



Application of Big Data Technology in the Reform and Reconstruction of Administrative Management System

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Abstract

With the emergence and rapid development of information technologies such as "Internet of Things", "Internet +" and "cloud computing" in recent years, human work and life style have undergone major changes, and human beings are gradually stepping into the — big data era in the social stage with a higher degree of informatization. Especially in the administrative management of our country's government, China is currently actively carrying out the application of big data work, so as to better carry out the administrative management work. This paper on the application of big data and administrative management system reform, analyzes the opportunities and challenges facing the reform of administrative management system, how countries should seize the opportunities of The Times, scientific use of big data to further upgrade the management mode to make the management mechanism more perfect, to lay a good foundation for the better development of modern society.

Keywords: big data; administrative system; reform; reshaping

1 INTRODUCTION

After entering the 21st century, with the rapid development and promotion of computer network technology, more and more data have gradually appeared in society. The emergence of these data has a certain impact on various fields, including administrative management. It has good sides, such as promoting cooperation between various government departments and strengthening the participation of the public. While it also contains bad sides, such as data fraud, database construction lag, which affects the administrative management work to a certain extent. Therefore, in the big data environment, in order to further improve the effect of administrative management work, it is necessary to reform and innovate the administrative management system.

2 OPPORTUNITIES BROUGHT BY BIG DATA TO THE REFORM OF THE ADMINISTRATIVE MANAGEMENT SYSTEM

At present, China has a certain foundation in the development and application of big data, and has market advantages and development potential, but the

application of big data is still in the development stage. (As shown in table 1).

TABLE 1 SCALE OF CHINA'S BIG DATA INDUSTRY FROM 2015-2021

Year	2015	2016	2017	2018	2019	2020
Size	2940	3700	4800	6170	8500	10100

For a long time in the past, the model of power politics was adopted. The government was in a dominant position, and used laws and regulations as the main tool to demonstrate its authority. However, with the rapid development of society, this model gradually shows a lag, which can easily lead to conflicts and contradictions between the government and the masses, increase the incidence of mass incidents, and affect the social stability of China. The emergence of big data can fundamentally change this situation. The government can hand over more power to the masses, and the masses can supervise government work and discover unreasonable phenomena in government departments in a timely manner, so as to improve government administrative management in line with the needs of modern social development to make the society more stable [1]. At the same time, it is also possible to use big data technology as the core to develop

an e-government platform with good performance and complete functions (as shown in figure 1), obtain information on the needs of the masses in a timely

manner, provide better services to the masses, and benefit the masses. It has the characteristics of low cost, high efficiency, and strong public transparency.

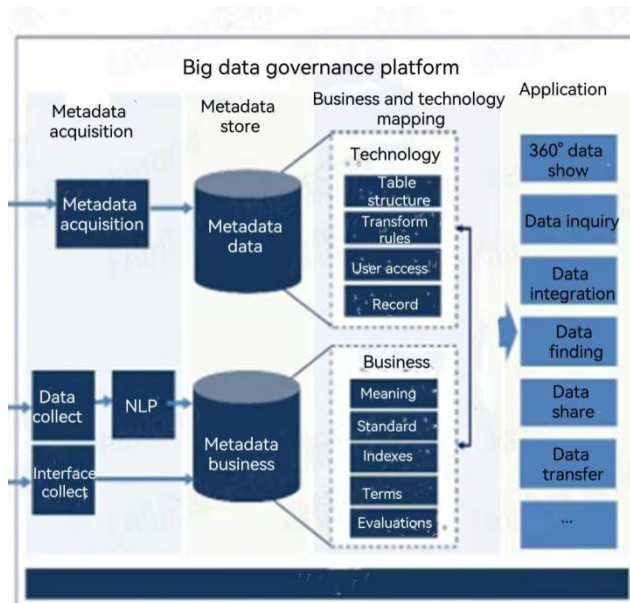


Figure 1. Big data governance platform

3 THE IMPACT OF BIG DATA ON THE ADMINISTRATIVE MANAGEMENT SYSTEM

3.1 The Impact on Functional Positioning

The principle of risk prevention is not only the basic principle of laws and regulations, but also the logical starting point of environmental administrative regulation, which is included in all aspects of the administrative management system. However, in practice, different people have different understandings of risk, which makes different administrative staff mainly judge by their own subjective factors when it comes to risk management, and it is difficult to form a unified cognition, which leads to certain defects in the legal system formulated by government departments. It is difficult to achieve the expected goals, resulting in a vicious circle of government regulation risks, which is not conducive to the development of administrative management. This shows that in the process of environmental administration, risk cognition is the most important influencing factor. At the same time, due to the impersonal characteristics of risk cognition, it creates more opportunities for feudal communication. In the process of risk communication, scientific basis should be regarded as the main principle of discussion, and the participants should provide a large amount of information with high utilization value. Only in this way can the effectiveness of risk communication be improved. The emergence of big data, although it contains some information with low value density, there is also a lot of

