

Analysis of Administrative Cost Data Based on Data Mining

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Abstract: In recent years, many practical cases that have led to the rising of administrative expenditure in China have frequently come to the public's attention. At the same time, these cases have also aroused my interest in controlling the scale of administrative expenditure. Among the many incentives, the sudden appearance of luxury office buildings is one of the incentives leading to the high local administrative expenditure, and even the government agencies will bear the debt burden. Because the actual cost of a project varies with time, events, people, and places, it is very important and difficult to accurately predict the project cost of an enterprise in advance. This paper will analyze the data of administrative cost based on DM(data mining), and analyze the current situation, reasons and countermeasures of the huge administrative cost of our government, hoping to be beneficial to the reform of our administrative institutions. Establish a partnership based on DM, reduce the cost of both parties, and achieve a win-win situation. Evaluate and select the administrative cost through scientific and objective methods to eliminate the fittest and reduce risks.

Keywords: Data mining, Administrative cost, Data analysis.

1. Introduction

The government's administrative cost is the net consumption of economic surplus. As a conservation-oriented government has the significance of universal tax reduction, it is of great significance to study the administrative cost of the government and make a horizontal comparison. In recent years, many realistic cases that lead to rising administrative expenditure in China frequently appear in the public eye, and these cases also arouse my research interest in controlling the scale of administrative expenditure. Among many inducements, the sudden appearance of luxury office buildings is one of the inducements that lead to the high local administrative expenditure, and even government agencies will be burdened with debt [1]. The rapid increase of administrative costs, especially the unreasonable factors in the increase of administrative costs, will seriously affect the construction of a harmonious socialist society in China. Since the 16th National Congress of the Communist Party of China put forward the idea of "reducing administrative costs" in, the 4th Plenary Session of the 16th Central Committee once again put "reducing administrative costs" on the agenda, and took it as an important measure to strengthen the party's ruling ability [2]. As an important branch of management field, cost management plays an important role in modern enterprises. Its idea, technology, method and mode have a direct impact on the success or failure of enterprises, and are the key constraints of enterprise development. However, the birth and development of information technology has made it possible to realize intelligent cost management, and more fresh contents have been injected into the concepts and methods of cost management [3].

China is one of the few countries with the highest administrative cost in the world. From the aspect of administrative cost, its impact is as follows: Firstly, administrative cost can be managed or controlled; Secondly, the government should manage administrative cost as entrepreneurs do factory cost; Thirdly, for administrative cost, we should not only care about input, but also care about

output; we should accurately calculate the input-output effect; Fourthly, we should introduce private sector management methods; Fifthly, we should reduce administrative cost through various ways; and we should establish administrative cost responsibility system to fully control administrative cost. Therefore, how to reduce the administrative cost of the government has become the focus of people's attention. Cost prediction is an important part of cost management, an important basis for project decision-making, management and control, and an important prerequisite and guarantee for reducing costs in a planned way and improving the economic benefits of enterprises in an all-round way. As the actual cost of a project varies with time, events, people, places and many other factors, it is a very important and difficult job to accurately predict the project cost of an enterprise beforehand [4-5]. Based on the data analysis of administrative cost by DM, this paper analyzes the present situation, causes and countermeasures of the huge administrative cost of our government, hoping to be beneficial to the reform of our administrative institutions.

2. Current Situation of Administrative Cost

The proportion of officials and civilians in China is far higher than that in other countries in the world. In China, there are more than 80 million civil servants and quasi civil servants who are actually supported by the state finance, and the actual proportion of officials and civilians is as high as 1:18. Some scholars even denounce the phenomenon of too many officials as "too many officials are a danger". Administrative cost is the sum of human, material and financial resources consumed to complete a certain effective administrative act in administrative management, and it is a monetary value sacrifice [6]. It is inappropriate to limit the administrative cost to the sum of human, material and financial resources consumed by "completing certain effective administrative acts". Because whether it is an effective administrative act or an invalid administrative act, there will be a certain

administrative cost. The cost of implementing invalid administrative act is invalid administrative cost. The excessive scale of administrative expenditure will also cause a series of social problems. For example, the government's inefficiency, bureaucracy, and alienation of the government's image will gradually reduce the social efficiency, which will inevitably lead to the disorder of the whole society, and then affect the social harmony and stability.

