

Research on Urban Governance Models and Innovativeness under the Vision of Smart City

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ABSTRACT

In recent years, with the rise and development of smart cities, people have gradually shifted their attention to how to conduct urban governance. Through the use of urban governance model, Internet technology and smart city governance concept, the city is carried out fine governance, search for a more efficient and scientific model of governance, which will replace the old model of government leadership. This article analyses the status quo of city governance in the context of Intelligent city, and puts forward innovative governance modes: multi-department collaborative innovative governance mode, subdivision multi-subject participation innovative governance mode, people-oriented innovative governance mode, and scientific evaluation mode of smart city governance.

KEYWORDS

Smart City; Governance; Innovation Mode.

1. CONNOTATION OF SMART CITY AND URBAN GOVERNANCE

1.1. Connotation and Characteristics of the Concept of Smart City

Smart city is the extension of "digital city" and "smart city", with the help of Internet of things, wiki, cloud computing, social networking, web-based all-media integration of communication terminals and other operating tools, it is a form of people-centered digital city, mobilizing people's motivation, using the innovation 2.0 model to achieve user innovation, open innovation, mass innovation and collaborative innovation, in the areas of livelihood, environmental protection and urban governance, as well as in the areas of environmental protection and urban governance. people's motivation, utilizing the Innovation 2.0 model to realize user innovation, open innovation, mass innovation and collaborative innovation, and creating value for city residents in the fields of livelihood, environmental protection, public safety, urban services, industry and commerce. The digital city is a progressive form of digital city that creates value in action and contributes to the overall sustainability of the city. The use of modern information technology is at the core of smart city development, which utilizes modern high technology to intelligently guide and manage the daily activities of the city, enhance the living conditions and living environment of the citizens, and steadily increase the happiness index of the citizens. The characteristics of the smart city are as follows: 1. Integration. All aspects of urban life have broken the previous situation of "doing things separately", and GPS, remote sensing, Internet of Things and other technologies are organically combined; 2, synergy. The operation of the smart city requires a high degree of collaboration among all parties involved, working together, and efficiently completing their responsibilities, only in this way can the smart city achieve the optimal state of operation; 3, interactivity. Based on the Internet of Things (IoT) technology, through the interaction of information and data, it can realize the monitoring and analysis of each core link in the process of city operation. 4. Innovativeness. In all aspects of the smart city, whether it

is the government or enterprise management, must have a high level of technology and continuous innovation in order to promote the long-term development of smart governance.

1.2. Conceptual Connotation and Characteristics of Urban Governance

Urban governance is the expansion and transcendence of the concept of urban management. Urban management in a narrow sense is the management and punishment of the cityscape by the urban management brigade and the cityscape management brigade, which is an important department to maintain the image of the city. Compared to urban governance, the concept of urban management is relatively broad in terms of concept, theory, subject of interest and scope. Urban governance refers to the process by which government departments, institutions, social organizations and individuals at all levels of the city apply new governance concepts to manage urban public services. Urban governance has three main characteristics: 1. Diversification of governance subjects; in the process of urban management, the subject of urban management is also a stakeholder, with the urban public, the government, and enterprises as the representative of the tripartite urban management subjects want to maximize their own interests; 2. Diversification of governance modes. Under the support of "big Internet", "big data" and other technologies, urban management departments work closely with each other to adopt a variety of management methods for comprehensive governance; 3, the scientization of governance standards. The specification of smart city management is strictly follow the requirements of the governance process to strictly regulate the design, each of which has its own practical reference, and is not arbitrary .

2. CHARACTERISTICS OF URBAN GOVERNANCE DEVELOPMENT IN THE CONTEXT OF SMART CITIES

2.1. Governance Concept from Management-oriented Transformation to Service-oriented

The governance goal of "digital city" and "smart city" is to manage all kinds of illegal behaviors in the urban process through management and punishment, so as to improve the governance efficiency. In the period of "smart city", the government should introduce the concept of service into the city management, and through the Internet, information technology and other means, to realize high-quality and efficient urban people's life services "one network to do".

2.2. Expanding the Scope of Governance

With the development of the smart city, the scope of urban management is constantly expanding, the governance dimension from the functional expansion of the space, and in the traditional mode of urban management is only limited to the work of the urban management brigade and the cityscape management brigade. Functionally, the scope of urban management has been expanded from the field of urban management to include emergency management, public safety, emergency rescue, education, market management, transportation and other fields. From a spatial point of view, the scope of its management has been extended from the city to the countryside, realizing the intelligent governance of the "whole region" .

