Digitalization of Government Services in the Guangdong-Hong Kong-Macao Greater Bay Area ——Based on Comparison Between Guangdong Province and Macao Special Administrative Region

Yifen Yin[1,a] ,Wenshuo Zhang[1,b*] ,Zekai Zhang[2,c]

[a] yfyin@mpu.edu.mo,[b*] 392103677@qq.com,[c] victor992053182@gmail.com

Affiliation contact address：Faculty of Humanities and Social Sciences, Macao Polytechnic University Macao, China[1]
Affiliation contact address: Guangdong Huaqian Accounting Firm Shantou, China[2]

Abstract. With the development of the new generation of information technology, the online government service platform constructed under the guidance of the "Internet + Government Services" concept has become an important measure for the Chinese government to improve its governance capabilities and service functions. The digitalization of government services in the Guangdong-Hong Kong-Macao Greater Bay Area is one of the important aspects of the construction of the Guangdong-Hong Kong-Macao Greater Bay Area. In recent years, Guangdong Province has intensified its efforts to promote the digital construction of digital government and government services, focusing on top-level design, clarifying the rights and responsibilities system in the construction of digital government, building a data resource sharing platform, and implementing a "negative list system" for data openness. , collaboratively promote digital government; the Macao SAR government is committed to data interconnection and interoperability, promoting the electronicization of document management and circulation, continuously expanding the application scope and functions of "One Account", and optimizing government processes. Taking Guangdong and Macao as examples, it is not difficult to see that in recent years, the Guangdong-Hong Kong-Macao Greater Bay Area has promoted the "Internet + Government Services" reform, improved the efficiency of government services, and has been widely recognized by citizens. The Guangdong Provincial Government adopts an intensive, integrated and standardized digital government model that is "user-oriented", while the Macao SAR Government is also user-oriented, pays more attention to the personal privacy of residents, and provides residents with services through cross-departmental cooperation. High-frequency and thoughtful service. By comparing the digitalization measures for government services in Guangdong Province and the Macao Special Administrative Region, we analyze their implementation effects and make recommendations.

Keywords: government services; digital government; standardization; personalization

1 Introduction

The "Outline Development Plan for the Guangdong-Hong Kong-Macao Greater Bay Area" promulgated in 2019 points out: Innovate the "Internet + Government Services" model, accelerate the cleanup and integration of scattered and independent government information

systems, break "information islands", and improve the efficiency of administrative services. Since the promulgation of the "Outline Development Plan for the Guangdong-Hong Kong-Macao Greater Bay Area", the governments of Guangdong Province and the Macao SAR have vigorously promoted the construction of digital government services. Guangdong Province comprehensively promotes the construction of "Digital Bay Area" and smart cities. The "14th Five-Year Plan for Digital Government Reform and Construction of Guangdong Province" in 2021 mentions: By 2025, Guangdong Province will achieve 100% universal service of high-frequency government services within the province, across provinces, and in the Bay Area. The Macao SAR government regards smart city construction as one of the core positions of urban construction. The first five-year development plan of the Macau SAR government regards smart city construction as one of the seven visions for Macau's future urban development. Smart city construction mainly relies on the construction of smart government, smart tourism, smart transportation and smart medical care. This article sorts out and summarizes the progress and achievements made by Guangdong and Macao in the digitalization of government services since the version of the "Outline Development Plan for the Guangdong-Hong Kong-Macao Greater Bay Area", and comparatively analyzes the similarities and differences in the digitalization of government services between Guangdong and Macao.

2 Guangdong Province promotes digital government in depth

The specific practical measures of Guangdong's digital government have significantly advanced the modernization level of government governance. According to the "Survey and Evaluation Report on the Online Government Service Capabilities of Provincial Governments and Key Cities", in terms of the online government service capabilities of provincial governments, Guangdong Province jumped from ninth place in the country in 2016 to first place in 2018. In 2019 Ranked first in the country. In recent years, Guangdong's digital government reform and construction has been fruitful, exploring the "Guangdong model" of "one door, one network" government services, and realizing diversified government services with "online services as the mainstay, self-service terminal services as the supplement, and on-site oriented services as the supplement" Service[1]. (Yang Fuwei, 2023) In November 2023, the sixth meeting of the Standing Committee of the 14th Guangdong Provincial People's Congress reviewed and approved the "Guangdong Provincial Government Services Digital Regulations", which will come into effect on January 1, 2024. This is the country's first regulation on the digitalization of government services. The regulation clearly stipulates that government service matters should be accepted and processed with the same standards online and offline without distinction, and government service matters that have been handled online are required to retain offline service channels.