The cost of China's economic operation is getting higher and higher. What can be done with one dollar in the world average situation will cost 1.25 dollars in China. The relative scale of China's government administrative expenditure is also far higher than that of other countries. The classification of China's financial functional expenditure has been only divided into five categories: economic construction, social culture and education, administrative management, national

defense and other expenditure, and there is no sharply increased social security expenditure in the first level category. It is known that China's administrative fees have risen sharply since 2017, and the growth rate is far greater than the GDP(gross domestic product) and fiscal expenditure growth in the same period [7]. Controlling the scale of administrative expenditure is basically consistent with the goal of building a "small government" and a "cheap government" advocated by China, which can reduce administrative costs, improve administrative efficiency, improve the bad image of grass-roots governments, restore public trust in the government, and promote social stability and harmony. China's government administrative expenditure has been increasing. The percentage of China's administrative expenses in fiscal expenditure from 2017 to 2021 is shown in Table 1.

Table 1. Administrative expenditure, proportion of fiscal expenditure and proportion of fiscal expenditure to GDP

Particular year	2017	2018	2019	2020	2021
Administrative expenses	58000	78568	95210	110255	130245
Proportion of administrative expenditure in financial expenditure	45.31	49.48	52.36	56.45	59.42
Proportion of fiscal expenditure in GDP	42.16	47.45	49.28	52.13	55.26

China's government administrative expenditure has been increasing. While the proportion of fiscal expenditure in GDP is declining, the administrative expenditure is rising. Administrative expenditure grew faster than GDP. The remaining expenditures under the administrative expense item also include the expenditures for armed police, foreign affairs and foreign aid. It can be seen that the broad administrative expenses under the broad scope are not the money spent by the government alone, but also include the expenditure of the armed police that can also be listed as military expenditure [8]. Of course, some countries count the expenditure of the internal security forces and militia organizations as the expenditure of maintaining public security under the item of administrative expenses.

Government administrative cost refers to the sum of national financial and material resources consumed by

government departments, political parties, public institutions, social organizations and all working departments and their staff relying on government financial allocations in a certain period of time, as well as the indirect losses caused by it in the present and future. As a result, some studies on tracking government administration costs have stopped. What are the projects that can be summarized according to international standards. It is obvious that the new statistical caliber and the change of appellation have brought new challenges to relevant research.

3. Application of Data Mining in Data Analysis of Administrative Cost

3.1. Research on the Model of Administrative Cost Components Based on Data Mining

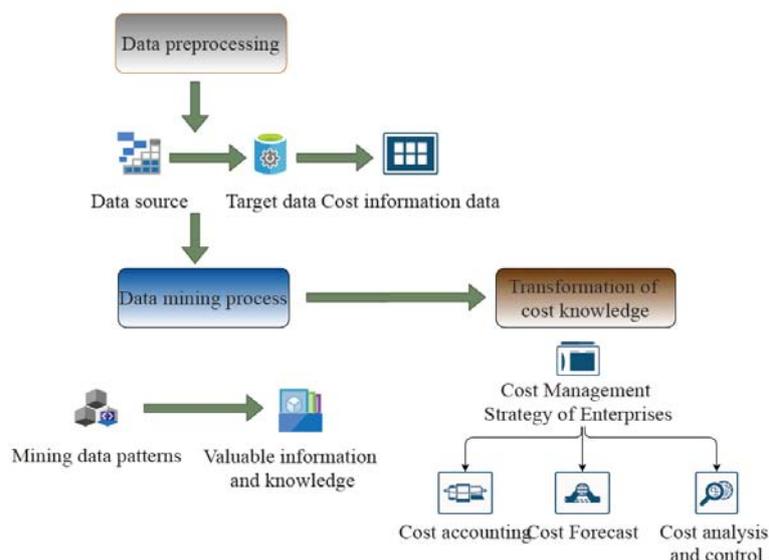


Figure 1. Model of administrative cost components based on DM

The existing DM applications are all aimed at a certain function in cost management, and after analyzing the background of specific industries and enterprises, the discussion and explanation show that their application points are scattered, and the adopted DM algorithms are also different, thus not forming a reference model. Compared with China's economic growth level and financial scale, our government's administrative cost is growing too fast and the scale is too large. The problem of excessive administrative cost has been highlighted, which has caused a heavy financial burden to our government [9]. Therefore, in order to effectively solve the above problems, this paper puts forward a DM-based administrative cost component model by using the systematic thinking in management and learning from the process of knowledge discovery. As shown in Figure 1.

