Digital Inclusive Governance: Theoretical Connotation, Practical Dilemma and Promotion Path-- Analysis Based on the Practice of "One Network" of Government Services

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Abstract. Digital inclusiveness construction is an important component supporting the construction of digital government. This article takes the practice of China's government services "one-stop online processing" as the starting point, and analyzes the core issue of digital inclusiveness governance in the digital era. The article mainly starts from the dimensions of inclusive access, inclusive use, and inclusive results, and through clarifying the theoretical connotation of digital inclusiveness governance, analyzing its logical evolution, and focusing on analyzing the three major dilemmas it faces in the "one-stop online processing" practice: the contradiction between efficiency priority and fairness inclusiveness; the paradox between technological empowerment and digital exclusion; and the structural contradiction of bureaucratic inertia and collaborative barriers. Finally, from the perspectives of institutional construction, inclusive design, and collaborative governance, it aims to solve the contradictions specifically.

Keywords: digital inclusiveness; government services; one-stop online processing; digital government construction; government innovation

1 Introduction

As of May 2024, the national government service platform has over 890 million registered users, with a total visit volume exceeding 9.0326 billion times. Data sharing among various regions and departments has exceeded 540 billion times, and national e-government has achieved full coverage of administrative regions at or above the county level. These achievements indicate that China's digital government services have made significant progress. Based on these achievements, the practice of "one-network-for-all" has accelerated. "One-network-for-all" improves service standardization, standardization, and convenience through improving systems and standardization frameworks, connecting government information systems. However, while the practice of "one-network-for-all" is rational and efficient, inclusiveness is often regarded as a secondary goal or a remedial category. The neglect of the real needs of diverse groups is considered a potential risk that hinders the development of digital

© The Author(s) 2026
J. Rak et al. (eds.), *Proceedings of the 2026 11th International Conference on Social Sciences and Economic Development (ICSSED 2026)*, Advances in Economics, Business and Management Research 391,
https://doi.org/10.2991/978-94-6239-701-9_94

governments, and has become an inclusiveness issue in the process of digital transformation. Therefore, through inclusive institutional design and human-oriented government governance, bridging the digital divide and achieving a strategic adjustment from technological empowerment to inclusiveness empowerment.

2 Literature Review and Question Raising

Looking at the research on the digital divide in the academic community, its development process has gone through the deepening from the material level to the ability level, and then to the social level. Early research showed that simply providing access to information and communication technologies could bridge the digital divide. [1] With the deepening of research, the connotation and extension of the digital divide concept have exceeded the issue of whether access can be made, focusing on the differences in the usage ability and skills of information subjects. In the face of digital integration governance in the information society, the digital equality principle proposed in July 2000 made the value orientation of digital inclusiveness take shape initially. In the report "The Laggards in the Digital Age: Towards Digital Inclusiveness" released by the US Bureau of Statistics, the concept of "digital inclusiveness" was first proposed [2]. The academic research on digital inclusiveness governance has shifted from focusing on the division of the technical access framework to analyzing it as a comprehensive governance approach.

Digital inclusiveness ensures digital access and digital literacy, providing an effective user premise and support for government affairs processing, and further driving the transformation process of digital government governance. However, when projecting the previously constructed theories onto the specific scenario of "one-stop online government services", existing practical research mostly focuses on the technical and efficiency levels, lacking a systematic analytical framework to link the inclusiveness value with the operation mode of the digital government. With the optimization of government service processes and the emergence of hotspots in cross-efficiency innovation, the digital platform promoting the efficient completion of one thing at a time has already become a core issue. [3] Studies generally hold that digital inclusiveness encompasses an integrated multi-dimensional governance system that goes beyond the technical access perspective, encompassing access inclusiveness, capability empowerment, and value creation. Firstly, in the dimension of access inclusiveness, research indicates that attention must be paid to groups that are disadvantaged due to lack of digital skills, devices, or trust; Secondly, in the dimension of capability inclusiveness, research focuses on empowering individuals and organizations through technology sharing, data sharing, and platform sharing, reducing the complexity of users' operations; Finally, in the dimension of value inclusiveness, research advocates that the ultimate goal of digital governance is to enable all groups, especially vulnerable groups, to enjoy the improvement of digital well-being and participate in value creation fairly. In view of this, this paper will build a framework including value goals, core dimensions, and analytical logic based on existing research.