information with high value density. Effectively extracting these high value density information can be used as the main evidence for risk communication, which is the main evidence for risk communication. Communication provides information support [2]. In addition, for the randomness of risks, it is mainly due to insufficient data and information that it is difficult to comprehensively analyze the causes, development and hazards of risks, which is not conducive to risk response. On the contrary, if the administrative staff can obtain sufficient data and information, they can comprehensively analyze the incident to obtain more accurate results and provide support for the resolution of the incident. Therefore, big data will have a certain impact on the functional positioning of administrative departments, change their risk perception, and promote risk prevention and communication.

3.2 The Impact on the Management Model

The emergence of big data has brought great changes in China's administrative management model from the traditional extensive management mode to the refined management mode. The two modes have different characteristics, as shown in table 2. It can be found that compared with the extensive management model, administrative management work requires more data and information support. Only through the analysis of a large amount of data and information can accurately understand the specific situation of social development, so as to formulate a more reasonable governance plan. The construction and application of the big data platform can automatically collect, organize and analyze all

aspects of information, providing more valuable information for administrative management, thus laying a good foundation for the application of the refined administrative management model.

TABLE 2 COMPARISON OF CHARACTERISTICS BETWEEN EXTENSIVE AND REFINED MANAGEMENT MODE

Content	Extensive management mode	Refined management mode
Time	Pay attention to the short-term management benefits	Pay attention to long-term management benefits
Ideas	Mainly to 'about', 'probably is', 'may be'	To 'must', 'must not be' mainly
Guide	Task-oriented and problem-repair-oriented	To work results, discovery opportunities
Ways	Mainly personnel work experience	Have a strong professional ability, can adopt systematic management methods

3.3 *The impact on obligation obligations*

Environmental information is an important part of administrative management, which not only provides support for all sectors of society to participate in environmental governance, but also defines responsibilities and rights in all aspects. Ensuring the transparency and timeliness of environmental information enables people from all walks of life to accurately understand the environmental governance situation, express their own opinions, and provide support for environmental governance. In the late 1980s, the Aarhus Convention was jointly issued by many countries in the world, which first stipulated the disclosure of environmental information. As one of the signatories of the convention, China has also applied the convention. In China, environmental information disclosure consists of three stages, namely implicit disclosure, semi-disclosure and formal disclosure. Relevant studies have shown that in the process of environmental governance, information disclosure is positively correlated with the governance effect, that is, the higher the degree of information disclosure is, the better the environmental governance effect will be [3]. In the context of big data, environmental information needs

to be calculated in an order-of-magnitude way, making data collection, sharing and protection the main issues when data is made public. Therefore, in order to ensure the openness of data, a sound monitoring network should be used. In the past, the collection of environmental information was usually completed by the relevant government departments, and to share the data, the interest boundaries between government departments should be broken.

3.4 *The impact on responsibility orientation*

Through a lot of practice, it has been shown that there are many defects in the conventional environmental management model, and the responsibility orientation is not very ideal, which affects the administrative management work. Specifically, it is mainly reflected in three aspects. Firstly, when the law and passive law enforcement is the main method, it is difficult to stimulate the enthusiasm of law enforcement personnel, and the failure to strictly abide by the requirements of relevant rules and regulations makes the behavior judgment and punishment of illegal personnel. It is unreasonable and seriously affects the effect of law enforcement. Secondly, many pollutants are not fixed and may change with the flow of water and air, which makes the pollution problem change greatly, causing different consequences and hazards, which is not conducive to the judgment of the pollution results. Finally, because the pollution hazards and results are controlled by factors such as nature and belief, even if the pollution problem has occurred, it cannot be accurately detected, which provides an opportunity for lawbreakers. Therefore, in order to improve the effect of environmental governance, the management of administrative departments and enterprises and institutions should be strengthened, and problems existing in various aspects should be discovered in time, and various problems should be solved in the first time. Through the application of big data technology, an open communication platform can be provided for the masses. After the masses find a problem, they can transmit the problem to the platform in time, which is conducive to the solution of the problem [5].

