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Digital Governance Models in Greater China: A Comparative Analysis of Public Service Delivery in Mainland China, Hong Kong, and Macao

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Abstract. Digital transformation has become a key driver of public sector innovation, encouraging governments to redesign public service delivery through digital governance. Although Mainland China, Hong Kong, and Macao share cultural and historical connections, their distinct institutional contexts and administrative arrangements have resulted in different digital governance models. This study compares digital governance practices across the three regions to examine how institutional conditions influence governance approaches and public service delivery outcomes. A qualitative comparative case study approach is adopted, drawing on policy document analysis and secondary literature to examine governance frameworks, service delivery mechanisms, and citizen-oriented initiatives. The findings reveal that each region demonstrates different strengths in administrative efficiency, digital accessibility, service responsiveness, and citizen engagement, reflecting the influence of institutional arrangements and policy priorities. By identifying both similarities and differences among the three regions, this study contributes to a deeper understanding of digital governance development in Greater China and provides practical implications for policymakers seeking to enhance public service delivery and promote cross-regional policy learning.

Keywords: Digital governance, Public service delivery, Greater China, Comparative analysis, Institutional context

1. Introduction

Digitalisation has been driving the development of new ideas in government over the past few years and changing how public services are provided [1]. With the rapid development of digital technology, artificial intelligence, big data, cloud computing and mobile platforms, intelligent government and digital government systems have gradually been established. Digital governance aims to improve the efficiency and accessibility of government services for the people by integrating technology and institutional design more effectively than traditional e-government [2]. Mainland China, Hong Kong and Macao offer rich cases for studying various models of digital governance. Although the three areas have the same culture and history, their systems of governance, administration and policies are not the same [3]. The above institutions have adopted different paths

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for digitalisation and public service delivery. As a result, the areas have formed their own governance emphases, implementation paths and digital service plans.

Most previous research has focused on the development of digital government in individual areas and studied problems such as smart government and digital public services. Comparisons of the digital governance in different institutional environments in Greater China are also lacking. No studies have examined the effect of institutional design on governance models and public service delivery in a shared-culture area. Therefore, this paper will conduct a qualitative comparative case study of digital governance in Mainland China, Hong Kong and Macao. Based on policy document analysis and secondary research, this paper compares the governance system, public service delivery mode and citizen-oriented digital initiatives in the three areas. Research on how various institutions shape the practice of digital governance and public service results. Based on the comparison of the three areas, this study will provide more information on the digital government in Greater China.

2. Literature review

2.1. Concept and evolution of digital governance

With the development of information and communication technology and changes in public administration, the concept of digital government has also been modified. Early studies focused on electronic government (e-government) and generally meant applying information technology to digitise the work of government departments to boost efficiency [4]. At that time, digitalisation was relatively early, and most of the changes undertaken by the government involved improving the accessibility of information and implementing paperless offices. With the increasing integration of digital technology in public administration, the concept of digital government has gradually emerged; at present, it is not merely the digitisation of services [2]. Digital government advocates for using digital technology strategically to reform the structure of government, optimise decision-making, and offer all-encompassing public services. Improve the Government's capacity by strengthening data management, building a digital platform and promoting organisational reform.

Recently, digital governance has developed into a more all-encompassing concept that requires the cooperation of various parties, including the government, the people, enterprises and social organisations [5]. Digital governance is not technology; it is how to use technology to coordinate the work of organisations and society. Digitalisation is regarded as a multifaceted governance problem rather than a simple technological improvement, and cooperation among all parties and changes in governance institutions are required.

2.2. Digital governance and public service delivery

Digitalisation of governance has changed the way governments interact with the public and allocate resources by altering the provision and administration of public services [2]. First of all, automation and data integration have been introduced to improve the efficiency of government work. Digital Platforms help reduce the government's operating expenses by improving information sharing and increasing the efficiency of public services. Digital government aims to enhance both the efficiency and accessibility of public services for all people. Online platforms and mobile applications are available to the public for using government services anytime and anywhere. Digital Service Channels can also provide personalised and user-friendly services based on data analysis and integrated information systems.

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Digital governance has also increased the scope of public participation and involvement. The public can post comments and suggestions on policies online, and communicate with the government department more conveniently. Thus, the government will shift from providing services to citizens to being served by citizens. However, the actual performance of the digital public service will also be affected by other reasons, such as people's digital literacy, institutions' institutional capacity, and public confidence.

2.3. Institutional perspective of digital governance

Although the development of technology provides a necessary foundation for digital government, institutions also determine the results of digitalisation to some extent. Digitally governed by institutions, this system is consistent with the existing political structure and administrative organization [6]. Different institutional arrangements affect how governments use technology and design digital services for the public.

