

Research on Application of Computer Technology in the Optimization of Department Information System

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Abstract. Aiming at the problems of weak financial management foundation, lack or failure of internal financial accounting management, etc., the characteristics of financial management of SMEs are analysed. The article develops a reasonable financial enterprise management system, which can promote the long-term development of the enterprise. The graphical user interface developed based on SWT realizes the main functions of enterprise financial management. Practice shows that the system is not only easy to operate, but also has a friendly interface. It is a flexible, reliable, fully functional, and practical information management system.

Key words. Computer technology, enterprise financial management, financial management system.

1. Introduction

With the development and improvement of network information construction, modern enterprises have gradually increased their requirements for financial management. The enterprise financial management system has centralized computerization, refinement, and network mode. Financial data is at the core position and can be used for the daily life of the enterprise. The business activity information is reflected in real time, and it has been developed rapidly in the enterprise. The establishment and improvement of the enterprise financial management system needs to fully consider its own operating characteristics and financial characteristics [1]. The traditional financial management system is mostly based on a single method, which cannot be satisfied. The needs of financial management have great practical value for the enterprise financial management system that integrates multiple modes. It can achieve strong compatibility in the program, and provide support for the actual monitoring and management of corporate finance, so that the corporate financial management system To be more complete, this article mainly studies the construction of the financial management system of the hybrid framework, expands the structure of the system data access layer by using the interface Helper, and realizes the actual operation of the business and the access to the database through BLL and DAL respectively.

2. Systematic analysis

The main goal of the financial system is to effectively manage all the company's project capital flows, and it can make timely strategic decisions by analysing and predicting the real-time statistical results of the expenditures of various projects in different fields [2]. In view of the actual situation of the unit



and the development and reform trend of financial software, the analysis of the system should integrate three modules: overall management (projects, personnel information, and user roles), financial management, and financial statistics modules. The management module is the management of the project situation of the unit, the basic information of the personnel, and the management of the user rights; the financial management module includes loan management, expense information, reimbursement management, travel expense management, expense reimbursement, and transportation expense management. The items in these modules They are all related to the project name in the project situation management, and are the detailed records of the expenditure of each project. The output of these modules is the input of the financial statistics module. After detailed analysis, the system structure diagram of the financial management system is shown in Figure 1:

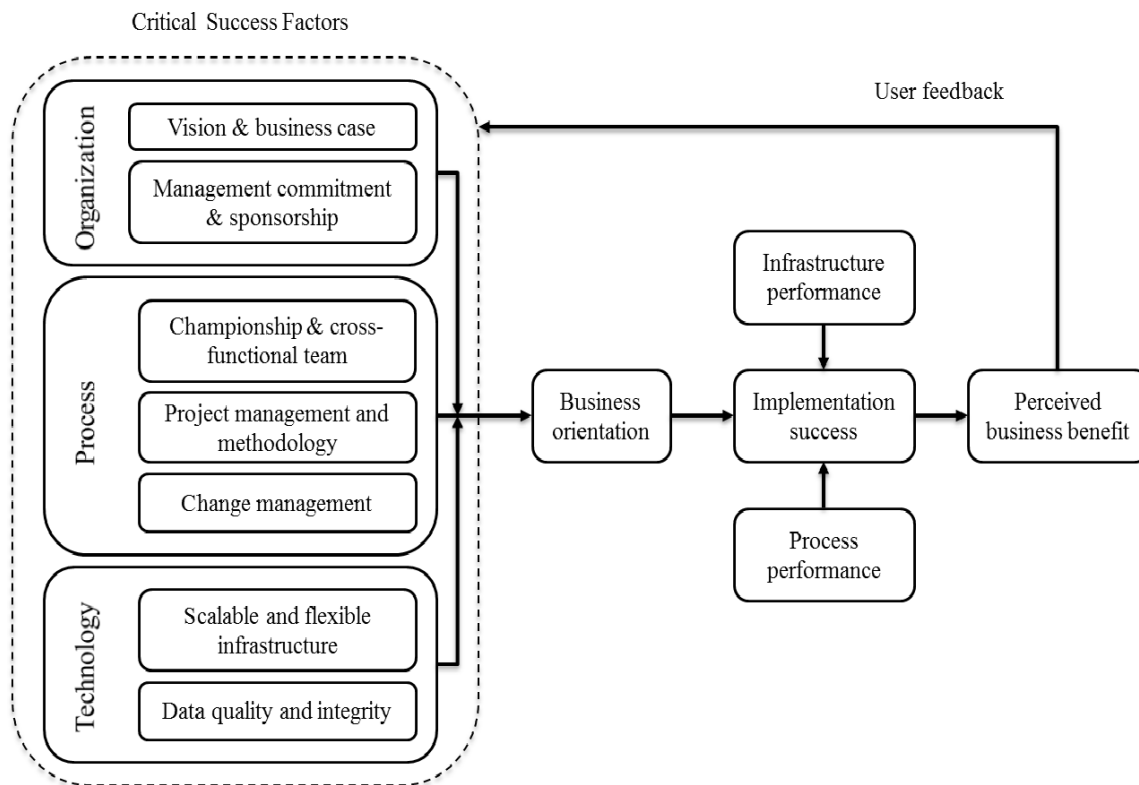


Figure 1. Architecture

3. System Design

3.1. The overall structure of the system

According to the analysis of the basic process of corporate financial work and user needs, the system can be abstracted into five modules through module division: system management, comprehensive inquiry, financial accounting, year-end settlement, and indicator analysis, as shown in Figure 2.