In the 2022 "Third-Party Survey and Evaluation Report on the Integrated Government Service Capabilities of Provincial Governments and Key Cities", the provincial government's integrated government service evaluation score of Guangdong Province continues to be in the highest group, while Guangzhou and Shenzhen are in the middle of the key city evaluations. Rank in the highest category and remain the leader in the country. The "Evaluation Report" points out that Guangdong took the lead in launching digital government reform in the country in 2017. Relying on the integrated government service platform, the province has advanced

step by step and created a series of applications unique to Guangdong. Data shows that the "One Thing" themed integrated services of the Guangdong Government Service Network have expanded to 10,954, and the online application rate exceeds 94%. Guangdong continues to improve the service capabilities of the "Guangdong Series" platform and continuously innovates to create landmark achievements in digital government. The number of real-name users in Guangdong Province has exceeded 177 million. The cumulative number of installations of the Guangdong Province APP in the five months since its launch has reached 23.315 million, and the number of people bound to group codes has exceeded 50.24 million. At the end of June 2022, the "Provincial Market Entity Demand Response Platform" will be launched to provide "one-stop, all-weather, intelligent, and timely" demand response services to various market entities across the province. Overall, Guangdong Province's achievements in the digitalization of government services are mainly reflected in the following aspects:

2.1 Focus on top-level design and launch digital government planning

Guangdong Province regards the reform and construction of "digital government" as the "top project" of the provincial party committee and the provincial government, and attaches great importance to the top-level design of digital government construction. For example, in recent years, Guangdong Province has frequently issued relevant plans for digital government construction. For example, the "14th Five-Year Plan for the Reform and Construction of Digital Government in Guangdong Province": By 2025, Guangdong will achieve 100% "universal handling within the province", "universal handling across provinces" and "universal handling in the Bay Area" for high-frequency government services. , among which, a mechanism for the sharing and mutual recognition of information resources such as identity authentication and electronic certificates will be established in the Guangdong-Hong Kong-Macao Greater Bay Area to achieve "colleagues with the same standards" in government services and promote "universal services in the Bay Area" across Guangdong, Hong Kong and Macao. For another example, at the end of 2022, Guangdong Province issued the "Implementation Plan for the Balanced Development of Basic Capabilities of Digital Government in Guangdong Province" and proposed many innovative measures, such as establishing a counterpart assistance mechanism for digital government construction and implementing the "Intra-provincial Migration Process" for market entities in the province. ", proposing provincial and municipal technology integration, business integration, data integration, etc.

2.2 Detail the rights and responsibilities system and carry out standardized governance

The construction of digital government is inseparable from a closed-loop responsibility system[2]. (Wu Xiaolin, 2023) In recent years, Guangdong Province has successfully established coordinating agencies such as the Government Data Administration and the Big Data Bureau to actively promote digital governance reform and achieve two-level deployment at the provincial and municipal levels and three-level management at the provincial, municipal and county levels. Since 2018, Guangdong has established political and data bureaus at the three levels of "province-municipal-district", and the vertical responsibilities of the government data management bureau have shown the characteristics of decentralization from fragmentation to "isomorphic responsibility sharing". Isomorphism and differentiated

responsibilities of provincial-municipal-district competent authorities[3]. (Wu Xiaolin, Xing Yifei, 2023)

Currently, the "Guangdong Affairs" intensive mobile government service applet can provide residents with more than 1,000 government services, and can also be associated with 58 types of electronic licenses such as ID cards, social security cards, and driver's licenses, truly realizing "multiple data escapes. People should run less errands." The standardized governance incident in Guangdong Province shows that standardized governance runs through the entire process of digital government construction and is one of the basic supports for digital government construction; the basis of digital government standardized governance is the construction of a list of rights and responsibilities and the efficient use of data elements, with the core being business process reconstruction , the governance result is technological empowerment and promotion of digital government system reconstruction; standardized governance promotes efficient collaboration of governance subjects and promotes the realization of overall governance goals in digital government[4] . (Cao Taixin, Jiang Bao, Kang Wei, 2023)

