# Analysis on the Integration of Government Big Data Opening and Market Utilization in the Construction of Smart Cities

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***Abstract:*** At present, the urbanization process is progressing on a global scale. With the development of the Internet and informatization, with the support of technologies such as cloud platform, big data and Internet of Things, the "smart city" that was first born under the concept of "smart planet" in the United States has gradually become the development trend of urban construction in all countries of the world.

## 1. Introduction

The arrival of the era of big data has broken the monopoly of data, and the expansion and enrichment of information sources are important features of the era of big data. In the future, big data will spread all over the city. Whether it is people's food, clothing, housing, and operation, the city will be "smart" under the support of big data, and big data will provide a "smart engine" for smart cities. The world is boiling on the concept of big data, and all walks of life are exploring the opportunities and challenges of the big data era. Big data as a major disruptive technology revolution in the IT industry after cloud computing and Internet of Things, closely related to informationization, intelligence, digitalization and smart city construction, grasping the background, characteristics and trends of big data, and better promoting wisdom urban construction has important significance [1].

## 2. The meaning and value application of big data

Big data, also known as massive data, means that the data involved is so large that it cannot be intercepted, managed, processed, and translated by humans in a reasonable amount of time. The data comes from all aspects, such as climate information collected by sensors, posts on the website, digital photos and videos, shopping transactions, mobile GPS signals, and more. Although there is no uniform definition, these huge amounts of data are called "big data." Big data has four characteristics:

◆ The amount of data is large, and the initial unit of measurement for big data is at least P, E or Z.
◆ A variety of data types, including network logs, audio, video, pictures, geographical location information, etc., thus put forward higher requirements for data processing capabilities.
◆ The value density is relatively low, and the amount of information is large, but it is more difficult to "purify" the value of the data.

◆  Huge data value, including business value, social value, scientific research value, etc.

The huge application value brought by big data is gradually being recognized and accepted. It is through the innovation and development of technology, as well as the comprehensive perception, collection, analysis and sharing of data, in various fields such as scientific research, economic construction, social development and cultural life. A revolutionary impact is taking place. The United States has clearly promoted big data into a national strategy. Many departments and institutions in China are already studying big data and using big data. The concept and steps of smart city construction are illustrated in detail in Figure 1 below:
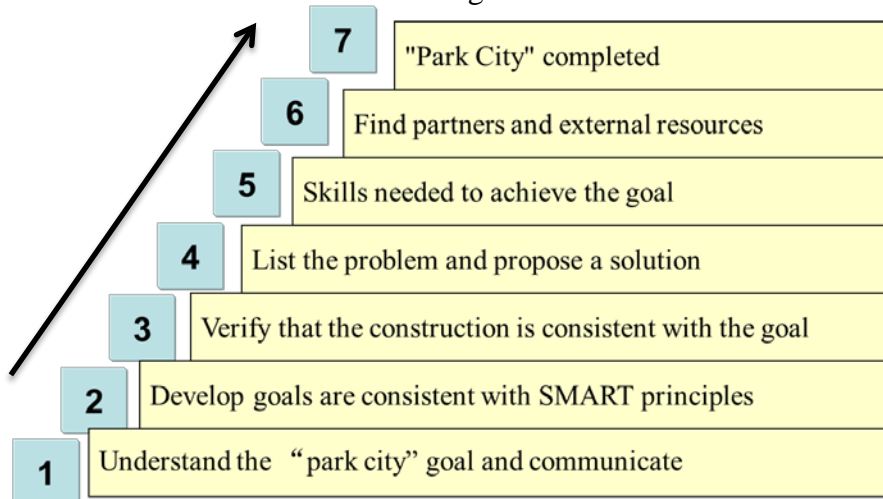


Figure 1: The concept and building steps of smart city construction

As shown in Figure 1 above, big data has already been explored and applied in the fields of Internet, e-commerce and consulting management. In the Internet field, Baidu has been committed to developing its own big data processing and storage system. Tencent relies on big data technology to achieve accurate advertising, big data accurate mobile push, and help mobile games to operate in a fine manner; in the field of e-commerce, Ali E-commerce companies such as Baba and Taobao use big data as their core competitiveness, use big data to analyze people's shopping needs, and develop fixed-point advertising and marketing strategies. In the field of consulting management, developed countries and many well-known enterprises have begun. Use big data for market forecasting, planning, sales management, and more [2].