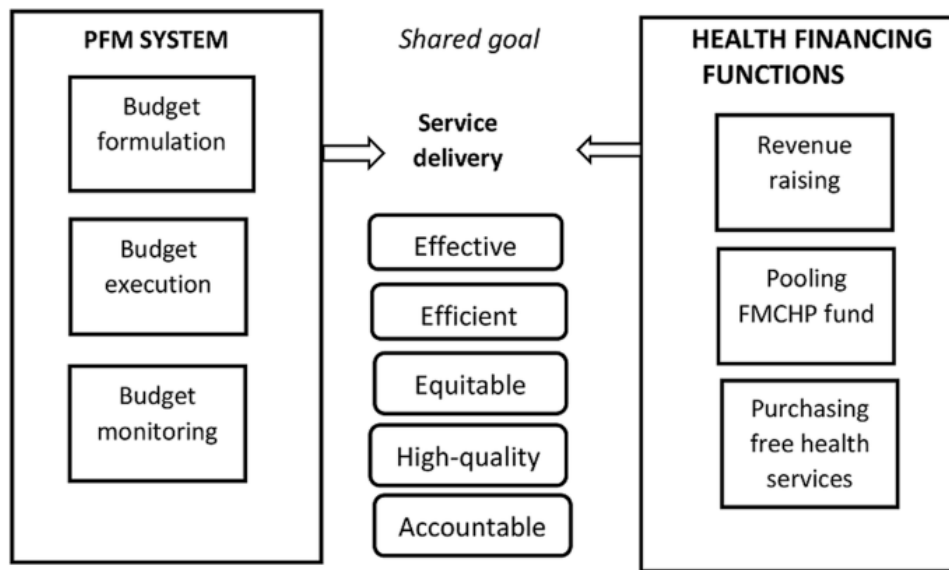


Figure 2. Overall framework of system functions

3.2. Design of accounting module

3.2.1. Setting of project code. It is mainly to realize the functions of setting, inputting project code and inputting project overview information. In order to make it more convenient for users to code project projects, the setting display has formulated a list of project projects and codes [3]. The user can learn the position of the used numbers through the list view to determine the order of the new project numbers. After the user enters the sequence number, the system will immediately perform a mandatory check. If the sequence number is occupied, the system will issue a prompt message and refuse to receive the data. Since the item classification identification code and sub-item identification code are relatively stable, in order to minimize the amount of keyboard input and increase its accuracy, they can be solidified in the system so that the user can select operations when entering. Project overview information mainly includes: planned total investment, annual planned investment, construction area and project start date, etc. This information is a relatively important attribute of the project in the corporate financial accounting, and has direct contact with report output and year-end financial settlement. System designs the project overview information will be input at the same time when the project code is set, and stored in the database table of "Project Code", file name: JXMK.DBF. This is beneficial to reduce the number of files, simplify system operation steps, facilitate query, save disk space, and achieve the purpose of increasing the operating speed.

3.2.2. The establishment of sequential accounts. The establishment of the sequence account is to create an empty database table in the directory designated by the system hard disk before the entry of the accounting vouchers. Its function is to store all the accounting vouchers from January to December of the current year. The voucher only needs to be stored in the table according to the chronological order of the business.

3.2.3. Entry/modification of accounting vouchers. When designing and implementing this function, the following points should be done: First, the data items of the voucher should be reasonably and effectively controlled according to the type and scope. Secondly, compared with manual, the keyboard operation method is more prone to errors when dealing with "clinical errors". Therefore, according to the operation function, "enter voucher" can be divided into several steps: input, modify and delete. Finally, fill in the voucher and enter " The audit function of the "audit" system can further verify the correctness of the certificate in the system.

3.3. Database design

The design of the database table mainly involves the chart of accounts and the voucher table. The relevant content of the accounting details will be stored in the chart of accounts, mainly including the account file code and the name of the item [4]. The account code is marked with kemuid, and the main key is also represented by kemuid. Kem name identifies the subject name (corresponding to the stored subject code). The structure of the account is shown in Table 1, and the structure of the voucher is shown in Table 2.

