Research on the Supply Mode of Public Cultural Services in Smart Cities

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Abstract: At present, China's public cultural service supply is jointly maintaining the pattern of social collaborative governance with government departments and social forces. In the information age, information technology is also gradually used in the supply of public cultural services. The current research direction in this field is intelligence and Internet+. Traditional public culture has a very low utilization rate of social resources, often resulting in resource mismatch and lagging supply. Therefore, the mining of demand capacity needs to be improved. In response to the above situation, this article is committed to providing a smart city perspective to improve the above problems, effectively reallocating resources through informatization mechanisms, and formulating a more efficient public cultural service supply model. This paper firstly studies the basic theoretical framework required to build a public cultural service platform from the perspective of smart city and arranges the theories according to a certain implementation path. Then, it analyzes the influence of smart city on the supply of public cultural service through the overall governance of the public cultural service supply model. On this basis, a series of strategies and methods are proposed to improve the current supply mode of public cultural service to establish and improve the current supply mode management system of public cultural service and construct a brand-new supply mode of public cultural service.

1. Introduction

In the process of China's rapid economic development, the construction of public culture has gradually become a universal need of the whole society, which happens to coincide with the growing spiritual and cultural needs of the current people, so it is widely valued by all walks of life. In the information age, information technology is also gradually used in the supply of public cultural services. [1] The current research direction in this field is intelligence and Internet +. Traditional public culture has a very low utilization rate of social resources, often resulting in resource mismatch and lagging supply. Therefore, the mining of demand capacity needs to be improved. [2] In view of the above situation, this paper is committed to providing the perspective of smart city to improve the above problems, formulate a more efficient supply mode of public cultural services and effectively relocate resources through the information mechanism. In view of the above situation, this paper formulated a brand-new smart city public cultural service supply model and conducted relevant research on its characteristics.

2. The basic theory of the research on the supply mode of public cultural services in smart cities

2.1 The connotation and construction of smart cities

In 1998, American scholars put forward the concept of digital city for the first time [3], pointing out that massive geographical data could be embedded in maps and represented by three-dimensional maps. Later, this concept was applied to smart cities as a digital virtual concept of multi-scale, multi-space and multi-types. With the rapid progress of informatization, urban informatization has also been put on the agenda. Massive data will be generated in residents' life in the era of big data. If these data are properly applied, a set of reasonable communication modes can be established, and a new human-

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computer interaction system can be explored. Massive data information can be obtained through a small platform to solve the problem of user terminal data adaptation and human-computer interaction.

Smart city refers to a new urban management system that can fully perceive, analyze and integrate information technology and communication means. [4] The construction of smart city relies on big data cloud computing and the Internet of Things to cover the overall urban development in an all-round way to meet the production and living needs of different people in terms of planning and sustainable development.

2.2 The connotation of public cultural service

Public culture mainly refers to people's spiritual and cultural activities centering on social activities and their related subsidiary products in the public domain, which is the reflection of people's public vision centering on economic and political fields. The composition of public culture is very colorful, with different dimensions, and all public cultural activities correspond to scientific and cultural knowledge related to productivity and economic and ideological activities related to basic system, etc. In addition, according to different boundary regions, public culture can be divided into national, transnational, urban, rural and so on. This paper focuses on the study of urban public culture.

2.3 Theoretical basis for the supply of public cultural services in smart cities

The theoretical basis for the provision of public cultural services in smart cities is as follows:

(1) New public service theory: This theory emphasizes the transfer of theoretical methods and practical activities in the field of business management to the field of public management. This approach is conducive to reducing government expenditures, but it can also cause hollowing out while satisfying the interests of the public [5], its own service model has caused an overhead public sector impact on the government.

(2) Holistic governance theory: this theory emphasizes centralized management by the central government and improves the efficiency of unified government through technological innovation at the information level.

