IJSES
International Journal of Scientific Engineering and Science
Volume 9, Issue 3, pp. 161-163, 2025. ISSN (Online): 2456-7361

Research on the Construction Path of New Smart Cities

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Abstract: *Smart city is the trend of urbanization in the future, and also an important means to deal with population growth and solve urban development problems. By combining big data technology and Internet of Things technology, it is applied in all areas of urban development, effectively improving the progressiveness of the city. However, there are still problems in the planning of smart city construction in China, such as insufficient guidance, outdated infrastructure, lagging technological level, and lack of prominent urban characteristics. It is necessary to further clarify the ideas, continuously adhere to the basic principles of people-oriented, coordinated promotion, classified guidance, and intensive efficiency, provide direction and ideas for the construction of smart cities in China, continuously improve the happiness and satisfaction of "people", continuously strengthen the reform and practice of smart cities, and gradually build a number of ubiquitous, integrated, and intelligent smart cities with prominent characteristics, complete functions, and complete systems.*

Keywords: *City; smart city; construction path.*

I. Introduction

In today's rapidly developing era, smart cities have become an important direction for urban development. Since IBM proposed this concept in 2010, smart cities have attracted global attention due to their ability to use information technology to drive comprehensive urban transformation. It evolved from digital cities and is committed to improving urban operational efficiency, optimizing public services, and promoting sustainable development through technological integration. However, during the construction process, smart cities have encountered many challenges such as lack of individuality, autonomy, information sharing, and weak sense of gain among the people. How to overcome difficulties, find practical and feasible construction paths, and create smart cities that meet the characteristics of the city and satisfy the people has become a key issue that urgently needs to be addressed. This article will delve into this topic in depth.

II. The Conceptual Logic of Smart Crties in China

(1) The connotation of smart city

The concept of smart city was first proposed by IBM in 2010. Its essential feature is to use human intelligence to promote urban development, optimize urban planning and encourage emerging industries through the use of information technology and social factors such as talent education. It changes the way decision-making and management are carried out, and changes the way governments, enterprises, and residents interact with each other, enabling cities to operate in a coordinated manner and achieve sustainable economic development. By leveraging a series of emerging information technologies including big data and cloud computing, the construction, development, services, and management of cities can be made more intelligent. In the process of building smart cities, it is necessary to promote the integrated development of all aspects of society. To achieve this goal, smart cities widely adopt various advanced technological means to promote the modernization of technology applications, the efficiency of public service supply, the intelligence of social governance, the systematization of development concepts, and the diversification of participating subjects.

(2) From Digital City to Smart City

In this era of rapid technological advancement, urban development is undergoing profound changes, and the concepts of digital cities and smart cities have emerged, gradually becoming the core force driving urban progress. Digital city, as a new urban form with the grand goal of improving urban operational efficiency, significantly enhancing residents' quality of life, and achieving sustainable urban development, is firmly built on digital technology and information and communication technology. In the journey of improving the efficiency and intelligence of various infrastructure and services in cities, digital cities have widely used a series of cutting-edge and advanced technological means, such as cloud computing, which is like a powerful "cloud brain" that can efficiently process massive amounts of data and provide powerful computing resource support for various applications in cities; Big data analysis is like a sharp "data detective", mining valuable information from the complex ocean of data, helping city managers accurately understand the laws and problems of urban operation, and make more scientific decisions; Artificial intelligence is like an tireless "intelligent assistant" that simulates human intelligent behavior to achieve automation and intelligence of urban services. For example, intelligent transportation systems can optimize traffic flow in real time and alleviate congestion; Virtual reality technology is like a magical 'magic key', bringing people an immersive experience and playing a unique role in urban planning, cultural tourism, and other fields. Faced with the growing population pressure and increasingly tight resource constraints, "Digital City" is fully committed to creating a more efficient, intelligent, and sustainable urban environment.