2.3 Build a one-network sharing platform for data resources

In order to break the data barriers between different departments and synchronize the convenient sharing of departmental data resources in real time, Guangdong Province has accelerated the construction of an intensive platform for the provincial government website, completed the migration and integration of government websites in various regions and departments in batches, and achieved unified standards and unified Technology platform, unified security protection, and unified operation and maintenance supervision. Promote data sharing and achieve integrated management and "one-stop access" to government data services across the province. Promote the interconnection and data integration and sharing between provincial government information systems, and connect departmental business systems to the provincial government information resource sharing platform according to unified specifications to meet the province's government service data needs. Build a data center planning layout with the provincial integrated government big data center as the central node and local data platforms as sub-nodes. After the construction of this platform is completed, governments at all levels and government departments in Guangdong Province can carry out unified collaborative work, which can realize round-the-clock processing of official affairs, comprehensive realization of supervision, and full-platform reminders of information. [5] (Wang Shaoquan, 2020).

Improve the construction of data sharing mechanism. In accordance with the working idea of "a game of chess for the entire province", the provincial data resources one-network sharing platform has built a provincial-level sharing and exchange platform and a municipal-level sharing and exchange platform (covering county-level resources) based on the layout of the "two-level platform, three-level management" model.), opening up transmission channels for cross-department, cross-level, cross-region, cross-business, and cross-system sharing of government data, and basically realizing the aggregation and sharing of government data among provincial units and cities across the province. In order to improve the availability, practicality and ease of use of the provincial data resource one-network sharing platform, the Guangdong Provincial Government Service Data Administration continues to upgrade and optimize the system and improve data sharing related functions. "Guangdong Affairs" is a

mobile application that integrates people's livelihood and government services focused on the construction of Guangdong's "Digital Government". The purpose is to break the information isolation between government departments, enterprises and the masses, and create government affairs for the government, enterprises and the people. , the "bridge" for people's livelihood information transmission and services[6] . (Luo Wanling, 2022)

On the basis of unified technical standards, the Guangdong Provincial Data Resources One-Network Sharing Platform integrates basic data resources such as population, legal persons, social credit, spatial geography, and electronic certificates, and builds various government data basic databases, subject databases, and special topic databases to form a shared The government big data basic database resource pool accumulates comprehensive and fresh data assets for government departments at all levels to carry out data sharing work, and realizes the interconnection and interoperability of business systems.

2.4 Implement a "negative list system" for data openness

Relevant studies show that government data openness does not inherit the institutional connotation of government information disclosure.

There are essential differences between government data openness and government information disclosure in terms of system formation foundation and system goals. Government information disclosure is based on the legal basis of the right to know, with the main goals of improving government transparency and promoting law-based administration; government data openness is based on data mining

The factual basis of potential, with the main goals of promoting economic growth, improving service levels, and promoting good administration[7] (Song Shuo, 2021). In the practice of digitalization of government services, Guangdong Province has also implemented a negative list system for data openness. In the practice and exploration of digital government in Guangdong Province, one of the important features is to promote the open application of data resources, improve the open data platform, establish and improve the system and specifications for open data resources, establish a "negative list" management model for government data resources, and clarify The scope of openness, all data outside the "negative list" are open to the public[8]. (Lu Feng, 2018)

2.5 Collaboratively promote digital government

Moving toward collaboration is the key to Guangdong's "digital government" reform. Digital government is not a fragmented government, but a "whole government." In recent years, Guangdong Province has created a "1+N+M" government affairs cloud platform, breaking the previous pattern of the government as the single governance subject. In accordance with the overall principle of "separation of management and operation", it has made full use of enterprises The technological advantages and professional capabilities can stimulate market vitality and social creativity, and then build a new pattern of joint construction and sharing of "digital government" reform of "government leadership, government-enterprise cooperation, social participation, and legal guarantee"[9]. (Zhou Chunxiao, 2021)

On the basis of the increasingly perfect intelligent technology in the digital age, the digital platform built by the Guangdong Provincial Government relying on iterative upgrades of

application-driven technology can not only realize the coordinated use of data among all levels of government, but also coordinate the contradictions of uneven construction among regions. , the function of breaking data barriers between government departments has become a necessary means to create a coordinated development governance pattern, allowing the operating carrier in the government governance reform process to complete self-renewal[10].