2.3. Continuous Improvement of Governance Capacity

In the process of smart city governance, due to the use of modern information technology, with the help of big data and cloud computing and other high-tech means of urban governance real-time decision-making and real-time monitoring capabilities have been improved. Chengdu's smart city management center in 2019 will unify the city's cityscape, traffic, bridges, etc. into one system, and through the "5G + cloud + AI" intelligent supervision method, the city's traffic, bridges and other

real-time monitoring, and real-time transmission of monitored data and video to the city management center, after the analysis and processing of artificial intelligence, and then the city management center will be able to make real-time decisions and real-time monitoring. The data and videos are transmitted to the city management center in real time and analyzed and processed by artificial intelligence, thus improving the management level of the city. Another example is Shenzhen, which is divided into multiple grids through cloud computing, and after encoding and locating them, it then implements supervision on each grid and builds corresponding governance databases on each grid, so as to realize refined management and improve the level of governance. Guiyang City, Guizhou Province, known as "China's Digital Valley", has put forward the concept of "Digital Dock", aiming to build a complete digital ecosystem, enhance the ability to coordinate big data, accelerate the development of "China's Digital Valley", and accelerate the development of "China's Digital Dock". It aims to build a complete digital ecological environment, enhance the ability to coordinate big data, accelerate the development of "China's Digital Valley", and promote the leapfrog development of digital economy.

3. PROBLEMS IN CHINA'S CURRENT SMART CITY GOVERNANCE

3.1. The Financial Resources of City Governments are not Sufficient to Provide the Resources Needed to Build, Maintain and Operate Smart Cities on a Regular Basis

At present, most of the urban governance through the smart city model is intelligent, and the realization of urban intelligence is mainly related to governmental institutions because the realization of successful smart city governance requires significant governmental investment, which is mainly reflected in the information infrastructure and intelligent equipment. The process of planning and building a smart city requires the installation of a large number of data collection devices, which in turn needs to be accompanied by the establishment of an intelligent centralized system to transmit, store, process and analyze comprehensive information and data. Building a smart city requires significant financial support from the local government, especially when the initial one-time investment is capital intensive. Today's information and communication technologies are being rapidly updated, and the capital investment required to upgrade the information infrastructure systems and replace the equipment, usually at regular intervals, is uninterrupted. Therefore, we can see that public investment in smart cities is directly proportional to the level and quality of smart city governance. The current progress of smart city construction in China shows that regions such as Shanghai and Hangzhou in the east and Chengdu in the southwest have a higher level of economic development, and these regions are mainly concentrated in first- and second-tier cities in the east and some provincial capitals in the central and western parts of the country. And there are also many underdeveloped areas in China, these areas have limited public resources, and not enough attention to the construction of the smart city, the residents are not satisfied with the construction of the smart city, so there is still a long way to go on the road to the development of the smart city.

3.2. Strong Decentralization and Duplication in the Construction of Intelligent Management Platform for Smart Cities

As a highly intelligent city management, smart city managers need to have an intelligent big data management platform with comprehensive computing capabilities to judge the needs of the city and its citizens, which can be used to accurately predict the risks in the process of urban governance and dynamically generate urban governance solutions, so as to find solutions to the dilemmas of urban governance. The level of operational and governance efficiency of smart cities is inextricably linked to the level of interoperability and coordination of smart city management platforms among government ministries and agencies. The current state of smart city construction in China is usually hampered by the fragmentation of management systems and operational mechanisms, such as the various counties and districts under the jurisdiction of county governments, the various functional

departments within county governments, and the municipal governments and departments vertically managed by the central and provincial governments, and despite the fact that each governmental department has its own smart city management platform, duplication of construction has arisen from the construction of smart city infrastructures, with overlapping smart city platforms of the problem is becoming more and more prominent. Moreover, each smart city platform is designed and developed by a different company with certain differences in all aspects, which hinders the free exchange of information and rapid communication between platforms, affecting the productivity and efficiency of smart city management. Perhaps because of this, the central government and some provincial governments have paid attention to the administrative inconvenience caused by the fragmentation and duplication of smart management platforms and are now actively promoting the establishment of a unified smart management platform. Progress shows that some cities have established unified smart city management platforms and transferred their regional platforms to unified smart city management platforms, but this only solves the problem of heterogeneous hubs; the smart city management platforms used by districts, counties and government departments are still the original systems, and the problem of duplicated platforms has not yet been truly solved.

3.3. Low Degree of Openness and Data Sharing between City Governments and Different Functional Departments

Data is a key factor in the operation of a smart city, and all urban governance needs cannot be separated from the collection, storage, creation, analysis, and use of data, which are created and updated in real time according to city functions. Since smart city management involves data stored at different management levels and in different functional departments, the extent to which stored data can be shared across different management levels and different departments is an important factor affecting the development and operational efficiency of smart cities. At present, the operation of smart cities in China is deficient in data sharing, and the existence of information gaps has a significant impact on the construction and operational efficiency of smart cities in some aspects.