3 Theoretical Connotation of Digital Inclusive Governance

The "China Digital Inclusion Development Research Report (2024)" states that compared to the concept of digital divide, digital inclusion has more practical guiding value. This shifts the focus of research on digital divide from "whether one has it" to "how to use it", covering two levels: the former refers to whether one can effectively access the network, and the latter refers to the gap in the ability to apply the technology after accessing. [4] It also emphasizes the systematic transformation of the digital ecosystem, aiming to ensure that all individuals and communities, especially effectively use digital technologies and share the development outcomes on this basis.[5] This deepening process shows that digital inequality is not simply a matter of the presence or absence of devices, but is closely related to structural factors such as the social economic status, educational level, age, and region of the target population. It has become a new type of social inequality closely related to an individual's feasible ability. [6]

3.1 Inclusiveness at the Access Level

When digitization becomes the fundamental framework of social life, access rights have become a necessary social-type basic right. [7] Any inequality in digital access must be beneficial to those who are in the most disadvantaged situations. Facing different levels of access barriers, it can lead to complete inability to connect to the network and being excluded from the digital society; problems such as slow network speed, high costs, inability to equally enjoy high-quality services, and having equipment but no ability to use it. [8] Firstly, the physical access reflects the equal distribution of digital infrastructure for government services. In the "one-stop online processing" service, to avoid the risk of a gap in the initial stage of construction, the implementation of projects such as "Broadband China" and "Universal Service" has enabled the broadband access rate in administrative villages to reach 100%. Secondly, quality access reflects the diversified service entry points and humanized institutional design. In the identity verification process, the "Application Security Management Measures for Facial Recognition Technology" specifically states that the processing of facial information of the disabled and the elderly should comply with the relevant regulations on the construction of barrier-free environments.[9]Finally, the realization of identity and qualification access is inseparable from the support of a unified identity authentication and electronic certificate mutual recognition system. The "Opinions on Improving the Regular Promotion Mechanism of Key Matters of 'Efficiently Handling One Thing'" points out that each region should retain necessary offline service channels based on local conditions. [10]

3.2 Capacity Inclusion at the Use Level

When the basic access conditions are met, the differences in skills become the key factor leading to digital inequality. Capability inclusion refers to taking active interventions through education, training and adaptive design to empower all citizens, enabling them to acquire operational skills as well as cognitive and information liter-

acy. The goal of digital inclusion is not merely to provide target populations with electronic devices and networks, but to empower them with the practical and feasible ability to utilize digital tools to improve their lives according to their own will. At the skill level, users need to gradually learn how to operate devices, fill out complex online forms, undergo facial recognition authentication, and understand professional terms and procedures, all of which may constitute invisible barriers to use. Thus, the country has implemented a series of top-level design guidelines to guide practice, such as the "Implementation Plan for Effectively Solving Elderly People's Difficulties in Using Smart Technologies" and the "Opinions on Establishing a Regular Promotion Mechanism for Key Matters of 'Efficiently Handling One Thing'" [11]. It is pointed out that the essence of ability inclusion is not to make users adapt passively to technology, but to lower the usage threshold of technology and actively adapt to the diversity of people.

