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Empowering the Relationship Between the Government Functional Departments and Local Government Integration: An Integrated Study Based on Urban Digital Governance Platforms

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Abstract: Within the context of modernising government governance, the "platform" in the construction of digital government has become key in driving the efficiency of government services and management. This paper, based on the Technology-Organisation-Environment (TOE) framework and combined with theories of holistic governance and collaborative governance, delves into the crucial role of information technology and emerging governance models in eliminating barriers between government departments, optimising departmental structures, and fostering mechanisms for inter-departmental collaboration and sharing. Throughout the research, emphasis is placed on the importance of emerging technologies such as cloud computing, big data, and artificial intelligence in promoting efficient collaboration and resource sharing between government departments. By integrating and optimising governmental internal and inter-departmental data resources and service processes, it is possible to effectively advance the enhancement and integration of the relationship between the government functional departments and local government relations, adapt to the rapid changes in societal demands, and provide more precise and convenient public services. The core objective of this study is to establish a unified government big data platform, promoting the optimisation and integration of departmental structures, constructing an efficient mechanism for departmental collaboration and sharing, achieving data sharing and flow, and establishing a tight governance network. This aims to comprehensively enhance government governance capabilities and service quality, provide assurance for achieving more efficient and equitable governance objectives.

Keywords: Digital Government, Platform, TOE Framework, Sectoral Fragmentation

1. Introduction

As an indispensable part of China's government governance, the issue of the government's relationship between the government functional departments and local government has always been a focus of academic attention. From the beginning of the establishment of the People's Republic of China, the government’s functional departments autocracy implemented under the planned economy system, to the local government autonomy after the reform and opening up implemented the policy of streamlining the government and delegating power, and now, the modernisation reform of the

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national governance system has become a new development trend. However, the operation of the government is still constrained by the traditional system framework, making it difficult for the government's functional departments and local government to achieve a smooth intersection. The administrative efficiency has always been limited by sectoral relations, and as the responsibility of local government becomes increasingly heavy within the vertical governance system, the contradictions between the government's functional departments and local government gradually become prominent. However, the transformation of the current public service model provides new possibilities for breaking through sectoral restrictions.

Data from 2021 show that the average index of integrated public service capability of provincial governments was 88.07, with nearly sixty percent of provinces performing beyond this standard [1]. In 2022, the State Council issued the "National Integrated Public Big Data System Construction Guide" to further accelerate this process, providing new tools to improve governance efficiency. The upgrade of digital governance platforms nationwide and the launch of public service apps herald a new reform of service models, and the barriers to sectoral relations will change with the introduction of new technologies.

In the context of modern government governance, building a unified public big data platform has become key to the government's development strategy. This paper deeply analyses the basic mechanism by which digital governance platforms promote the integration of the government functional departments and local government, and discusses in detail the impact of this process on the efficiency of public services and positive externalities. With the help of digital platforms, the boundaries between the government's functional departments and local government are gradually dissolving, allowing government departments to be more flexible in cooperation and resource sharing, and building a tighter governance system. The results of this study aim to enhance the efficiency and quality of government governance, promote information sharing between departments, alleviate the negative effects of government sectoral division on governance effectiveness, and provide practical references for the construction of digital governments in various provinces and cities.

2. Retrospect: The Evolution of Sectoral Issues and the Construction of "Platforms"

2.1. The Evolution and Coordination of Sectoral Relations

The issue of sectoral relations within China's governance system has existed for thousands of years, starting from the feudal system of the Shang and Zhou dynasties, and evolving through continuous development. The relationship between the government's functional departments and local government has constantly swayed between "centralised power" and "localised power" in response to the demands of national governance. The government functional departments act as the direct executor of national functions, implementing the will of the state and also being a component of the local government it belongs to, maintaining the integrity of the local government governance; the local government serves as the representative of the state at various local levels and is the implementer of local governance objectives [2]. Their relationship is extremely close, interwoven, yet fraught with various contradictions.

The essence of China's sectoral division issue lies in the rigid relationships formed under the traditional bureaucratic system, with this issue being particularly pronounced in grassroots governance. Scholars Peng Bo and Liu Xu, in their research on the coordination problems of grassroots governance, have found that in recent years, the focus of China's governance has been shifting towards the grassroots level. As the vertical control intensifies, the trend of strengthening the government's functional departments to empower the local government becomes increasingly apparent [3]. Higher-level governments attempt to break through the barrier between the government functional departments and local government by granting various rights and rigid systems to

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grassroots governments, detaching grassroots governments from the rigid bureaucratic structure. However, during the reform process, the inherent issues such as the insufficient political status and limited resources at the disposal of grassroots governments were overlooked. This led to a situation where grassroots governments have "small authority but big responsibilities", facing a governance dilemma of "thousands of lines from above, one needle below". In the process of mobilizing work downwards in the government functional departments and local government, it has inadvertently resulted in grassroots governments having to bear a heavy bottom-line responsibility[4].