3 The Macao SAR government is making every effort to build a digital government

Since taking office in December 2019, the fifth Macao SAR Government has fully realized that using new information technologies and means, using big data to create a "digital government" is the foundation and foundation for deeply integrating into the development of the Guangdong-Hong Kong-Macao Greater Bay Area and the country. premise. As a result, the fifth SAR government will promote e-government as the entry point for public administration reform and comprehensively strengthen the construction of digital government. The SAR government is committed to data interconnection, promoting the electronicization of document management and circulation, continuously expanding the application scope and functions of "One Account", optimizing government processes, and promoting the open sharing of government data.

3.1 Revise laws and regulations to ensure data sharing

E-government is the product of the integration and interaction of the information technology revolution and the development of public administration. "On the one hand, its role depends on the continuous impact of technological transformation on the government administrative process, and on the other hand, it relies on the guidance and innovation of the corresponding administrative system." "Cooperate"[11] (Yang Guodong)). In terms of institutional and legal construction, the Macao SAR government has successively introduced laws such as the Telecommunications Outline Law and the Law on Combating Computer Crime. At the same time, the Public Administration and Civil Service Bureau has also formulated policy documents such as the "Information Security Policy Guidelines" and the "Information Security Management Framework" , to unify the information security management standards of various functional departments of the SAR government; in terms of the application and exchange of electronic documents and data, in conjunction with the opening of the inter-departmental "electronic official document sending and receiving system", the SAR government has also formulated the "Electronic Documents and Electronic Signatures Law", Legal regulations such as the "Public Service Regulations for Electronic Certified Postmarks", the "Personal Data Protection Law", the "Guidelines for the Sending, Receiving and Management of Electronic Documents" and the "Guidelines for the Development of Mobile Applications" further promote the exchange and management of electronic documents within the scope of public administration.

In September 2020, Law No. 2/2020 "E-Government" and Administrative Regulation No. 24/2020 "E-Government Implementation Rules" came into effect, establishing consistent legal and Institutional basis. Focusing on the four core services of electronic certificates, digital certificates, digital reception, and electronic notifications, the SAR government has

implemented the electronicization of a series of public services and government services in an orderly manner.

3.2 Promote the electronicization of document management and circulation

The electronicization of internal administrative management is the essential essence of e-government, and it is also the premise and foundation of the electronicization of public services. In terms of electronic internal administrative management, some public departments of the Macao SAR government "have developed and used basic internal administrative information systems such as personnel management systems, accounting and financial management systems, attendance management systems, property management systems and document management systems, while some The department has also carried out electronic business processes, and implemented electronic tracking of document flow and supervision of work progress. On this basis, the SAR government has developed a "Civil Service Management and Service Platform" to integrate and unify existing relevant management systems and Data, trying to further electronicize and standardize personnel management and financial management to improve the administrative efficiency of various departments. In recent years, the Macao SAR has accelerated the pace of electronic internal management of government departments.

3.3 Continuously expand the application scope and functions of "One Account"

On January 1, 2019, the "Macao Public Services One Account" was launched. Various electronic services provided by the SAR government, as well as receiving personalized message notifications, application progress inquiries, etc., provide the public with convenient electronic services. The service items cover convenient services in different fields such as social security, education, medical care, entrepreneurship and business, notarization and registration. The establishment of One Account aims to promote the development of e-government affairs of the SAR government, realize unified electronic accounts and unified electronic platforms, and facilitate citizens to use public services of different departments through unified accounts. In April 2020, 42 public services were provided, and 67,000 people handled them online. Both Macao residents and entities can open a "One Account" account.

