Cloud Computing Model in the Optimization of Government Function Management

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Abstract. Cloud computing not only reflects the progress and pioneering technology, but also reflects the pioneering of the traditional management model. Cloud computing model has been applied in the management of all walks of life and also played an important role in the innovation of government function management. The purpose of this paper is to optimize the cloud computing model in the government function management through relevant research. This article first to the functions of the government management and the concept of cloud computing model is analyzed, and then with the help of a cloud computing model applied in the functions of the government management of investigation and experiment, analyzes the cloud computing at the main problems existing in the functions of the government management applications, and based on this, advances some solving strategies to promote cloud computing model with good combination of the functions of the government management. The experimental results show that the fit degree between the cloud computing model and the government function management is only 71.24%, and the actual application effect is only 65.13%. Compared with the traditional method, the efficiency of the government function management under the cloud computing model is only 17% higher.

Keywords: Cloud Computing, Government Functions, Management Optimization, Optimization Strategy

1. Introduction

With the complexity of social development, there are some problems in the management of government functions, such as low efficiency and difficulty. The development of computer technology provides certain technical support for the management optimization of government functions, especially the cloud computing model can realize the rapid processing of the management data of government functions [1-2]. However, at the present stage, there are still a series of problems in the practical application of cloud computing model in government function management, which hinder the further optimization of government function management [3].

In recent years, the integration of cloud computing model and government affairs has been concerned. In literature [4-5], the author puts forward the main problems existing in the traditional
e-government, and proposes a cloud computing e-government development model based on the main characteristics of the cloud computing model, and proves the positive role of the model in improving the efficiency of e-government. In literature [6], the author firstly introduces the connotation and advantages of cloud computing, then analyzes the specific functions of cloud computing e-government based on the theory of public management, and proposes a new service architecture based on the meta-computing model. In literature [7], the author compares different management modes from the relationship between the development of information technology and government function management at the present stage, and proposes an information-based government management mode in combination with the development of information technology to build a cloud government with rapid development of information technology.

For the realization of the cloud computing model with good combination of the functions of the government management, optimizing the cloud computing model, the author first describes the functions of the government management and the concept of cloud computing model is analyzed, and then with the help of a cloud computing model applied in the functions of the government management of investigation and experiment, analyzes the cloud computing at the main problems existing in the functions of the government management applications, and based on this, advances some solving strategies to promote cloud computing model and a good combination of the functions of the government management [8-9]. The research of this paper not only promotes the improvement of the efficiency of the government's functional management, but also lays a theoretical foundation for future research on relevant aspects [10].

2. Method

2.1. Government Function Management

The function of government is also called the administrative function of government. In the country as well as the whole social life the government should assume the specific responsibility and the function is the government function. To be specific, the government, as the administrative organ of the state, should play its role and fulfill its obligations in all aspects of the state according to the law, including the management of political, economic and social affairs. Management and service are two major aspects of government functions. Government function management means that the government realizes the management of various aspects of society with the help of various specific functions. With the complexity of administrative environment and social environment, the specific way of government function management is also changing, which leads to the innovation of government function management, which mainly refers to the innovation of management mode. At present, the establishment of information management mode and the promotion of the development of the new e-government function management mode are the main ways to promote the optimization of government function management.

2.2. Cloud Computing Model

Cloud computing is a form of supercomputing formed on the basis of the development of the Internet. It is a kind of cheap computing service mode that can scale dynamically with the help of the network according to the actual needs. In the basic working principle of cloud computing, with the help of the massive distribution of computers on distributed computers, the resource data can be switched to access computers and storage systems according to actual needs. The advantages of the cloud computing model are as follows: first, the diversity of services; Second, the convenience of operation; Third, the security performance of the service is high; Fourth, the equipment cost required by the client is relatively low. The computing method of cloud computing model is as follows:

\[ \Omega = \{(m,k), 1 \leq k \leq N, m \geq 0\} \]  \hspace{1cm} (1)

\[ S = ((a_1, b_1), (a_2, b_2), \ldots, (a_m, b_m), \ldots) \]  \hspace{1cm} (2)
Formula (1), (2) is the cloud computing model of two commonly used formula, $\Omega$ said cloud computing model of state space, $(m, k)$ on behalf of the cloud computing model of server at present stage and the specific state of the number of tasks; $S$ represents the specific working parent on the cloud computing model platform; $(am, bm)$ represents a pair of integers in the virtual state of the cloud computing model, and the values represent the upper and lower limits of the number of tasks of the cloud computing model in the virtual state.