2.2. The Integration Construction of Digital Platforms

Tim O'Reilly, in his article "Government as a Platform", extended the concept of platforms to the field of government governance, sparking widespread attention globally[5]. This concept inspired many countries, including developed ones like the United States and the United Kingdom, to consider platform construction as a crucial part of the development of digital government, leading to the global spread of the platformization concept in digital government construction.

To enhance the overall construction level of digital government, China places great importance on the construction of digital platforms. The "State Council's Guiding Opinions on Actively Advancing the 'Internet Plus' Action" released in 2015 pointed out the need to accelerate the deep integration of the Internet and the public service system of the government, promote the opening of public data resources, encourage the innovative supply of public services and the integration of service resources, and build an integrated online public service system for the public[6]. Under this major trend, scholars Xu Xiaowen, Man Xin, and Zhao Xun divided the construction process of China's government service platform into four development stages: construction, connection, optimization, and overall planning. Generally, China's government service platform has experienced a development trend from fragmented to intensive, and the overall framework of the national government service platform "one network" has been preliminarily completed[7]. Huang Huang, in his study on "platform-driven digital government", defined it as a government based on new digital infrastructure, constructing platforms that broadly connect the public, businesses, civil servants, and all government agencies[8], further deepening the understanding of the core concept of digital government and emphasizing the subjects and objectives that the government needs to focus on during the digital transformation process.

Although China started late in the construction of digital government, it has developed a unique development model and achieved significant results in digital construction. Compared to other countries, China quickly made up for the disadvantages of a late start in digital government construction, demonstrating strong policy implementation and the advantages of centralized unity. Especially in the integration and optimization of government service platforms, the Chinese government adopted a top-down approach, effectively integrating the resources and services of governments at all levels and different departments, improving the efficiency of government services and citizen satisfaction.

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3. Construction of the TOE Framework

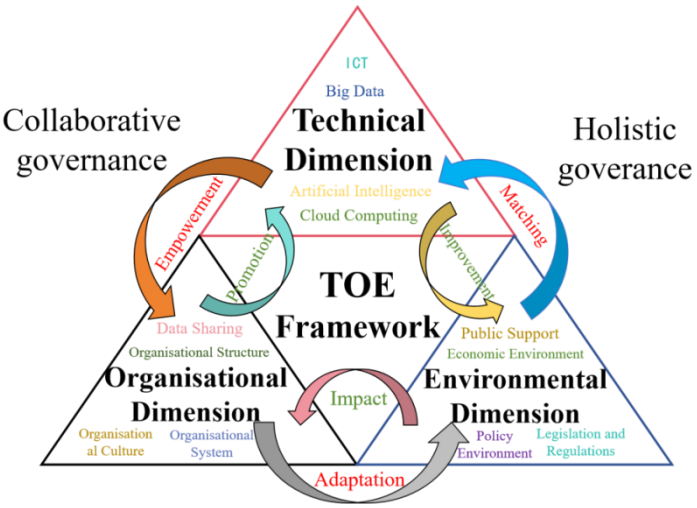

Figure 1: Theoretical framework diagram

This article delves deeply into the impact of digital platform integration on sectoral relations (Figure 1). By integrating the TOE framework [9]—which encompasses three dimensions: technology, organization, and environment—with holistic governance and collaborative governance theories, a model is constructed that provides a theoretical foundation and analytical framework for the strategy formulation and practice of digital government. The core of the model lies in identifying how each dimension interacts with the others to promote more efficient collaboration and integration of sectoral relations through digital platforms, thereby enhancing intergovernmental data sharing and the integrated utilization of resources. The technology dimension focuses on how current and potential technological developments enable governments to provide more efficient, transparent, and participatory services. This includes, but is not limited to, the application of Information and Communication Technologies, cloud computing, big data, artificial intelligence, etc., offering possibilities for processing large-scale data, optimizing service delivery, and enhancing decision support. The organizational dimension considers the impact of internal organizational structures, systems, culture, and resource allocation on the adoption of new technologies and the implementation of collaborative governance strategies. This encompasses the construction of mechanisms for inter-departmental collaboration, adaptive changes in organizational culture, and the enhancement of leadership and departmental working skills. The environmental dimension examines how external policies, laws and regulations, market dynamics, and the socio-economic environment influence the implementation of digital government, particularly the support of policy and legal frameworks, providing a foundation and guidance for digital transformation.