According to institutional theory, the behaviour of organisations is constrained by formal rules and governance systems, etc [7]. Given the differences in administrative traditions, regulatory systems and decision-making processes, the same digital technology may be used differently in various places under the new era of digital governance. Therefore, the results of digital governance cannot be attributed solely to technological capability. The above theory can be used to compare the models of digital governance in Mainland China, Hong Kong and Macao. Although the three areas are close in culture and history, differences in their institutional environments have resulted in all sorts of disparities in the development of digital government and public service delivery. Examine the institutional factors that result in different speeds and outcomes for various regions in China in their adoption of digital governance.

3. Theoretical basis

Build a theoretical system that combines digital governance theory and institutional theory to explore how different institutional environments affect models of delivery for digital public services. The system believes that the results of digital governance are not only due to the development of technology but also to the combined effects of digital capabilities, institutional construction and governance ideals.

Digital governance theory offers the foundation for studying how governments apply digital technology in public administration to improve the quality of service delivery [4]. Therefore, in this light, digital governance refers to the application of digital tools in conjunction with reforms to the structure of government, consolidation of public resources, and optimization of services for the public. Therefore, this paper will study digital governance in three ways: the governance framework, service-delivery mechanisms, and citizen participation. The above are the basic characteristics of the current digital government and serve as a basis for comparing regional models. According to institutional theory, areas with the same culture have developed various models of digital governance [7]. Institutions build governance through formal institutions and organisations, regulatory systems and policy priorities. Mainland China, Hong Kong and Macao in Greater China share a long history and culture but are under different institutional systems. Therefore, the government will change its strategy and methods of implementation for digital public services.

Based on the combination of the two theories mentioned above, this paper believes that the institutional environment provides support for the development of digital governance. Institutional

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Environments differ in their systems of governance and are thus uneven in terms of efficiency and accessibility to public services for all citizens.

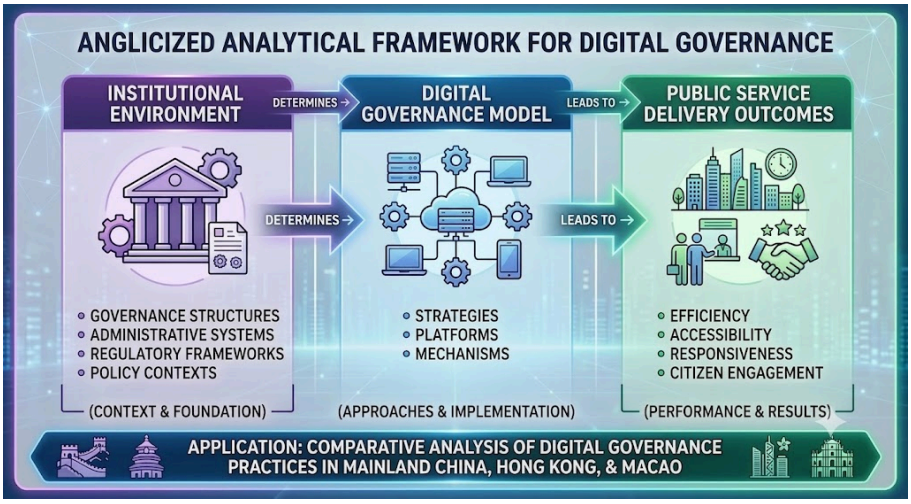

Figure 1. Analytical framework of digital governance practices

As shown in Figure 1, this study introduces an analytical system to investigate digital governance by means of three links: Institutional Environment → Digital Governance Model → Public Service Delivery Outcomes. The Institutionnal Environment offers the foundation for the development of digital governance and includes governance institutions and organizations, administrative systems and regulatory frameworks, etc. The above factors will affect the Government's Design and Implementation of Digitalisation. The Digital Governance Model is the way and tools governments use for digitalisation, such as digital platforms, data integration, etc. Different Institutional Environments May Result in Different Governance Systems. Public Service Delivery Outcomes show the results of digital governance and are judged by administrative efficiency, service accessibility, responsiveness and citizen participation. The three institutions can be used to study how different institutions in Mainland China, Hong Kong and Macao organise digital governance and provide public services.

4. Comparative analysis of digital governance models

4.1. Institutional contexts and governance models

The development of digital government in Mainland China, Hong Kong and Macao has been shaped by different institutional environments. The three areas have the same culture and history, but due to different governance structures, administrative systems and policy goals, they have taken various paths in digitalisation. Institutions have not added new technologies to the process of digital governance; instead, they have integrated these technologies into the existing administrative system and been shaped by institutional characteristics [6]. Therefore, under different governance conditions, these digital platforms and public services will be developed differently and used by the public in different ways.