3.3 Value Inclusion at the Result Level

Value inclusion at the outcome level means that the fruits of exponential development should benefit all members of society, focusing not only on the fair distribution of resources and opportunities, but also on whether different groups are recognized as legitimate participants, and whether their needs and experiences are discovered and respected. In the "One Network," value inclusion is embodied in three basic dimensions. The first is the fairness of development opportunities. The digitalization process breaks down the multiple barriers between regions, information and processes for education, employment and development. The second is the sharing of digital dividends, which comes from the efficiency improvement brought by the comprehensive optimization of government service processes. Specifically, the simplification of the government's internal work process and the advantages brought by online integration have significantly reduced the cost of administrative operation. The resources saved and wealth created by the improvement of efficiency will be transformed into better and more equal public services, which will eventually be shared by all the people. The third is the protection of digital rights.

4 The Practical Dilemma of Digital Inclusive Governance

4.1 The Dichotomy Between Efficiency Priority and Equity and Universal Benefits

The inherent contradiction between the efficiency-first value advocated by the digital inclusion concept and the value of fairness and inclusiveness often cannot be reconciled. This contradiction is not an accidental operational error but a series of results formed under the drive of a single goal. First, this contradiction is manifested in the bias of technological penetration. The digital inclusion concept emphasizes benefiting all groups, with particular attention to the access and use fairness of disadvantaged groups and those with insufficient digital capabilities. Secondly, this contradiction is also profoundly reflected in the fundamental differences in service design. The system

optimization driven by efficiency focuses on standardization, simplification, and automation. Firstly, it is manifested in the fundamental conflict between efficiency-oriented standardization, large-scale processing, and the differentiated and personalized needs of disadvantaged groups. Secondly, the scale effect driven by efficiency and the personalized needs of disadvantaged groups form a paradox. At the service provision level, the contradiction between efficiency-oriented standardization and large-scale operation and the differentiated demands of disadvantaged groups has intensified due to the squeezing of offline channels. Many local governments, when promoting "one-stop online processing", assigned absolute priority to indicators such as "online processing rate", "mobile application rate" and "user growth rate".[12]

4.2 Paradox of Technology Empowerment and Digital Exclusion

During the process of building a digital government, technological empowerment serves as the primary manifestation of eliminating outdated practices and enhancing efficiency. Technology is regarded as the core tool for empowerment. However, technology itself is not value-neutral and is a tool subject to the constraints of value rationality, thus causing the application of technology to shift from empowerment to digital exclusion. In the "one-stop online processing" system, this paradox is mainly manifested in three aspects. Firstly, the intention of simplifying the interface design creates a paradox with the actual increase in cognitive burden. Government APPs and websites often fail to fully consider the actual usage habits of people with low digital literacy in their design. Secondly, the security verification mechanism conflicts with the goal of inclusive services. To ensure security and implement the real-name system, "One-Stop Online Service" mostly employs high-intensity verification methods such as facial recognition and SMS verification. Thirdly, the pursuit of precise algorithmic decision-making and systematic bias create a paradox. In the process of "one-stop service" evolving towards intelligent services, it increasingly relies on algorithms for demand matching and service recommendations. The premise of algorithmic precision is to transform complex realities into computable homogeneous data.

4.3 Structural Contradictions of Bureaucratic Inertia and Coordination Barriers

As a key point of digital inclusive governance, user-centered approach requires breaking down departmental boundaries to achieve data sharing and business collaboration, thereby providing citizens with an integrated service experience. However, the practice of "one-stop online processing" is rooted in the traditional hierarchical structure. The inherent operational mode based on responsibility positioning has a significant conflict with the networked and collaborative characteristics required for digital transformation. The first form is the lack of synergy between data and business. Although national and provincial data sharing and exchange platforms have been initially established, due to the long-standing differences in data collection standards, formats, and measurement scales among various departments, the flow of data across departments, levels, and regions still faces resistance. This results in enterprises having to

visit different online ports of different departments and repeatedly submit the same materials such as business licenses and identity certificates when conducting business. The second form is system barriers and obstacles to process integration. Due to the fact that the government information systems constructed by local governments at different times were developed by different vendors, there are significant differences in technical standards, data norms, and business processes.