The government plays one of the most crucial and central roles in the complex urban governance project. Governments have timely and sufficient data on citizens' daily lives, urban safety, production and business efficiency that can be used to find the best solutions for urban governance. However, the existence of strong and weak urban data governance puts city governments at a disadvantage in accessing and storing local data. The ability of city governments to obtain timely, accurate and comprehensive data from relevant localities has a direct impact on the effectiveness of smart city management, which is often hampered by incomplete administrative data. Low levels of data openness and sharing between city government departments increase the likelihood of problems associated with data silos. The lack of administrative cooperation between city government departments means that it is often difficult for one department to obtain data from another without coordination and guidance from the head of the city government or the head of the relevant department, which creates a "closed data room" with low levels of data sharing between departments. At the same time, data collection and storage systems and the incoherence of statistical data used by different municipal departments create various barriers to data transfer and exchange between departments.

3.4. The Security Risk of Public Data and Personal Privacy Leakage and Misuse in the Process of Smart City Governance

The Internet, Internet of Things, cloud computing and other happy technologies provide massive amounts of data for smart city governance, including data collection, processing, management, analysis and application of the links are involved in many industries at home and abroad. However, China's information security network monitoring technology is not sound enough, it is easy to have some information and data leakage risk, privacy protection and data security is insufficient, and bring security risks to the country. China is now facing the security risk of information leakage, and the

risk includes the threat of leakage and misuse of national data as well as the violation of personal privacy.

First, in the process of building smart cities, public data stored by city governments will face greater security risks. The urban governance model in the context of smart cities is a coordinated governance practice that involves multiple governance actors, such as city governments, municipal departments, road management departments, community organizations, public organizations, urban residents and enterprises. While public data in smart urban governance can be disseminated, exchanged and shared by these multiple governance subjects, fully demonstrating the value of government data, especially for companies responsible for developing, operating and maintaining smart city management platforms, the efficiency of city management can be improved. However, smart city management platforms are also at risk of data leakage, as data stored and dynamically updated in them can easily be deleted and dynamically updated data can easily be diverted for personal or commercial use.

Second, there is a risk that the privacy of city residents may be stolen or misused in the smart city management process. The smart city management process focuses on integrating and analyzing the resulting data and the traces of electronic information left by citizens in all aspects of their daily lives, work, learning and consumption, thus enabling governors to respond to the different needs of citizens in a more intuitive and timely manner, as well as enabling citizens to accurately locate and guard against risks of governance, which are mostly related to the privacy of citizens. With the rapid development of smart cities, urban citizens will become transparent "data subjects", and by making the collection and use of citizens' personal data will make urban governance less complex and more efficient. The rapid development of smart cities will enable citizens to become transparent "data subjects" and to consider how to effectively utilize citizens' personal data to improve urban governance and achieve governance goals while taking care not to violate citizens' privacy. How to appease the citizens when their privacy is at risk of leakage is just like a real problem that the government of today's smart city governance must seriously face and urgently solve.

4. THE DIRECTION OF INNOVATION AND DEVELOPMENT OF SMART URBAN GOVERNANCE

Supported by the Internet, Internet of Things, cloud computing and other technologies, urban governance has made great progress, and under the continuous innovation of government departments and other participating bodies, we strive to adopt innovative governance methods under big data in urban management, education, residents' medical insurance, stability maintenance, transportation, public utilities and other aspects to achieve better and more satisfying governance results for the public.

4.1. Constructing a Network Platform for Smart Urban Governance

All industries in the city are involved in the governance of the smart city, in order to "unimpeded" to realize the management of these fields and industries, there must be a timely communication platform to build a good online governance environment. For example, in the transportation governance of the smart city, it is necessary to improve the intelligent transportation system, so that each traffic node can transmit big data to the smart city traffic control management platform through the network, real-time monitoring and guidance, so as to improve the efficiency of traffic control.

4.2. Constructing Smart City Governance Decision-making System

In a "smart city" managed by government departments, most of the governance matters are decided by the government. While ensuring the steady development of big data and technology, government departments can also collect and produce effective management data, improve the analysis and use

of big data, and make appropriate decisions, so as to innovate the governance mode of the smart city and improve its governance efficiency.

4.3. Constructing a Network Platform for Public Interaction

In smart city management, the public is the most important and solid foundation. In the process of smart city management, it is necessary to make full use of the wisdom of the masses, mobilize the power of the masses, lay a good foundation, brainstorming, so that the general public can express their own views on the online platform, and jointly build a "smart city" governance model that truly meets the needs of the people.

