Research on the Innovation and Application of Computer Communication Technology in Public Management

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Abstract: Computer technology promotes the development of big data, and big data provides support for the development of computer technology. These provide a solid foundation for the wisdom of public management and are also widely used in various fields of society. However, issues such as information sharing barriers also affect the quality and level of public management and need to be improved. This paper analyzes the current situation of digital public management in China, as well as the impact of big data on public management, and proposes suggestions for the wisdom of public management.

1. Introduction
With the rapid development of information technology and the arrival of the era of big data, human society has entered the era of digital information. The ability to acquire and master information has become a measure of the strength of a country. The size and capacity of a country's data has become an important part of comprehensive national strength. More and more social management issues can be solved through big data. Big data is closely related to computer communication technology, and the two are mutually reinforcing relationships. Big data is the direct force driving the development of computer technology, and it is also the basis for the full application of computer technology in all fields of society. At the same time, the generation of computer technology is also based on big data. Without the support of massive data, computer technology is a passive source of water.

The form of information is data. With the continuous spread and flow of massive data, it has enormous social potential. As a cutting-edge technology, data analysis is becoming an important production factor as important as material assets and human resources. It has become an important factor in every industry and business field today, and a key factor in improving the government's public management capabilities and level. The link between information data and society is computer communication technology. The impact of the development of communication technology on the field of public administration is profound and comprehensive. The level of application of information technology directly determines the ability of government public management. Therefore, grasping the application of big data in computer technology, and then proposes the recommended measures for the innovative application of computer technology in the field of public management.

2. The data revolution brought by computer communication technology

2.1. China's big data development status
China has seized favorable opportunities in the new round of industrial revolution and technological revolution, and has realized comprehensive innovation in many fields of society by using artificial
intelligence, big data, digital economy and other technologies. Many fields are in the forefront of the world. China's digital government construction has also achieved remarkable results. In the new round of institutional reforms, digital government administrations have been established in many places. It can be seen that computer information technology and big data have a profound impact on China's public management and other fields. China's research in related fields is also very rich. According to China Knowledge Network, the relevant research literature is shown in the table below.

![Figure 1. Number of documents with computer technology, public management and big data as keywords](image)

In the past few decades, China's information industry has lagged behind and has been at the low end of the industrial chain for a long time. Although the government has given large sums of money to support competitors in the upstream sector, the results are not obvious. But big data is a brand new field. The countries of the world are at the unified starting line. China's big data processing technology maintains the same level as the world's advanced countries, and even leads the world's science and technology. For example, China has unparalleled advantages in other countries in the 5G network and sharing economy. Huawei, Tencent, Alibaba, Xiaomi and other technology companies have extensive influence worldwide. On the other hand, the rapid development of China's big data technology has directly promoted the transformation of government functions and the transformation of thinking. In the past, China's online public data services were very backward, and data disclosure was criticized. This background forces the government to maximize the opening of data assets under the premise of ensuring the security of national data, and increase the application of computer technology in the establishment of social credit system, government public opinion guidance control, public crisis management, etc., and promote data. Free flow, the great value of creating big data in public management applications.

2.2. The impact of computer technology on public management

The public management decision-making model refers to the public management decision-making body. According to the specific management objectives, collect, organize and grasp relevant information in the public management decision-making environment, and use certain methods and technologies to process information to formulate a variety of options for future actions and the process of selecting options. Big data is a powerful tool for public management and public services. The government has accumulated and stored various kinds of big data generated in various fields of society including people's livelihood, science and technology, transportation and taxation, medical social security, and urban planning. However, because of various reasons such as policy barriers, and government information is divided into different units and departments, there are different types of data between departments. For these huge information, the departments are underutilized and the data is still solidified. With the completion of efficient
integration, data vitality cannot be effectively stimulated. These require the government to adapt to the changing trend of public service, further transform its functions and provide new services.

![Figure 2 Public decision mode diagram](image)

### 2.2.1. Influencing factors

There are many factors that affect the timely application of computers in the field of public administration in China, mainly in the following aspects. First of all, China is a big Internet country, but the management department lacks the awareness of “big data”. It is not good at collecting and storing various types of data. The ability to collect data technically is poor, especially the effective use of data. Second, the data credibility of the management department is not enough. The government data is opaque and unclear. It is difficult for ordinary citizens to see government-related data. In addition, Chinese people pay far less attention to data, and the role of data in government public management is greatly reduced. Thirdly, the information communication ability of the management department is poor, the information of each department is independent, and it cannot be effectively transmitted and communicated among the functional departments, and the information cannot fully reflect its value and role.