In April 2022, the SAR government launched the revised and optimized version 2.0 of "One Account". In accordance with the two major directions of "user-oriented" and "personalized", it will gradually integrate government information scattered on various department websites or applications into "One Account". "One household connection" and reconstruct the "Macao public services one household connection" service. The new version enhances the "personalization" element, and based on the principles of easy operation, simplicity and directness, services and information are classified into a new layout, user-oriented, and provide citizens with sensitive and frequently used services, so that citizens can more Get the services and information you need conveniently, and get government public services with a new experience. In April 2022, there were 330,000 "One Account" account openings, with 127 items. In March 2023, the number of people opening accounts under "One Account" has exceeded 460,000, and it provides 190 services and functions.

The revised and optimized "One Account" has new applications and new service experience. It will provide more considerate and convenient services and expand the service functions of the

existing "Macao Public Services One Account" platform. While strengthening stability, it will also increase the number of services commonly used by citizens. It is worth mentioning that "One Account" covers a wide range of living expenses. Citizens can make online payments for household consumption such as tap water, electricity, telecommunications, and petroleum gas through the "Daily Payment" service within "One Account".

The establishment of One Hutong has achieved remarkable results. From the number of registered users in 2024 to 67,000, to 330,000 in April 2022, to 460,000 in March 2023, and to nearly 570,000 in January 2024, it shows a steady increase month by month. trend. As shown in "Table 1: Number of registered users of Macau One Account":

Table 1 Number of registered users of Macau One Account.

April 2020	67,000
April 2022	330,000
March 2023	460,000
January 2024	Nearly 570,000

At the same time, the projects of Macao's "One Household Electronic Services" are also constantly updated and increasing. In April 2020, there were only 42 service projects. In March 2023, there were 190 service projects, and in 2024, there were 350 service projects. Items. As shown in "Table 2: Macau One-Household Service Items":

Table 2: Services provided by Macau One-Household Pass.

April 2020	42
April 2022	127
March 2023	190
January 2024	350

3.4 Create "one thing" integrated services.

Implement the smart government affairs plan of the "one window" and "one network service" service promotion plan. In 2023, the Macao SAR government will continue to optimize personalized services for different groups on the basis of version 2.0 of "One Account". Launch innovative electronic services such as "Birth Matter" and "Marriage Matter" to prevent residents from repeatedly submitting documents. In January 2024, the Macau SAR government also launched the "Business and Social Network", which provides 78 services, involving 27 public departments, and has four major areas: "society area", "license renewal service", "one-stop" and "one thing" A special area to facilitate enterprises and associations to handle comprehensive government affairs.

3.5 Optimize administrative processes

The development of e-government is closely related to the process. The development of e-government and the reform and optimization of administrative processes are mutually reinforcing. On the one hand, the optimization of work processes is the key and prerequisite for the development of e-government. If the internal administrative processes are not straightened out and perfected, the services launched by the government website will be restricted by the established processes and it will be difficult to obtain public satisfaction. On

the other hand, the development of e-government can in turn become a driving force for the optimization of administrative processes, forcing the reform and reengineering of administrative processes. In this sense, e-government is a "process revolution." The development of e-government is bound to "comply with the changes in governance approaches and forms, implement the integration of functions of various government departments and the reshaping of administrative business processes, so as to provide the public with seamless integrated services across levels, regions, and departments"[12] (Wang Ming, 2011). Judging from the digitalization of Macao's government services in recent years, the construction of Macao's digital government also takes the optimization of government procedures and processes as a central content, especially the optimization of registration and notarization processes.

4 Comparative analysis of digitalization of government services in Guangdong and Macao

4.1 Common features of digitalization of government services in Guangdong and Macao

Smart government is attracting the attention of researchers and policymakers around the world, and e-government in the Guangdong-Hong Kong-Macao Greater Bay Area focuses on integration and intensification.[13]（Vujković Petra et al.） Guangdong Province has rebuilt the future mainstream paradigm of "digital government" with "large platform, small front-end, and rich ecology" through intensification; in Macao, government departments have developed e-government affairs independently for many years, resulting in inconsistent standards, inconsistent equipment, and inconsistent job descriptions, resulting in the promotion of central government Difficulties in implementing standardized and unified e-government. For many years, the government has "each department developed its own e-government", resulting in inconsistent standards, inconsistent equipment, and inconsistent job descriptions. Compared with the mainland, it is more difficult for Macao to promote a centralized and unified e-government system. The systems between departments are different and the problem of data interoperability cannot be solved. Data sharing between departments should be strengthened to break the "information island" dilemma.