3. The impact of smart cities on the supply of public cultural services

3.1 Elements of smart cities

Smart cities have made certain breakthroughs and surpasses in the existing urban development model and improves it from the aspects of urban economic development, production management, organizational structure, social functioning, and people's lifestyle. Therefore, there are a variety of elements, the specific content of which includes elements of idea, technology, humanity, organization, and governance. The element distribution diagram is shown in Figure 1 below.
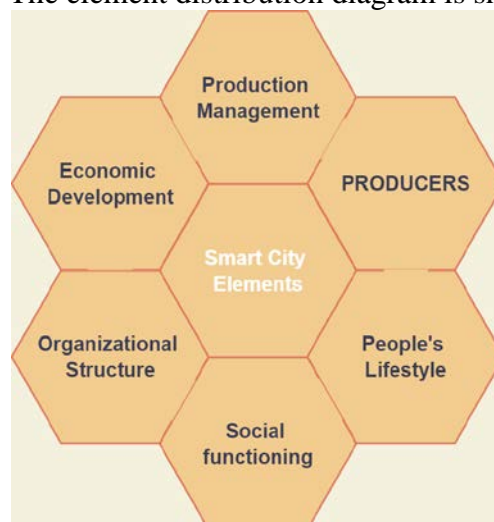

Fig. 1 Distribution diagram of smart city elements

3.2 The impact of smart city elements on the supply of public cultural services

The influence of smart city elements on the supply of public cultural services is more reflected in its organizational mode and the planning and innovation system of smart cities, which are highly unified with the supply of public cultural services. The specific impacts are as follows:

(1) Concept elements: The impact of concept elements on the supply of public cultural services is mainly reflected in the implementation of relevant policies and projects, which implements the "true" concept of smart city.

(2) Technical elements: The impact of technical elements on the supply of public cultural services is mainly reflected in three technical capabilities, namely comprehensive information perception ability, massive data processing ability and intelligent management service ability. These technological capabilities are realized through emerging technology systems such as the Internet of Things, cloud computing and big data.

(3) Humanistic elements: The impact of humanistic elements on the supply of public cultural services is mainly reflected in the satisfaction of people's basic rights and interests and needs. The construction of smart cities should fully take humanistic elements into account. It includes the protection of people's basic cultural rights and interests, the development strategy of public cultural services, and the change of people's microscopic demands and so on.

(4) Organizational elements: Organizational elements are mainly reflected through the city's self-organization ability, which also provides a guarantee for the creativity and enthusiasm of urban institutions.

(5) Governance elements: The impact of governance elements on the supply of public cultural services is mainly reflected in government functions, that is to say, the government can avoid resource mismatch through reasonable allocation of public cultural resources. [6]

The schematic diagram of the influence of smart city elements on public cultural service supply is shown in Figure 2.
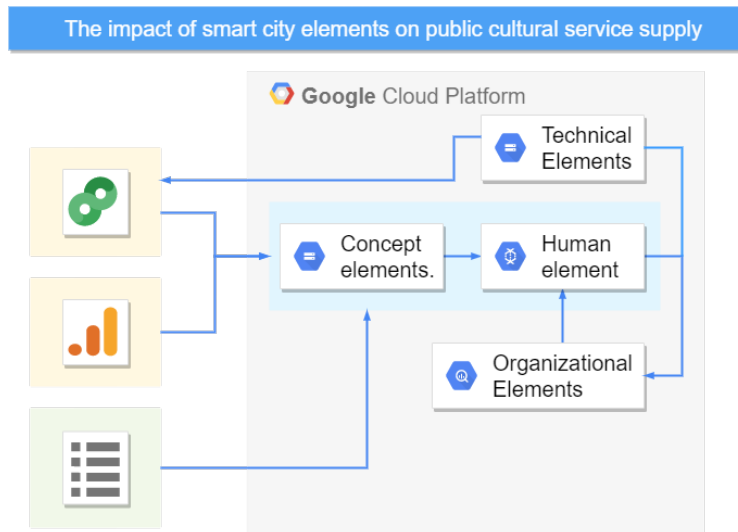

Fig. 2 The impact of smart city elements on the supply of public cultural services