## 3. Inspiration for building a smart city in China

We are deeply inspired by analyzing the rules and experiences of smart city construction at home and abroad and comparing China's urban construction practices.

## 3.1 Intelligent facilities construction

There is no doubt that big data has brought enormous room for development in urban development, transformation, and the realization of convenient public services. However, the application of big data is inseparable from the support of information technology such as the Internet, the Internet of Things, and the cloud platform, and it depends on the popularity of intelligent terminals. The construction of all infrastructures, including laying the network, arranging sensors, setting up a system platform, and achieving full data collection, will undoubtedly require huge capital investment. Whether it is government support or enterprise market operation, it is essential for smart city construction.

## 3.2 Open government data

Currently, countries around the world have joined the data open campaign. As of April 2014, 63 countries have developed open government data plans. From the current global participation in the open data movement, the United States, the United Kingdom and other developed countries, including India, Brazil and other developing countries. In China, the government has the most complete, largest and most core data. Governments at all levels have accumulated a large amount of data related to public production and life, such as meteorological data, financial data, credit data, power data, gas data, and water data. Road traffic data, passenger data, safety criminal case data, housing data, customs data, immigration data, tourism data, medical data, education data, environmental data, etc., are the largest data holders in society. The following table shows the survey of a city in China from 2011 to 2015. China's cities have gradually realized the comprehensive application of resources and the green development of urban construction, which has achieved certain results in the application of the city, and the overall environmental problems of the city have been significantly improved [3].

Table 1: Survey data of conditions in a certain city in China from 2011 to 2015

| Year | Proportion of channel construction in urban construction /% | Channel comprehensive application rate /% | Channel construction form innovation rate /% | City overall construction optimization rate /% |
|------|------|------|------|------|
| 2011 | 39 | 33 | 20 | 36 |
| 2012 | 40 | 37 | 23 | 45 |
| 2013 | 44 | 45 | 23 | 55 |
| 2014 | 46 | 47 | 26 | 65 |
| 2015 | 48 | 50 | 29 | 70 |

As shown in Table 1 above: Under the premise of ensuring effective supervision, the government has a selective and selective opening of data, guiding enterprises to explore the potential value of data, exploring innovations in business and application models, and helping to ensure healthy competition in the market. Achieve the survival of the fittest, promote the healthy development of big data applications, forge a high-quality big data application model that can be accepted by the market and create value for the government and residents, and realize the efficient and high-quality utilization of government big data resources. At the same time, the opening of government data is also conducive to public participation in urban management and supervision of the government, thereby improving public services.

## 3.3 Pay attention to differences and avoid homogenization

It can be seen from the "City Development Strategy Guides the Key Fields of Smart City Construction" that the urban development strategy directly affects the urban development and the development model of smart cities. China's urbanization and big data applications, when learning foreign advanced technology and experience, should pay attention to the protection of urban culture, should not lose their own unique style, one side of the city, is led by commercial interests.

## 3.4 Unified management

IBM recommended that Fushun establish a unified smart city management mechanism, set up a management committee, target the humanities city and establish a foothold, and achieve key outcome indicators as a way to improve the urban ecosystem, with standardized shared data,

business analysis tools and easy-to-use data. The portal is used as a support to ensure that the management mechanism runs smoothly. This proposal is also a feasible strategy for smart city construction.

## 4. Conclusion

The construction of a smart city is a huge project that requires not only policy support but also a large amount of capital injection. The application of research and technology first requires the extensive participation of governments, commercial companies, research institutions and the public. At present, in the construction of smart cities at home and abroad, the infrastructure construction is mainly based on government investment, supplemented by cooperation with powerful commercial companies; strategic planning and top-level design are carried out by commercial companies, research institutions and think tanks to ensure The correct direction and the effectiveness of practice; the development of the application field is the blending of government and commercial companies. In short, only the wide participation of all sectors of society can promote the prosperity and prosperity of smart cities.

## References

[1] Hong X, Fan L, Hong X, et al. Government big data opening and market utilization for smart city construction[J]. Big Data Research, 2016.
[2] Aldama-Nalda A, Chourabi H, Pardo T A, et al. Smart cities and service integration initiatives in North American cities:a status report[C]// International Conference on Digital Government Research. 2012.
[3] Fan L, Hong X, Huang C, et al. Challenge and countermeasure of governing government big data[J]. Big Data Research, 2016.