E-government should implement a cross-departmental cooperation mechanism. The Guangdong Provincial Government proposes "cross-border thinking", that is, introducing advanced productivity into government governance through "government-enterprise cooperation" to create a more agile government; at the same time, it also proposes "holistic thinking", that is, from outside to inside, top to down , consider the government as a whole from left to right, starting from the mechanism and system, and carry out all-round and systematic reforms from the "four-in-one" of technological innovation, business innovation, management innovation, and institutional reform.

In 2019, the Macau SAR government and Alibaba signed a contract related to the development of the entire "One Household" project, which includes the design and launch of version 1.0 of "One Household"; as for the reconstruction, design and launch of version 2.0, the entire project The budget is about 100 million yuan; the "Public Services and Data Governance" group under the Public Administration Reform Coordinating Committee is

gradually developing a mechanism for the management, sharing and opening of department data. Therefore, data interoperability is a prerequisite for good services.

E-government should adhere to user orientation. In recent years, smart government has been effectively explored in public administration.[14]（Claudia Melati et al.）The Guangdong Provincial Government improves the design of government services from the perspective of user experience, and tests the effectiveness of government services based on whether people like it or not. Macao's e-government is positioned as user-oriented, providing citizens with more convenient, high-frequency and sensible services. . One-Household 1.0 is government-oriented and its services lack pertinence, so it needs to adjust its strategy. One-Household 2.0 is repositioned from "Government E-Government" to "My Electronic Services" and is developed in a user-oriented manner.

4.2 Differences in digitalization of government services in Guangdong and Macao

Macau pays more attention to the role of laws and regulations. Administrative Regulation No. 35/2018 proposes "interoperability" regarding electronic services, which refers to the ability of public departments and entities to interact and share resources, information and knowledge through integration procedures or communication between related information systems when performing relevant duties. , and apply default common technical specifications to achieve expected results; Chapter 3 "Unified Electronic Platform" stipulates that the development and operation of a unified electronic platform must comply with interoperability guidelines. Chief Executive's Instruction No. 299/2018, Interoperability Guidelines and Regulations, provides guidance on data format, etc. Chief Executive's Directive No. 300/2018, technical specifications and regulations on user account system security levels. Law No. 6/2022 proposes the electronic presentation of documents required to drive a vehicle.

Macau pays more attention to protecting personal privacy. The "one account" for remote account opening uses facial recognition as an identification tool. This technology only sends the user's facial feature data to the Identity Certification Bureau in a one-way encrypted form for comparison. After confirmation, only the result is returned and will not be restored into a photo. Neither the Public Administration Bureau nor other departments will save the data. At the same time, according to the principle of voluntary use in the "E-Government" law, citizens have the right to choose whether to use electronic services. Departmental data exchange must comply with personal privacy protection and the Personal Data Protection Act.

Macau's integration with process reengineering needs to be improved. Smart government services help improve citizens' trust in the government's performance in providing public services.[15]（Hartanti Fera Tri et al.）The "Implementation Plan for Accelerating the Standardization, Standardization and Facilitation of Government Services in Guangdong Province" proposed by the Guangdong Provincial Government further promotes the optimization of government service processes. The plan proposes to deepen the standardization of government service matters and improve the standardization and accuracy of service guidelines.In comparison, there are still many areas that need to be optimized in terms of process optimization in the e-government of the Macao SAR. Taking the one-stop issuance of catering licenses as an example, Macau's current administrative procedures still require relevant applicants to submit a lot of information, and there is still a long way to go before the integrated model requirements of "one thing". All in all, the development of

e-government is related to the rationalization of department functions, structures and procedures. E-government is not simply about changing services from paper to online services. Therefore, Macao's digital government construction still needs to focus on reviewing and optimizing relevant administrative processes and approval procedures. It needs to embrace the miracle of digital government construction and intensify the reform of administrative procedures.