3. Experiment
In order to promote the optimization of the cloud computing model in the government function management, the author carries out the test experiment of the cloud computing model application. The application of cloud computing model in government function management is analyzed. First, the collection and collation of original data. By means of big data analysis, the application data of current cloud computing is collected to form the original data of the experiment in this paper. Secondly, by means of questionnaire survey, this paper analyzes the application of cloud computing in government function management at the present stage. The experimental survey objects include government personnel, cloud computing professionals and political experts and scholars. Finally, the statistical analysis of experimental data, with the help of SPSS statistical analysis software to analyze the experimental data, the experimental conclusion. The following table 1 shows the original data types of the experiments, data are specific data about management efficiency under different technologies.

| Project                          | Efficiency of management | Fit degree | Application effect |
|---------------------------------|--------------------------|------------|--------------------|
| Traditional electronic management| 54.16%                   | 70.23%     | 67.51%             |
| Cloud computing model           | 71.16%                   | 71.24%     | 65.13%             |

*Data are derived from experimental survey results

4. Discuss

4.1. Experimental Results
Through the above experiments, the author obtained the following experimental data. The specific experimental data are shown in table 2, figure 2 and figure 3. The data in the charts are the results of the author's experimental arrangement.

| Project      | Efficiency of management | Accuracy | Comprehensive score |
|--------------|--------------------------|----------|---------------------|
| Actual status| 72.14%                   | 71.37%   | 79.24               |
| Ideal state  | 89.97%                   | 90.24%   | 93.67               |

*Data were derived from experimental analysis
Figure 1. Application proportion data of cloud computing model in recent years

Table 2 shows the application data of cloud computing model in government function management. According to the data in table 2, we can find that the actual application of cloud computing model in government function management at present is far from reaching the ideal effect. Figure 1 for the application of cloud computing model in our country in recent years the proportion of data, we can see from the data of figure 1, cloud computing in recent years in our country, the application of the functions of the government management ratio rising, but also far did not reach ideal application proportion, this shows that the cloud computing in the application of the functions of the government management scope needs to be further promoted. Therefore, in general, the application of cloud computing in the management of government functions in China is not optimistic, which reflects the problems in its practical application. Through the above investigation and experiment, we find the problems in the application of cloud computing model in the management of government functions as shown in figure 2:

Figure 2. Problem analysis of cloud computing model in the application of government function management
Above 2 for the cloud computing model in analysis problems existing in the management of the government function, through the data in figure 2 we can see that the cloud computing model in China at the present stage in the main problems existing in the management of government function of the information island, management cannot be parallel and political interaction is hard to meet the three aspects, accounted for 34%, 27% and 23% respectively. These three major problems are the main reasons why the cloud computing mentioned above is not optimistic in the application of government function management in China. Therefore, we must focus on solving these three problems in order to achieve the optimization of government function management.

4.2. Optimization Strategy of Cloud Computing Model in Government Function Management
On experiment found that the cloud computing model of the government functions in the application of management information, management can't parallel and political problems such as difficult to meet the people interaction, the author combined with cloud computing development in our country and the actual situation of the functions of the government management and related research materials proposed optimization strategy as follows: first, the cloud computing model was applied to the functions of the government in the management of resource data integration. Due to the progress of information technology and the rapid development of social economy in China, the integration of data resources and structures of government functions with the help of online information platform is in a key position, which can integrate all management resources into the information platform. Combined with the management of information technology to basic functions and types of data resources effective docking, as a result, the cloud computing model applied to the management of government function in data integration, can promote the management system of each type of resource virtualization of data applications and services, so as to increase the business performance of the functions of the government management system, realizes the data of maximum utilization of resources and play; At the same time, it can also effectively promote the efficiency of data resource sharing among various government management departments and improve the management optimization of government departments. In this way, the problem of information islands reflected in figure 2 can be effectively solved. Second, apply the cloud computing model to transform the direction of government function management. Cloud computing model can realize the effective transformation of original physical resources into service resources in the process of government function management. In essence, it is a highly efficient virtualization technology. On the basis of data resource integration, this technology can adjust the specific resource direction of government function management, thus effectively changing its resource direction. Therefore, with the aid of the cloud computing model the specific direction of the transformation government function to manage resources, not only makes the management system has been reduced chance of daily management and maintenance, also makes the management system of related equipment and the utilization of resource data for promotion, implements the management resources in parallel to each other, so as to solve the above 2 reflects the problems of the management can't parallel; Third, apply the cloud computing model to the adjustment of government functions to manage resource data. China's government management function management system has a relatively large data center and abundant data resources. Based on this background, it is particularly critical to adjust the resource data according to the actual amount of management services, so as to be able to adjust the resource data flexibly. The resource data of the government function management system should be combined with the cloud computing model and adjusted by means of informatization. In this way, a good connection between politics and the public can be established, so that the functional management of the government can be combined with the will of the public and meet the demands of the public, thus solving the problem that the interaction between the government and the public is difficult to meet.

5. Conclusion
Based on the analysis about cloud computing model in the analysis of the functions of the government management experiments, and found the cloud computing model applied to current management
efficiency is not high, the problems in practical application is mainly manifested in the information island, management cannot be parallel and political interaction is hard to meet the three aspects, to solve these problems is crucial to promote management optimization. Based on this, the author proposes specific optimization strategies from three specific application perspectives of cloud computing model. On the one hand, the research of this paper promotes the effective combination of cloud computing model and government function management, and realizes the optimization of government function management.

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