The digital city occupies a fundamental and crucial position in the development blueprint of smart cities, and it is an important cornerstone and key component for the construction of smart cities. When digital cities are deeply integrated with IoT technology, it is like igniting the "fuse" of a

technological revolution, giving birth to more advanced and powerful smart cities. The core concept of a smart city is to install sensors on all objects of urban life, from buildings and transportation facilities to daily household items and personal mobile devices. These sensors are like the "nerve endings" of the city, constantly collecting various types of data and forming a massive Internet of Things through network connections. Subsequently, with the powerful computing power of supercomputing and the efficient data processing capability of cloud computing, the massive data generated by the Internet of Things is deeply integrated and analyzed. In this way, digital cities can achieve comprehensive and deep integration with various related systems in the city, such as transportation, energy, healthcare, education, etc. This fusion breaks down the information barriers between various systems in the past, allowing information to flow freely, collaborate and share.

III. Problems Encountered in the Construction of Smart Cities

(1) The problem of lack of personality

Creating unique and distinctive features is undoubtedly an indispensable aspect in the process of smart city construction. As an important leader in the construction of smart cities, the government shoulders an important mission in promoting the transformation of urban intelligence. Trapped in the quagmire of traditional construction concepts, unable to extricate oneself. The continuation of this traditional thinking mode has led to a worrying homogenization trend in many aspects of urban development. From a content perspective, many smart city constructions lack innovation and differentiation, with both similarities and differences between cities. The setting of urban service functions and the layout of emerging industries are highly similar, making it difficult to showcase the unique charm and advantages of each city. In terms of functional development, the issue of duplicate construction is very prominent. Cities have invested a lot of resources in developing functional modules such as intelligent transportation and intelligent healthcare, but have not fully customized them according to actual needs and characteristics, resulting in resource waste. More seriously, in terms of construction mode, it is not uncommon for one city to have a negative impact on another city. Many cities blindly follow the so-called "success model" and fail to explore their cultural heritage, geographical features, and economic structure in depth, resulting in a lack of targeted and innovative construction models.

(2) Smart cities lack autonomy

Innovation is the main driving force for the construction of smart cities, and enhancing the intelligence and informatization functions of urban construction is the core requirement of smart city construction work. Independent intellectual property rights and core technologies, as well as a complete technical system, are important forces in promoting the construction of smart cities. The current shortage of talent in smart city service management is quite prominent, and the public service team lacks high-quality and specialized talents, especially those with strong abilities in big data and IoT technology applications. These factors have hindered the development of smart city construction in China. Therefore, to enhance the innovation of smart city construction, it is necessary to improve the grasp and application ability of high-tech cutting-edge technologies, promote the development of modern industries with independent innovation capabilities, improve the quality of big data and IoT technology applications, and increase the introduction of application and service management talents.

(3) The people have a weak sense of gain

The construction of smart cities involves multiple entities with complex relationships. Once problems arise, they can easily lead to conflicts of interest among the entities, resulting in obstacles to project operation. The construction of smart cities is not only a technical issue, but also a conceptual issue. Whether people can gain happiness from it depends on whether the construction of smart cities is centered on the people. If each entity fails to clarify their respective responsibilities in the construction, planning, and operation of smart cities, it will result in many projects being unable to form unified standards and formulate specific policy measures in terms of management, cost sharing, and benefit sharing mechanisms after implementation. The imperfect mechanism and incomplete application of these factors will reduce the sense of gain and happiness of the people in the construction of smart cities. Therefore, the construction of smart cities needs to further coordinate and handle the relationships between subjects, objects, intermediaries, and other stakeholders.

IV. The Path of Smart City Construction

(1) Urban physical examination is an important prerequisite for building smart cities and a crucial means of testing urban development

In response to the prominent issue of "urban diseases" in the current development process, as well as the demand for refined management in urban development, urban physical examination work should not be delayed. Urban physical examination is a complex and systematic work that covers multiple professions and dimensions. Combining urban development and advances in scientific and technological means, continuously improving work methods, and making reasonable use of physical examination conclusions are effective ways to leverage the role of urban physical examination and guide urban development. The core idea of urban physical examination is to obtain and perceive diverse urban status data based on advanced technologies such as the Internet of Things, street view scanning, 3D oblique photogrammetry, and infrared monitoring.