4.3 Evaluation of the effectiveness of digital implementation of government services in Guangdong and Macao

The evaluation of the implementation effect of digitalization of government services in Guangdong and Macao needs to be analyzed from the following aspects: whether the digital platform for government services can provide convenient and fast government services to people and enterprises in the Guangdong-Hong Kong-Macao Greater Bay Area; the technologies used, such as big data and artificial intelligence , blockchain, etc. can improve the efficiency and accuracy of government services; whether the digitization of government services can improve the convenience of services and enable more people to obtain government services; whether the digitization of government services can protect the security of users' personal information and prevent Information leakage and theft, etc.

In the process of implementing the digitalization of government services, Guangdong Province has launched the Guangdong Provincial Government Service Network, the Guangdong Provincial Government Big Data Platform, the Guangdong Provincial Government Service Mobile Application, cloud computing and big data analysis technologies, etc., to promote the digitalization of government services. Macao analyzes user needs by providing the Macao Government Portal, Macao Government Information System Integration Platform, One Account, etc., optimizes service processes, and improves the level of personalized services.

Overall, through the previous analysis, the implementation of digitalization of government services in Guangdong and Macao has shown the following effects: (1) Improved the convenience and efficiency of government services. People and businesses can handle various matters conveniently and quickly through the government service network and mobile applications, saving time and costs. (2) Strengthened the interaction between the government and citizens: The government service platform provides a variety of interactive functions, such as online consultation, feedback, etc., which helps the government better understand citizens' needs and opinions. (3) Improved the transparency and quality of government services: The application of government big data platforms enables the government to better analyze service data, adjust service strategies in a timely manner, and improve service quality and satisfaction. (4) Promoting information sharing and collaboration within the government: The digitalization of government services promotes information sharing and collaboration among various government departments, helping to improve the overall effectiveness of government services.

5 Conclusion

5.1 Summarize

Taking Guangdong and Macao as examples, it is not difficult to see that in recent years, the Guangdong-Hong Kong-Macao Greater Bay Area has promoted the "Internet + Government Services" reform, improved the efficiency of government services, and has been widely recognized by citizens. The Guangdong Provincial Government adopts an intensive, integrated and standardized digital government model that is "user-oriented", while the Macao SAR Government is also user-oriented, pays more attention to the personal privacy of residents, and provides residents with services through cross-departmental cooperation. High-frequency and thoughtful service.

5.2 Suggestions on digitalization of government services in the Guangdong-Hong Kong-Macao Greater Bay Area

The digitization of government services in the Guangdong-Hong Kong-Macao Greater Bay Area is an important measure to promote the construction of the Greater Bay Area and promote regional integrated development. Based on the previous analysis, the following suggestions are put forward: (1) Establish a unified cross-border digital platform: There are commonalities and differences in the digital implementation of government services in Guangdong Province and Macao. In the future, we can promote the establishment of a more integrated and unified cross-border government service digital platform to integrate Guangdong and Macao. The service systems and data resources of governments in Hong Kong and Macao realize the interoperability and collaboration of cross-border government services. The platform should be highly secure and reliable, and support multi-language, multi-currency and other features to meet the diverse needs of cross-border residents and businesses. (2) Introducing advanced technical means: Advanced technologies such as artificial intelligence, big data, and blockchain should be fully utilized to improve the intelligence and efficiency of government services. For example, big data analysis technology is used to predict citizen needs and optimize service resource allocation; blockchain technology is used to ensure the security and trust of cross-border data exchange. (3) Promote the informatization construction of government agencies: The Guangdong-Hong Kong-Macao Greater Bay Area should make joint efforts to digitize government services, actively promote the informatization construction of government agencies, and improve the digitalization level of government services, including strengthening the integration of internal government systems. and collaboration to improve the consistency and efficiency of government services. (4) Strengthen cross-border data circulation and privacy protection: While promoting the digitization of cross-border government services, it is necessary to strengthen the cooperation mechanism for cross-border data circulation to ensure data security and privacy protection. (5) Promote innovation and coordinated development of government services: Encourage government agencies and enterprises to innovate in the digitalization of government services and provide more diversified and convenient services. At the same time, cooperation between the government, enterprises, academia and other parties should be strengthened to jointly promote the coordinated development of government services and achieve positive interaction between the government, market and society.

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