Digital governance in Mainland China has been promoted by the government in a top-down, coordinated manner. The Digital China Development Plan aims to build a digital infrastructure and data-resource-public-service system to promote digitalisation and administrative coordination across all parts of the government [8]. Given the above institutional conditions, China has built a platform-

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based governance system that integrates large amounts of data, is centrally coordinated, and offers widespread digital services. The Model has enhanced administrative efficiency and extended access to digital public services. Data governance, privacy protection and the achievement of both administrative efficiency and public participation have not been realised.

Hong Kong is a service-oriented type of digital government. The Smart City Blueprint for Hong Kong 2.0 focuses on citizen-oriented services, open data construction and digital innovation as its main directions for digitalisation [9]. Hong Kong has made full use of its administrative history and service-oriented governance system to improve the user experience, accessibility of services and interaction with the public. Hong Kong has focused on high-quality, convenient services rather than large-scale platform construction in mainland China. Coordination of the digital system and guarantees for equal access to digital services are still outstanding problems.

Macao has developed an all-encompassing digital government system due to its small size and strong centralised coordination capabilities. The Electronic Governance General Plan (2020-2024) aims to improve the efficiency of government work through digital public services and interdepartmental cooperation [10]. Macao has a small-scale government and can promote the development of digital services for the public more efficiently. Macao has relatively weak technology resources, innovation capacity and long-term digital governance sustainability compared with large-scale digital ecosystems.

4.2. Digital governance models and public service delivery outcomes

Different Institutional Environments have led to varying results in public service delivery. Mainland China's platform model has good administrative efficiency and service coverage through the large-scale integration of government resources. Efficiency should be in line with the requirements for data governance, privacy protection and citizen participation. Hong Kong's user-oriented model has good accessibility and service experience. Open data and digital service innovation are promoting more interaction between the government and the people. Integration of the various service systems and digital inclusion need to be addressed. Macau's integrated model offers convenient and efficient public services through good administrative coordination. Given the small digital ecosystem, the next step in development will be to strengthen innovation capabilities and guarantee stable, long-term digital governance.

5. Discussion

Based on the above comparison, it can be seen that the development of digital government in Greater China has achieved a certain level of institutionalisation. Although the governance models of Mainland China, Hong Kong and Macao are different, all three regions have been building digital platforms and using data to improve public services for the people. The development of the digital government also has some problems that need to be solved. The other is to reduce the cost of implementing inclusive governance. Digital Platforms have increased the speed and convenience of public service delivery, but differences in digital literacy, access to technology and user ability have created new forms of inequality. Therefore, in the future, the development of digital governance should focus on expanding the digital infrastructure and improving accessibility so that all sections of society can use digital services effectively. Data governance and cross-system coordination are also relatively weak. As the government increasingly utilises data integration and platform-based services in recent years, worries have grown over data security and privacy protection. Reinforce the regulatory system, construct an open-source data-governance mechanism, and thus maintain the

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confidence of the public in the process of digital transformation. Give more weight to the participation of the people and cooperative governance. Most current digital governance models in many places are still government-led, and citizens are often treated as service users rather than active participants. In the future, some public consultation and participatory Design will be introduced to promote cooperation among governments, enterprises and society.

6. Conclusion

This paper takes Mainland China, Hong Kong and Macao as the objects of research for a comparative case study. Based on the analytical framework of Institutional Environment → Digital Governance Model → Public Service Delivery Outcomes, this paper shows that the development of digital governance is strongly affected by institutional conditions. Although the three areas are closely connected in terms of history and culture, their different governance structures, administrative systems and policy priorities have resulted in separate developments of digitalisation. Based on the above results, mainland China has built a large-scale, platform-integrated model of digital governance with good efficiency and service coverage. Hong Kong has been making more use of the people, focusing on convenience, service quality and digital development. Macao has built an integrated and responsive model with a relatively small administrative system. The above differences indicate that the effectiveness of digital governance depends on both the level of technology and the institution-setting conditions for digitalisation.

This paper adds to the body of knowledge on digital governance in Greater China by presenting a comparative study of institutions. Consider how the structure of governance and the policy environment affect the digitalisation and public-service-innovation of the study. The research also offers some references for the government; good digital government should be both technologically advanced and institutionally feasible, as well as people-oriented. However, this study has some defects. First, this study is a type of qualitative comparative case study based on policy documents and other secondary sources, and thus may be unable to explore how citizens actually experience and perceive the new digital public services. Second, only three regional cases are compared, and the results may not be generally applicable to other governance scenarios. Future research will use an empirical method to collect data by means of surveys and interviews on the experience of citizens with the new digital public services. Further research can be carried out prospectively to observe how the model of digital governance has developed over time and what new developments in artificial intelligence and data-driven decision-making systems are taking place in public-sector management.

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