5 Build a Promotion Path Towards Digital Inclusive Governance

5.1 The Internal Tension Between Efficiency and Equity Should be Balanced by Institutional Construction

Rigid institutional arrangement and mechanism design support can better reduce the negative impact of efficiency priority principle on fairness and universal benefit. On this basis, the establishment of a performance appraisal and accountability mechanism oriented by digital inclusion will help integrate equity into the process of policy implementation and prevent the "digital divide" from gradually widening in the operation of government services. Specifically, governments at all levels should fully measure service inclusion and incorporate its system into key performance indicators in the assessment of "One Net Access Office". Secondly, building an institutionalized service channel based on offline main channels and supplemented by multiple alternative channels is the key to ensuring that citizens truly enjoy the right to choose government services. It should be based on universally accessible offline services, ensure that the implementation of any online services is planned simultaneously, and retain corresponding convenient offline processing channels, and give full support in operating funds. Finally, as the material basis for bridging the digital divide and promoting the equalization of services, it is indispensable to improve the financial guarantee and resource allocation system of digital inclusion.

5.2 Eliminate the Practical Paradox of Technology Empowerment and Exclusion By Inclusive Design

To resolve the exclusion risk brought by technology empowerment from the source, it is necessary to fully integrate the principle of inclusive design into the government service system. The service design of "One Network" must actively incorporate the real use scenarios of vulnerable groups and diversified groups to ensure that the design process includes in-depth research of typical users. For example, when developing the provincial unified government APP, the team members who participate in the whole prototype evaluation should cover vulnerable groups. From the optimization of interaction design, reduce the operation threshold of ordinary citizens. In addition to continuously simplifying interface logic and optimizing information architecture, a regular auxiliary use mechanism should also be established: online platforms provide "one-click assistant" entrance and embedded operation guidance videos. Secondly,

hierarchical and diversified authentication schemes should be implemented to enhance the inclusiveness and flexibility of identity verification. On the premise of ensuring security, provide a variety of authentication options to reduce the odds of excluding some groups. In addition, to ensure algorithm fairness, service accessibility and decision-making transparency should be promoted together.

5.3 Solve the Structural Contradictions of the Bureaucratic System Through Collaborative Governance

The integrated service experience required by digital inclusive governance is in essential conflict with the fragmented pattern of bureaucracy. The collaborative governance reform of data governance, standard unification and process reengineering provides an idea for building a government centered on the needs of citizens. First, build a digital base with unified standards and platforms. We will continue to improve the national integrated government service platform, focus on promoting the unification and implementation of key standards such as government service coding, data interface and identity authentication, and comprehensively implement "one set of standards, one window of acceptance and one authentication". Second, it takes users as the center to realize cross-department and cross-level process coordination and data sharing. The government should improve the cross-departmental data governance coordination organization, formulate a unified national government data sharing process and security norms, and clarify the data rights and responsibilities of all departments. Secondly, the efficient circulation and sharing of data should be promoted on the premise of security and privacy.

6 Conclusion

Starting from the practice of "connected government services" in China, to the analysis of the theoretical connotation, practical difficulties and breakthrough paths of today's digital inclusive governance, the deep integration of digital technology and administrative services not only improves efficiency, but also builds an invisible "digital wall". How to make technology benefit every citizen has become a key yardstick to measure the level of governance modernization.In the face of the contradiction between efficiency priority and fairness and universal benefit, the paradox between technology empowerment and digital exclusion, and the structural contradiction between bureaucratic inertia and coordination barriers in the practice of "one network", it is necessary to solve the problem through the perspective of system construction, inclusive design and collaborative governance. This can make technological rationality truly obey public value rationality, and realize the qualitative change of digital governance from "universal governance" to "easy governance," "smart governance" and then to "inclusive governance."Although this study has established a basic analytical framework for digital inclusive governance, it still has certain limitations. As a governance practice with Chinese characteristics, the experience of "One-Stop Online Services" is unique. Whether the paths proposed in this paper are applicable to a wider range of social

governance scenarios remains to be verified through subsequent horizontal comparisons and longitudinal tracking studies.

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