4. Construction of the supply mode of public cultural services in smart cities

4.1 The overall structure of the supply mode of public cultural services in smart cities

The overall architecture of the supply mode of public cultural services in smart cities can be represented by a multi-level nested iterative model, which specifically includes the construction of Internet, Internet of Things, broadcast and television network and supporting network storage and transmission system. On the one hand, the supplier acquires the demand and provides corresponding public cultural services and products; on the other hand, it reallocates the allocated resources through specific management methods. Its schematic diagram is shown in Figure 3 below.
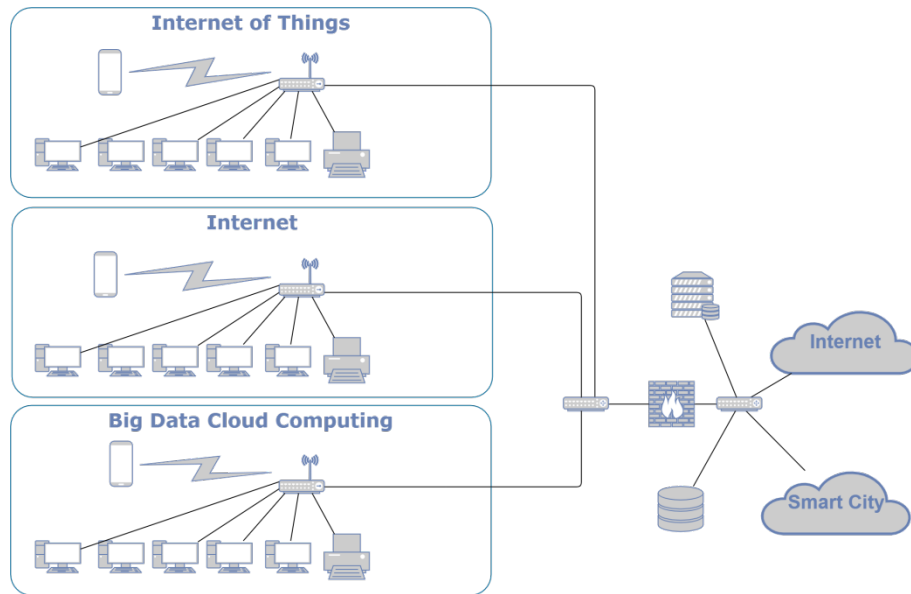
Fig. 3 Schematic diagram of the overall structure of the public cultural service supply mode in smart cities

4.2 Demand-side analysis of the supply mode of public cultural services in smart cities

The research on the demand side of public cultural service is mainly carried out from four parts: demand subject, demand expression channel, demand analysis and demand formation. The main body of public cultural social demand is the masses, and smooth demand expression channel is the key factor for the implementation of public cultural service supply. Through relevant channels of public cultural demand expression, demand information from various sources will be cleaned and sorted out the content system of public cultural demand through demand analysis.

4.3 Supply-side analysis of the supply mode of public cultural services in smart cities

From the analysis of demand side, public cultural demand shows diverse, polymorphic and changeable characteristics in content, and it is also a kind of "selective demand rather than rigid demand" [7], which requires that public cultural service can correspondingly realize multi-carrier, multi-mode, multi-form and multi-channel supply. And let supply structure constantly adapt to the demand structure through continuous optimization of internal resource allocation, application of emerging technologies as well as innovation of institutions and mechanisms to meet the growing spiritual and cultural needs of the people. [8]

4.4 Implementation path of public cultural service supply model in smart cities

The implementation path of the public cultural service supply model in smart cities is shown in Figure 4 below.
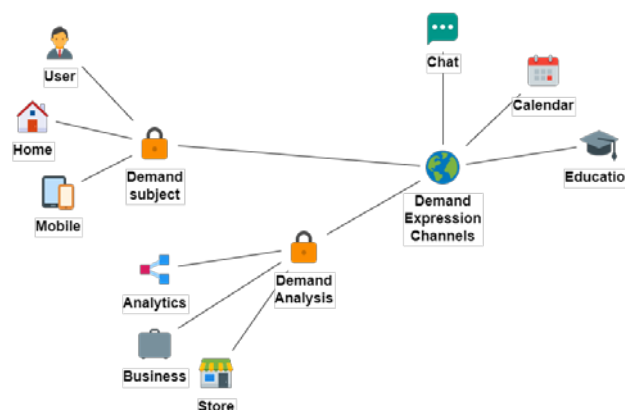