### 2.2.2. Opportunities and challenges

At present, the information technology department is still a marginal sector in most government organizations, and it only plays a limited logistical role in information release and system maintenance. Modern information technology has provided very good technical conditions for the reform of the administrative management system. With the establishment of a new round of institutional reform, the establishment of the data management department will change this situation. A huge change brought about by big data is the flattening of information, which has changed the status quo of the previous leaders' unclear and unclear situation of grassroots affairs and information management. It can be said that everyone in the information is fair. By putting big data into the macro profile and micro operation in real time, the leader can grasp the most comprehensive data information at any time.

Information technology also brings privacy and other issues. The information presented in the era of big data may be closely related to individual ideas, interests, lifestyles, behaviors, and consumption patterns. When the government conducts data analysis, it will involve personal privacy protection issues. The letter computer information technology has also promoted the opening of government information resources, improved the utilization efficiency of various types of information and data at all levels, promoted the gap between the various functional departments within the government, and promoted the disclosure of government affairs information. Big data is indeed a new opportunity and challenge for public management, which also promotes the transformation of government roles,
making the government shift from the traditional data collector role to the data analyst role, from the traditional data manager role to the data provider role.

3. Innovative application of computer communication technology in public management

Public management is the process by which public powers determine the allocation of public resources in the public domain. Scientific allocation of public resources requires a detailed understanding of the public domain. With the development of computer technology, big data technology has increasingly become an important tool for government public management. The application of computer communication technology in public management is mainly reflected in the following aspects.

3.1. Improve the efficiency of decision-making and service levels of government departments. The construction of smart cities is the development direction of the city, mainly characterized by the universal use of new generation information technology in all walks of life in the city. This requires a smart government, which enables the existing databases of various government departments to achieve efficient interconnection and interoperability, and provides solid information and data support for government decision-making. At the same time, the information exchange between the various functional departments of the government also improves the efficiency of administrative management and the timeliness of government decision-making, enhances the timeliness of doing things for the people, and greatly reduces the cost of public administration.

3.2. Change the government's management model. Modern government public management develops on the basis of the development of big data. The development of computer communication technology brings the integration of big data, and can share and compare the basic information collected by the functional departments such as industry and commerce, finance, education, national tax, local tax, environmental protection, quality supervision, and health. By building a big data center and strengthening the acquisition, screening, organization, analysis and decision-making information analysis of government data, it is possible to realize the unified management of big data on government information data, improve the utilization of equipment resources, and reduce the waste of fiscal expenditure. In addition, the financial management model innovation can be promoted according to the data, and the three-dimensional, multi-level and all-round e-government public service system can be gradually realized, making the public management work more efficient, more open and more transparent.

![Figure 3. New model of progressive public decision making based on big data](image-url)
3.3. Improve the level of urban intelligence. It is foreseeable that in the future, it will be an intelligent society. Big data will play a role in smart transportation, smart medical care, smart home, smart security, etc., which are closely related to people's livelihood, and change the traditional "simple plane" life standard, and then greatly expand the living space of the people leads the wisdom of life and improves the quality of life of urban residents.

4. Recommended measures

4.1. Strengthen planning and policy guidance. Scientific management decision-making is an important goal of public management decision-making reform. It is necessary to strengthen the overall planning guidelines for computer technology and public management postal integration, improve the policy system, and introduce public management plans based on computer data at the national level, and introduce special plans and policies for public transportation, government administration, taxation, people's livelihood, environmental protection and other fields. Local governments at all levels should refer to the national document system and issue corresponding implementation rules to improve the level and quality of public management.

4.2. Accelerate the flow and sharing of public data. Big data technology transforms the practice of public management from policy services to data services. Data information security and public privacy are closely related to government public management. If it is too closed, it will be difficult to realize the use of resources in colleges and universities to achieve optimal social results. The public management department must grasp the appropriate degree, adopt the most economical way, maximize the open data resources, repeatedly compare the pros and cons of the two, do a good job of dynamic balance, and achieve the optimal state.

4.3. Optimize the layout of smart cities. Smart cities are the land of China's big data industry and will promote the development of computer information technology and other industries in China. It is necessary to seize this opportunity and apply data mining and powerful computing systems to integrate and analyze massive data processing across industries, regions and departments to help smart cities. At the same time, smart cities are the carrier of big data deepening applications.

5. Conclusion

With the development of computer technology, big data has changed people's lives and work, especially the impact on public management is more direct and profound. In recent years, China has firmly grasped the advantages of the new round of industrial revolution, paid close attention to the construction of digital government, and established digital government management departments at all levels, which will play an important role in improving public decision-making and public management, and its influence will also radiate. To all aspects of society. With the development of the digital government, government departments must be fully prepared for the challenges brought about by the era of big data. They must dare to break the barriers between various government departments, speed up the collection, transmission and sharing of data and accelerate Building a more open, more efficient, and more transparent government will continue to push the government's transition from “employment governance” to “scientific governance”.

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