5. INNOVATIVE DEVELOPMENT MODE OF URBAN GOVERNANCE IN THE CONTEXT OF SMART CITY

Under the environment of the continuous development of the smart city, China's urban management is being carried out in an orderly manner, and significant achievements have been made, but in recent years, many problems have arisen in urban governance, which requires innovation in the development mode to promote the governance of the smart city. In addition, with the rapid development of science and technology, information technology is becoming more and more developed, the informationization of daily life has just become a norm, coupled with the rapid development of urbanization, the traditional way of government management has been difficult to meet the new urban governance needs. The core idea and ultimate goal of smart city governance is to realize sustainable economic development and improve people's quality of life and happiness. The achievement of the goal is not only limited by the improvement of hardware and software infrastructure in the city, but also about how managers utilize the information resources of the smart city to make a series of intelligent choices for smart governance. The inevitable trend of future urban governance will move towards a pluralistic and shared governance model.

5.1. Innovative Governance Model of Multi-sectoral Collaboration

The urban governance subjects of the smart city include government departments, enterprises, the public, social organizations, etc., but it is the government departments that really play a leading role. Therefore, it is necessary to innovate the governance mode and establish an integrated, refined and visualized public information platform governance mode, which constitutes a public information system with spatial data, image data, and monitoring video of the governance work of each department, forming a multi-sector collaborative management mode, by which the decision makers in the platform can make a comprehensive analysis of the data and data, and carry out unified scheduling, and formulate corresponding countermeasures. Through this system, the real-time exchange of information and data between departments is realized, the sharing of resources is realized, and the collaboration of multiple departments is realized. As an example, when managing problems in the field of public utilities such as water, gas, electricity, street lights, sewers, etc., departments such as the Supervisory Commission, the Development and Reform Commission, the Finance Bureau, the Planning Commission, the Public Security Bureau, and the Urban Management Brigade can interface with each other on the Smart City Information Platform to manage the problems together.

5.2. Breakdown of the Innovative Governance Model with the Participation of Multiple Subjects

In the context of the smart city, governance requires the participation of multiple parties to achieve better governance results. And in urban management, the most important issue is how to effectively integrate and coordinate the various subjects. Therefore, government functions should refine the various tasks involved in the governance subjects and further refine the work tasks and spatial units

of the subjects, so that the two can be better docked, minimizing the waste of human, material and financial resources, completing the governance tasks in the shortest possible time, and enhancing the effectiveness of urban management.

5.3. People-oriented Innovative Governance Model

The smart city is initially carried out for the public interest and to meet the needs of public services to improve the quality of life and happiness of the people. Therefore, it is necessary to build an innovative governance model that is people-centered and widely mobilizes people's participation. The most important feature of a smart city is openness and participation, and comprehensive governance of all areas of a smart city should allow all sectors of society to participate, give full play to their talents and use them for the community. Based on cloud computing, the Internet, the Internet of Things and other technological means, public participation over multiple time periods and geographic areas can be realized, and channels for reflecting public opinion can be broadened. For example, in the process of fighting the new coronary pneumonia, mobile, telecommunications, Unicom and other communications, network and other units should be in line with the concept of "service for the people", the maintenance of their respective departments of the system and services, to take the form of a combination of online and offline, once there is an outbreak of the epidemic, you can WeChat, microblogging, text messaging, jitterbugs and other forms of short videos, and timely reflection of the epidemic prevention section, and enhance the public's participation in the epidemic. Epidemic prevention part to reflect and strengthen the epidemic monitoring.

5.4. Scientific Assessment Model for Smart City Governance

The establishment of a set of scientific assessment model is an important way to detect whether the smart city governance work has achieved the desired effect. A variety of assessment tools should be comprehensively utilized in conducting the assessment, striving for the authenticity, scientificity and credibility of the evaluation conclusions. For example, going deep into the governance site, directly participating in the smart city management, or going to the field to check the effect of governance; or through interviews, surveys and other methods, the target of the interviews and surveys can be the staff involved in the governance or the beneficiary public, so that they can evaluate the effect of the smart city governance in a straightforward and fair manner. During the evaluation process, problems in smart city governance are analyzed and relevant departments, enterprises and social organizations are asked to rectify them in order to improve the effect of smart city governance in a timely manner.

6. CONCLUSION

Starting from early smart city pilot projects, smart city projects have gradually moved towards high-level smart city design, new smart cities, smart society construction and digital transformation of cities, and have accumulated rich practical experience in digital transformation of cities. Urban construction behaviors have become more scientific and systematic, and more emphasis has been placed on the efficiency of urban governance, thus putting China's smart cities on the road to sustainable development. Under the development trend of smart cities, we can't simply follow the traditional way of management, but we should keep pace with the times, adopt appropriate management methods according to the characteristics of different cities and according to the actual situation, under the leadership of government departments, enterprises, the public, social organizations and other governing bodies, using technologies such as the Internet, cloud computing and the Internet of Things, to carry out collaborative work, make the concept of people-centered service as the their own work objectives, and put the urban governance issues under the integration and sharing of big data information, and really do practical things for the people and do good things.

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