, data sharing and collaborative work are realized. For example, Zhejiang Province promotes the reform of the administrative approval system, establishes and improves the effectiveness evaluation and supervision and assessment system, significantly improves the efficiency of government departments and enhances the quality of government public services.

Management mechanism innovation. The digitalization reform will further promote the revision and cleanup of existing laws and regulations that are incompatible with the development of digitalization, promote technology application, process optimization and system innovation in accordance with the law, and encourage and regulate the participation of multiple forces such as government, industry, academia, research and application in the construction of digital government. In the process of digital reform, innovate the mode of cooperation between governments at all levels and other participating entities, explore the purchase of services, contract outsourcing, franchising and other methods,

and promote the formation of an efficient and sustainable digital mechanism. Digital government construction should promote institutional innovation with digital reform, guarantee the overall synergy, intelligence and efficiency, smooth and orderly construction and operation of digital government, and realize the transformation of government functions, change of governance and improvement of governance capacity.

4. Policy Recommendations for Digital Government at the Public Administration

Although China's digital government construction and digital transformation of government affairs have made great progress and achieved certain results in public governance capacity, there are still some problems in further deepening the reform and construction. Combined with the current situation of domestic digital government construction, this paper further puts forward policy recommendations. For example, from optimizing the institutional mechanism of digital government management, improving the digital government service system, increasing the support for digital government construction, etc. [11].

4.1. Strengthen the construction of coordination mechanism

The construction of digital government covers a wide area, involves many subjects, and is related to the people's livelihood of the country. It is necessary to optimize the institutional mechanism of digital government management, to rely on and guarantee a strong policy system and management mechanism, and to improve the institutional guarantee system starting from the top-level design of the country, the standard specification of construction, and the specific system equipped.

All places should strengthen the coordination of government informatization work, the construction of unified leadership, up and down, left and right synergy, coordination and strong synergy of various departments to ensure that the construction of digital government to effectively promote. The national level to develop standards and norms related to the construction of digital government, to strengthen the construction of digital government around the classification of guidance.

At the national level, a leading group or relevant management department for digital government construction should be established to integrate the functions of the E-government Office of the General Office of the State Council, the Central Internet Information Office, the Ministry of Industry and Information Technology and other relevant departments in digital government construction, to provide a unified layout and unified leadership for China's digital government construction, and to strengthen the linkage and guidance from the central government to the local level, so as to ensure the unity of policies in digital government construction and Avoid the phenomenon of multiple government departments. At the local level, localities should integrate the functions and resources of relevant e-government and big data management departments, set up unified digital government construction agencies, unify the levels, standards and responsibilities of digital government construction agencies, implement national policies on digital government, strengthen vertical guidance and horizontal

coordination, and form a national coordination and management system and a five-level linkage mechanism of provinces, cities, counties, townships and towns. It will truly form a national chessboard to promote the construction of digital government in China.

4.2. Deepen online government service capacity system construction

Further break down the data barriers between different levels, regions, departments and systems, promote the orderly sharing of government data, clarify the types, standards, scope and processes of data sharing, and realize network access, data access and business access [12]. Promote the standardization of government services to achieve undifferentiated acceptance of government service matters and the same standard processing. Emphasize the application of big data, artificial intelligence, blockchain and other information technology, strengthen the combination of governance innovation and technological innovation, and promote the continuous improvement of the level of public service wisdom, social governance refinement and market supervision precision. Unify the information technology standards for digital government construction. By implementing unified information technology standards, it can effectively connect the information systems within the government as well as the government affairs platform, effectively realize the transfer of data, and reduce the cost of information systems in digital government construction.

4.3. Strengthen digital government data governance capabilities

Guided by user needs, use government websites and other platforms to gradually promote the opening of government data to society, and promote the institutionalization, standardization and legalization of the development and utilization of government data resources. Guide the behavior of data resources development and utilization around the world, and promote public entrepreneurship and innovation.

Promote the facilitation of online government services. It should stand in the public's perspective to optimize online government services, focus on the public's difficulties, blockages and pain points for targeted reform, improve the approval and service processes related to online government services, focus on public experience, improve service scenarios, and introduce functions such as scene guidance and intelligent search. Realize the precision of online government services. Governments at all levels should set corresponding standards in the dimensions of office guide, service flow and business approval. They should provide corresponding services strictly according to the standards to realize undifferentiated and standardized handling of the same matters.

4.4. Establish a sound assessment and evaluation system

In accordance with the requirements of relying on the Internet to deepen the "management and service" reform, the construction of people's satisfaction with service-oriented government, optimization of the business environment, research and development of digital government construction and operation assessment index system, as an important means of evaluating the construction of digital government in various places and departments, operational effectiveness, social benefits, through assessment and evaluation to further

promote The improvement of the construction level of digital government in all places and departments. A data quality assessment standards, through the assessment of data quality, to enhance the importance of government departments to data, including data integrity, timeliness, accuracy and other aspects, the quality of different types of data resources for a combination of quantitative and qualitative assessment tests, to provide a guarantee for data circulation and transactions.

4.5. Further strengthen the digital government construction efforts

Strengthen the cultivation of digital government construction-related talents. The digital government construction in some foreign developed countries started earlier, and the digital talent cultivation mode is more mature, and the related talent resources are more abundant. By building a channel to introduce digital talents, enhance communication with some developed countries in digital government construction, promote the exchange and learning of digital talents between the two sides, and by enhancing

The welfare treatment of digital talents and the active introduction of foreign digital talents to help the construction of our digital government. Also, strengthen financial support for digital government and the infrastructure needed for the technology. By strengthening infrastructure development, the digital divide between the east and the west can be narrowed. In response to the uneven development of digital government in China, the state should strengthen support for regions that are more backward in digital government construction, provide assistance in terms of technology and incline in terms of policy, and at the same time, promote the exchange and collaboration of digital government construction between regions and build a support mechanism.

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