Intelligent calculation is carried out based on industry business models to evaluate the current status of the city, identify the "urban diseases", and ultimately solve the pain points of urban management. Comprehensively carry out urban physical examinations in cities divided into districts, identify problems in areas such as elderly care, childcare, parking, charging, and activity venues, implement targeted updates and renovations, carry out pilot projects for complete communities, based on the results of physical examinations, fill in the gaps in facilities and services, create a number of complete community

models, and provide new ideas for the construction of smart cities.

(2) The construction of smart cities is a complex project that requires multi-faceted and multi-level investment and participation

Moreover, there will be many bottleneck problems in data mining, collection, aggregation, linking and other links, which need to be objectively and scientifically addressed and solved in a practical and realistic manner. In the process of building smart cities, the government should take supply side reform as the foundation, accelerate policy innovation, promote the development of smart industries, and strengthen the stability, accuracy, and flexibility of macro, meso, and micro policies. Based on the characteristics and advantages of the city itself, a top-level design is pre formulated and improved, and short-term, medium-term, and long-term development goals are reasonably planned according to the importance of tasks, providing institutional guarantees for the long-term development of the city. Establish a global perspective, focus on designing and planning the structural system of various supporting elements of smart cities, coordinate and coordinate, and thus construct a more scientific and systematic top-level design scheme.

Properly handling the relationship between government and market is the key to promoting the construction of smart cities. The construction of smart cities is a complex system engineering, and relying solely on government or market forces to promote it cannot achieve ideal results. Therefore, under the leadership of the government, all parties should coordinate with each other, fully mobilize the enthusiasm of various departments, build a cooperation network, enable information sharing and resource exchange among various stakeholders, form an interdependent and interconnected whole, and solve the problem of "information barriers". Driven by innovation and relying on resources, we continuously optimize the government platform on the basis of improving the smart government network infrastructure. In addition, the establishment of a government big data application system should use innovation as a means to collect smart government data, thereby accelerating the construction of big data infrastructure.

(3) Adhere to the people-centered approach and implement the concept of people's cities

Due to the fact that a large number of e-government, public service infrastructure, and living facilities are built for the people, smart cities must pay attention to the actual needs of urban residents in the process of construction and development, fully play the role of urban entities, truly base themselves on the actual situation, construct according to the characteristics and development laws of the city, adhere to the people-centered approach, take multiple measures to drive the development of smart cities through innovation, and continuously improve the sense of gain and happiness of the people through innovation driven development of smart industries, smart government, and smart livelihood fields. At present, the construction strategy of new smart cities is more focused on improving people's experience and meeting their needs. More information technology is applied to people's livelihoods, making cities smarter, more humane, and more humane. This is the correct path for the construction of smart cities

(4) Strengthen the research and development of core technologies and promote the development of smart industries

Relying on information technology to cultivate the development of related industries, it is necessary to strengthen the exchange and cooperation between government, academia, research and enterprises, jointly promote high-tech research and development, and provide intellectual support for the construction of smart cities. The government plays a role in providing high-quality public services to citizens during the construction of smart cities. Therefore, it is necessary to strengthen the research and development of core technologies and promote the development of smart industries. Secondly, improving the level of urban technological innovation requires the cultivation of innovative talents as a guarantee. Specifically, preferential policies can be implemented to promote the development of technology research in key areas in smart cities. With comprehensive and high subsidy policy guarantees as advantages, innovative professionals can be attracted to increase the reserve of intelligent talents in smart cities. Universities and research institutions are excellent training bases for innovative research and development talents. The construction of smart cities can be combined with universities and research institutes to provide talent resource support for improving the level of urban technological innovation.

V. Conclusion

The construction of smart cities is of great significance, and although it faces numerous challenges, it is not insurmountable. Through urban physical examinations, problems can be accurately identified, providing direction for construction; Government coordination and coordination, balancing the relationship with the market, can gather various forces; Satisfying the needs of the people can enhance their sense of gain; Strengthen the research and development of core technologies and promote the development of smart industries; In short, the construction of smart cities requires a multi pronged approach to create innovative and charming smart cities, laying a solid foundation for the future development of cities.

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