3.1. The Technology Dimension

In the technological dimension, "platform-driven digital government" has achieved a profound transformation in government governance by integrating modern information technology. According to the research led by Huang Huang from Peking University's research team, under the vigorous promotion in China's 31 provinces (autonomous regions and municipalities), a digital government infrastructure (DGI) core structure of "1 foundation, 2 mid-grounds, 3 service ends, 4 platforms" has been formed, along with diversified applications (N applications) based on this infrastructure [8]. This structure has not only optimized the internal data management and service processes of the government but also facilitated communication and interaction between the government, the public,

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and enterprises, effectively transitioning government sectoral relations from a two-dimensional to a "three-dimensional" model by constructing platform bridges that break down temporal and spatial barriers between government entities.

The essence of technological integration lies in the integrated use of data resources. The release of more than 9,000 data resources by the national public service platform, its support for 5,951 governmental departments, and the more than 300 billion times the governmental data sharing and calls mark a new height in government data sharing and business collaboration [1]. These technological practices have significantly improved the efficiency of government services, transforming the "systemic contradictions" of inter-sectoral data sharing into "technical contradictions" that can be solved, reducing the steps in internal government business processes, and diminishing the impact of sectoral relations on business collaboration.

The impact of the technological dimension is also evident in the personalization and intelligence of public services. By building a unified public big data platform and utilizing big data analysis and artificial intelligence technologies, more precise services are provided for the specific needs of the public and enterprises. Currently, the public service platform has cumulatively integrated 2.58 million local department services related to enterprise affairs [1], covering the entire lifecycle of enterprises, greatly enhancing the convenience of enterprise affairs and the adaptability of government services.

Digital government, by constructing efficient and intelligent service platforms and data-sharing mechanisms at the technological level (Figure 2), not only breaks through the temporal and spatial limitations of government sectoral barriers, optimizes government business processes, and accelerates the integration of the government functional departments and local government but also enhances the efficiency of public services. It promotes interaction between the government, the public, and enterprises, allowing for a more rapid advancement in the modernization of government governance capabilities and service levels.

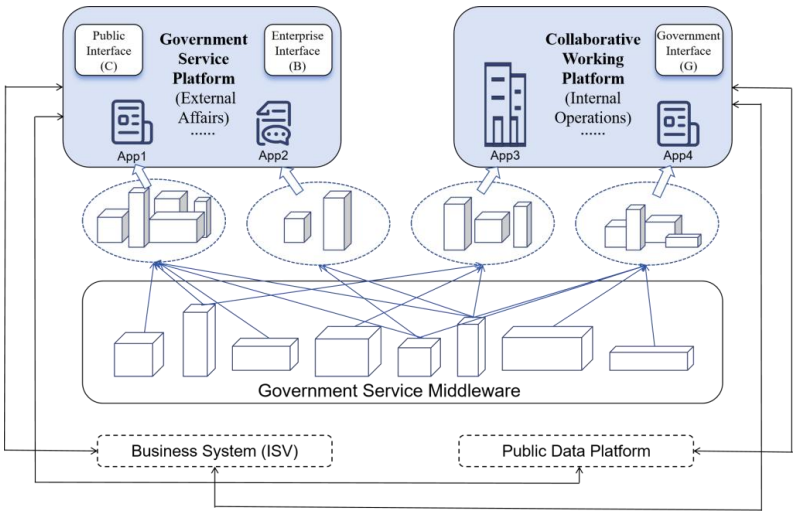

Figure 2: The connection among the four major platforms

3.2. The environmental dimension

According to the logic of value generation through digital technology, establishing digital platforms can trigger the phenomenon of "interactive value creation", meaning the more a digital platform can achieve openness and sharing, the greater the value it creates [10]. In the environmental dimension, addressing the issue of government sectoral relations and promoting their integration is crucial for the development of digital government. The changing societal demands drive the government to optimize services, while technological advancements provide the means for integrating the

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government's functional departments and local government. The application of technologies such as 5G, big data, and cloud computing has made data sharing and business collaboration possible, playing a key role in breaking down information silos and promoting cooperation between different government departments as well as across regional governments.