Fig. 4 Implementation path of public cultural service supply model in smart cities

5. Conclusion

Under the current supply mode of public cultural services, it is extremely difficult to achieve full coverage of urban and rural areas, which also involves the linkage integration and communication between urban and rural areas. Therefore, further intelligent and activated of resource allocation is required. At present, China's public cultural service supply is jointly maintaining the pattern of social collaborative governance with government departments and social forces. In the information age, information technology is also gradually used in the supply of public cultural services. The current research direction in this field is intelligence and Internet plus. Traditional public culture has a very low utilization rate of social resources, often resulting in resource mismatch and lagging supply. Therefore, the mining of demand capacity needs to be improved. In response to the above situation, this article is committed to providing a smart city perspective to improve the above problems, effectively reallocating resources through informatization mechanisms, and formulating a more efficient public cultural service supply model. This paper firstly studies the basic theoretical framework required to build a public cultural service platform from the perspective of smart city and arranges the theories according to a certain implementation path. Then, it analyzes the influence of smart city on the supply of public cultural service through the overall governance of the public cultural service supply model. On this basis, a series of strategies and methods are proposed to improve the current supply mode of public cultural service to establish and improve the current supply mode management system of public cultural service and construct a brand-new supply mode of public cultural service.

References

[1] B. Mora, R. Rivera, V. M. Larios, J. R. Beltrán-Ramírez, R. Maciel and A. Ochoa, "A Use Case in Cybersecurity based in Blockchain to deal with the security and privacy of citizens and Smart Cities Cyberinfrastructures," 2018 IEEE International Smart Cities Conference (ISC2), Kansas City, MO, USA, 2018, pp. 1-4.

[2] FOUNOUN and A. HAYAR, "Evaluation of the concept of the smart city through local regulation and the importance of local initiative," 2018 IEEE International Smart Cities Conference (ISC2), Kansas City, MO, USA, 2018, pp. 1-6.

[3] E. J. Cedillo-Elias, J. A. Orizaga-Trejo, V. M. Larios and L. A. Maciel Arellano, "Smart Government infrastructure based in SDN Networks: the case of Guadalajara Metropolitan Area," 2018 IEEE International Smart Cities Conference (ISC2), Kansas City, MO, USA, 2018, pp. 1-4.

[4] G. R. Ceballos and V. M. Larios, "A model to promote citizen driven government in a smart city: Use case at GDL smart city," 2016 IEEE International Smart Cities Conference (ISC2), Trento, Italy, 2016, pp. 1-6.

[5] Founoun, A. Hayar and A. Haqiq, "The Textual Data Analysis Approach to Assist the Diagnosis of Smart Cities Initiatives," 2019 IEEE International Smart Cities Conference (ISC2), Casablanca, Morocco, 2019, pp. 150-153.

[6] W. Yoon et al., "HERMES: GS1-based Smart City Service Intercommunity," 2018 IEEE International Smart Cities Conference (ISC2), Kansas City, MO, USA, 2018, pp. 1-8.

[7] Y. Wang et al., "An Interdisciplinary Educational Project Connecting Smart City Technology with Local Communities," 2018 IEEE International Smart Cities Conference (ISC2), Kansas City, MO, USA, 2018, pp. 1-2.

[8] N. M. Kumar, S. Goel and P. K. Mallick, "Smart cities in India: Features, policies, current status, and challenges," 2018 Technologies for Smart-City Energy Security and Power (ICSESP), Bhubaneswar, India, 2018, pp. 1-4.