The administrative cost component model mainly includes three parts: data preprocessing, DM process and cost knowledge transformation. Each part contains several sub-functions or sub-processes. The whole process completes the function of human-computer interaction through visual user interface. Establish partnership, reduce the cost of both parties, and achieve a win-win situation. However, the risk of concentrating procurement on a few suppliers also comes with it. Therefore, enterprises need to choose corresponding evaluation strategies for administrative costs of different types of cooperative relationships according to their own development strategies, and evaluate and select administrative costs through scientific and objective methods, so as to survive the fittest and reduce risks. Therefore, understanding the background, defining the connotation and exploring the direction of "reducing administrative cost" will be of great significance for deepening the reform of administrative system, promoting the reform of political system and building a socialist modern country.

3.2. Analysis of salary and welfare expenses of administrative staff based on data mining

At present, a major problem faced by our government is that the scale of financial support for administrative personnel is huge, and the finance is overwhelmed. At present, the administrative expenditure caused by the large number of administrative personnel is quite large. The excessive number of administrative personnel leads to the continuous increase of the expenditure on wages, benefits, pensions and other support for administrative personnel. The unlimited increase of expenditure is an important factor that can not be ignored to cause the excessive scale of administrative expenditure. On the basis of fully taking into account China's reality, the classification of financial statistics should be in line with the new international standards as far as possible, and set up three levels of subjects, namely, category, fund and item, according to the expenditure function. Level I subjects are divided into 17 categories, including general public management, foreign affairs, national defense, public security, education, environmental protection, urban and rural community affairs, transportation, industrial and commercial financial affairs, etc. Although the proportion of the total salaries of government administrators in the administrative expenses in China has decreased on the whole, the decline is not large, only decreased. In the middle of this, there have been a number of government institutional reforms, and the average reduction of the proportion of the salaries of administrative personnel in the administrative expenses brought about by each reform is only. The purpose of institutional reform is to reduce administrative costs by reducing institutions and redundant staff. As can be seen from Table 2, since, the proportion of total salaries of government employees in administrative expenditure has increased. By. Therefore, the large proportion of government administrative personnel's wage expenditure is one of the factors that cause excessive growth of administrative expenditure.

Table 2. Changes in the proportion of government administrative personnel

Particular year	State organs, political party organs	Proportion of salaries of political personnel in total salaries of various industries (%)	Administrative expenses	Proportion of salaries of political personnel in administrative expenses (%)
2017	6852.4	26.35	10256.6	35.52
2018	7566.8	29.41	15263.7	41.26
2019	8952.7	33.45	18256.7	48.69
2020	9845.5	37.56	19874.5	52.45
2021	10256.4	40.49	20364.1	59.86

With the economic globalization and the increasingly fierce market competition, cost management has become one of the important means to improve the competitive advantage of enterprises. In the era of information and knowledge economy, cost management will inevitably develop towards integration, informatization, intelligence and knowledge. The emergence and development of information technology, especially DM technology, provides strong support for this demand.

4. Conclusions

This paper holds that government administrative cost refers to the sum of national financial and material resources consumed by government departments, political parties, institutions and social organizations, as well as all working departments and their staff who depend on government financial allocation in a certain period of time, and the indirect losses caused by it at present and in the future. At the same time, administrative efficiency and administrative cost should be taken as the main criteria for evaluating the achievements

of governments, leaders and administrative personnel at all levels, and the evaluation work should be institutionalized, and the evaluation results should be taken as the main basis for rewards and punishments. The administrative evaluation of officials should not only examine their contribution to local economic development, but also their costs. Based on DM, this paper analyzes the data of administrative cost. Specifically, the main reason is that the transformation of government functions is not in place, the reform of government institutions is not in place, the cost of public institutions is high, and the development of NGOs is insufficient. Secondly, the financial budget system is not perfect. Specifically, the budget system is imperfect, and the amount of job consumption is huge. Third, the administrative staff's cost consciousness is weak. The financial loss caused by administrative decision-making is often worse than the harm caused by corruption and bribery to the government. Therefore, in order to effectively reduce the pressure of administrative cost caused by administrative decision-making mistakes, it is necessary to restrict administrative decision-making through legislation. Industry application scope of combination of DM technology and cost management. The DM algorithm proposed and developed in this paper, as well as the method combined with cost management, have good adaptability, which can provide some reference for other industries.

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