The currently implemented grid management model, in terms of the entire city's digital transformation environment, starts from a holistic mindset. It facilitates a shift in urban governance from closed control to refined management [11], achieving accelerated data sharing, unfolding common interests, and solving the problem of fragmented public governance. Economic development, on the other hand, has formed a bidirectional relationship with the construction of digital government in terms of financial support and policy promotion. As digital government continuously enhances innovation, digital economic models are also rapidly coming to the forefront, promoting the optimization of the urban economic environment. A favorable policy environment also provides a clear direction and framework for the development of digital government, especially during the pandemic, where the effective use of digital government platforms highlighted the importance of cross-departmental collaborative cooperation. By formulating policies and measures that promote data sharing and integrated services, it effectively guided the integration of the government functional departments and local government within the government, achieving an overall optimization of public services.

3.3. The Organizational Dimension

The platform-based government constructed on digital platforms differs from the traditional bureaucratic, omnipotent, and contractual forms of government. It showcases a networked, flattened organizational structure with greater flexibility and technological application capability, serving as an effective supplement and optimization of traditional management modes [12]. In the organizational dimension, this manifests specifically as follows: based on the theory of collaborative governance, digital platforms build new bridges between government departments, between the government and the public, and between the government and businesses. It achieves modular integration of different specialized departments on the platform, reflecting the spirit of polycentric governance and collaborative governance, and enhancing interaction and cooperation across departments [13].

In the organizational dimension, the integration of digital platforms has played a transformative role in the relationship between the government's functional departments and local government. According to the "2022 Provincial Government and Key City Integrated Public Service Capability Survey and Evaluation Report", among 31 provinces (autonomous regions and municipalities), 29 regions have established more than 40 vice-ministerial level or above data management institutions or public service institutions, reflecting a general trend of organizational structure adjustment. Additionally, the national public service platform has released more than 9,000 data resources from 53 State Council departments, supporting more than 300 billion instances of public data sharing and calls, significantly enhancing the efficiency and scope of public services [1].

In terms of improving administrative efficiency, by the end of 2021, 90.5% of provincial administrative licensing items could be processed online with a "maximum one visit" requirement, and 56.36% of items achieved "zero visits", highlighting the key role of digital platforms in enhancing the convenience and efficiency of government services. Moreover, the establishment of a "cross-province service" area further promotes the convenience and popularization of government services.

The transformation in the organizational dimension, especially through the establishment of data-sharing service systems and coordination mechanisms, not only facilitates collaborative processing among government departments but also provides more efficient and convenient services for businesses and the public. The improvement in data sharing and collaborative processing indicators further reflects the positive outcomes of digital platforms in promoting collaboration among the

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government functional departments and local government, and in optimizing government service processes.

4. Conclusion

The construction of digital government is an indispensable part of the modernization of government governance, with the establishment of platforms being the core of digital transformation. Although the development of digital platforms in China is currently strongly affected by the division of the government functional departments and local government, these challenges can be overcome and transformed into opportunities to drive innovation in government governance through policy guidance, technological innovation, and organizational adjustments. This paper discusses how the integration of urban digital governance platforms can become a key force in promoting the integration of government departments, optimizing governance structures, and improving the efficiency of public services. By adopting the Technology-Organization-Environment framework combined with theories of holistic governance and collaborative governance, it presents a systematic solution aimed at breaking through the barriers of government sectoral relations with the help of information technology and new governance models, thereby promoting a comprehensive enhancement of government governance capabilities and service levels.

In the future, with the further development and application of cutting-edge technologies such as artificial intelligence, big data, and cloud computing, it is expected that China's urban digital governance platforms will achieve a deeper integration and introduce more elements of intelligent governance, realizing leapfrog progress from e-government to digital government to smart government. This process not only requires the government to continue promoting technological innovation and organizational reform but also needs forward-looking arrangements in policy guidance and legal framework construction.

There is still a great deal of room for the development of China's urban digital governance platforms. By driving government service innovation through technology, optimizing organizational structures, and positively responding to environmental factors, it is possible to integrate the government functional departments and local government, break through the problems of information silos and information chimneys, and enhance government governance efficiency and the level of public services. Looking forward, it is necessary to continue exploring and deepening the practice of integrated digital platforms, promoting the modernization process of government governance. Optimizing intelligent governance structures and using cutting-edge technologies to optimize services and management will bring a more efficient and convenient administrative experience to the public and businesses, creating a new chapter in government governance and public services.

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