4 REFORM MEASURES OF ADMINISTRATIVE MANAGEMENT SYSTEM UNDER THE BACKGROUND OF BIG DATA

4.1 *Constructing the System Reform from Policy Dominance to Law Dominance*

In the process of environmental governance reform, big data is of great significance. In some policies in China, big data is integrated into the administrative management system to optimize the effect of environmental

governance. However, it should be noted that for these policies, there are also defects of poor implementation effect and strong randomness, which restrict the application effect of the policy to a certain extent, and it is difficult to achieve the expected goals. That is to say, in the early stage of governance, policy guidance is the main focus, while in the more mature stage of governance, laws and regulations are the main focus [6]. This is because there is strong guidance and predictability in the law, which can regulate the responsibilities and rights of all parties, further enhance the effect of law enforcement, and provide support for environmental governance. Therefore, in the context of big data, the policy-led system should be transformed into a law-led system. The specific process is shown in figure 2.

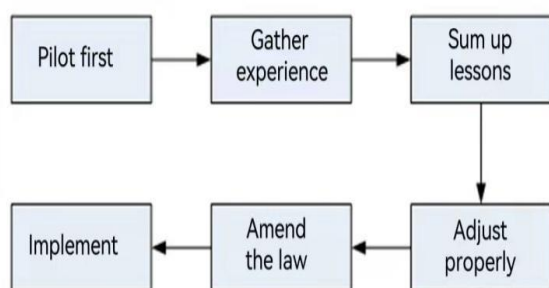


Figure 2. Flow chart of the policy-led to law-led transformation

4.2 Data Acquisition-based Block Relationship

In order to build a block relationship based on data collection, China can learn from Japan's environmental governance. According to the specific situation of China, people can formulate an implementation plan suitable for China, including the following aspects. Appropriate recovery of environmental monitoring rights will reduce the financial pressure on local governments and break local protectionism. During the operation of monitoring points, the rights and obligations of government departments are stipulated through legal means. Through vertical management methods, the county and city-level environmental monitoring organizations are managed to prevent traditional physical problems from interfering with environmental monitoring work. It should sort out the relationship between the state and local testing departments, and hand over those key monitoring points to the state's management. The government only needs to be responsible for those secondary monitoring points, and no matter which monitoring point obtains data, it can be reported to the state and the country [4].

4.3 Strengthen the Transformation of Environmental Administrative Service Function Through Data Disclosure and Sharing

Firstly, it should improve the public opinion expression mechanism. When building a modern new service government, the expression of public opinion is the core content. Only when the government accurately understands the demands of the masses and provides the masses with services that meet the requirements can the society be more harmonious and stable. Therefore, government departments should strengthen data disclosure and take the initiative to obtain opinions from the public to fundamentally transform government service functions. Secondly, it can create risk communication channels. Due to the randomness of environmental risks, environmental governance is unstable, which is not conducive to the normal life of modern personnel. Therefore, government departments should use modern and advanced big data technology to create a good risk communication channel, so that people from all walks of life can actively express their opinions and control the randomness of risks to the greatest extent. Finally, it should build an interest coordination mechanism, reasonably coordinate the perseverance of all parties, and reduce conflicts and contradictions between all parties, so as to promote the development of modern society in a better direction [7].

4.4 Build the Relationship Between Environmental Administrative Rights and Responsibilities by Data Application

- Environmental administration management to social governance transformation

Due to some defects in administrative management, the effect of environmental governance is not ideal. Therefore, in the context of big data, the transformation of administrative management should be strengthened to gradually develop in the direction of administrative management. That is to say, the social masses can timely discover the problems of environmental governance in their daily life and work, and use the e-government platform as a medium to transmit these problems to government departments, and the government departments will solve these problems to improve the effect of environmental governance.

- Administrative discretion limits are cut down

In the process of analyzing environmental governance issues and making decisions, data will play an important role, and various excuses cannot be used to judge data as invalid. Instead, data relies on the spirit of the Internet to reform the open, transparent, and democratic political ecology for arbitrary and power administration, thereby improving the fairness of law

enforcement and preventing conflicts between the government and the masses. [8].

5 CONCLUSION

To sum up, it is not as good as after the era of big data, the environmental administrative management has undergone great changes, making the traditional administrative management system gradually reflect a certain lag, which is not conducive to the development of modern administrative management. Therefore, in order to change this situation, the government departments should pay more attention to big data. On this basis, it can rationally reform and shape the administrative management system to lay a good foundation for the harmonious and stable development of modern society.

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