Table 1. Chart of accounts

| Character name | lemonime | kemuid |
|----------------|--------------|--------------|
| Character type | text | text |
| Is it empty | no | no |
| definition | Subject name | Subject code |

Table 2. Certificate table

| Character name | id | assert | numb | function |
|-------------------------------------|----------------|---------------------|-------------|--------------|
| Whether the character type is empty | auto numbering | text | text | text |
| definition | no | no | no | no |
| | Numbering | Document Type | Document No | Summary |
| Character name | date | code | direction | occur |
| Character type | date | text | currency | text |
| Is it empty | no | no | no | no |
| definition | Voucher date | Borrowing direction | Amount | Subject code |

The storage of accounting vouchers related information is different between the two. The related categories of accounting vouchers are stored in assert (mainly including 5 categories: transfer, payment, payment, cash, cash, etc.), and in the business summary included in the accounting voucher is stored in function, the number of the accounting voucher is stored in numb, date is used to store the date of the accounting voucher, code is used to store the code of the accounting subject, and direction is used to store the accounting subject. Occur is used to store the occurrence amount of the account title, and id is used as the account label.

3.4. Interface programming

We can get a lot of financial data needed from ERP, but it is difficult to directly get various financial statements needed by government departments. For this reason, further work is needed to facilitate the daily work of financial staff. There are two main ideas for achieving this goal. One is to design a customized report system based on the standard ERP system. One is to import financial data into other software packages. A customized report system is designed based on the standard ERP system, and the financial data collected in the ERP system can be further processed and sorted. After necessary adjustments, it can be output and inquired in a way that conforms to the habits of ordinary financial accounting personnel. Its advantage is high integration, access to the ERP system through a unified interface, easy for users to operate [5]. However, as mentioned in the first part, since the management accounting logic on which ERP is based is somewhat different from the general manual financial accounting logic, even if the ERP financial system is perfectly integrated from the procedural point of view, there will still be a certain gap from the logical point of view, and certain adjustments need to be made. In addition, since many mature ERP software currently in use are imported European and American products, the design, development, and integration of customized modules for the needs of

China's financial policies will inevitably make product upgrades largely behind the foreign markets. This is also a big problem faced by Chinese users. Moreover, the customized financial statement part is limited by the original ERP software structure and style, and it is often not easy to achieve user-satisfied interface effects and reporting functions. The overall design of the interface program is shown in Figure 3.

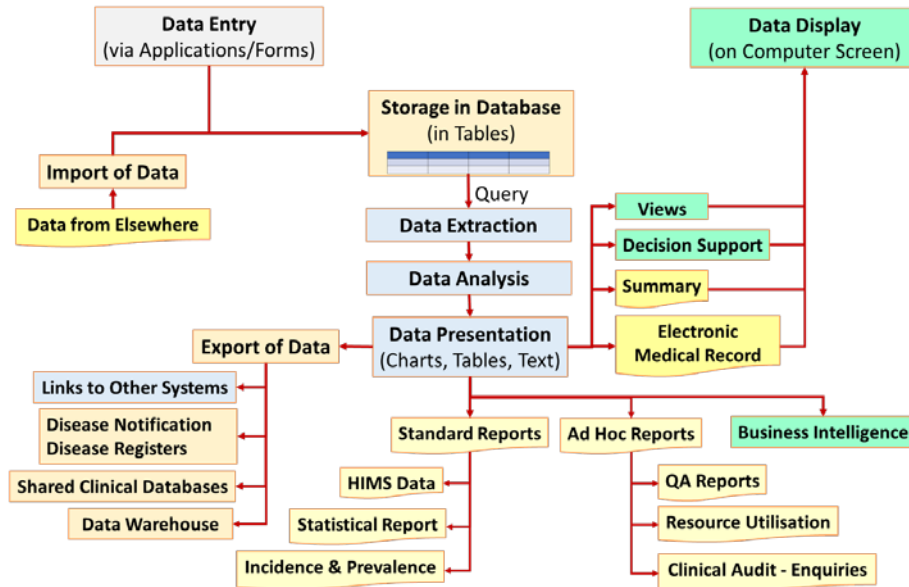


Figure 3. Schematic diagram of ERP software financial interface structure

4. System Test

MATLAB is selected as the simulation platform, and the enterprise financial management system designed in this article is used to process different numbers of financial data sets (the specific numbers are 1,000, 2,000, 3,000, 4,000, and 5,000, respectively), using the financial data sets of the debit and credit sides. The response time in the system is used as the basis for comparison. Financial data is carried out 5 times in each group of experiments. The experimental results show that in the financial management system designed in this paper, the system response time of debit processing is significantly higher than that of lenders, indicating that the lender’s processing is The processing standard time of the system in this article can provide a more efficient service for the outline of the corporate financial management system; in terms of the response time of the financial system, the average value of the debit is about 15% lower than the average of the credit [6]. Taking the 1000 data sets of debit and credit as an example, the time taken by the system to respond in different modes is shown in Table 3.

Table 3. Comparison of system response time of different modes

| | Frame type | C/S frame | B/S frame | Webservice framework | Hybrid framework |
|--------|-----------------|-----------|-----------|----------------------|------------------|
| Debit | Response time/s | 0.75 | 3.62 | 2.82 | 1.48 |
| | Fit rate | 0.93 | 0.86 | 0.96 | 0.94 |
| | Cycles | 2 | 7 | 7 | 2 |
| Lender | Response time/s | 0.42 | 5.32 | 2.39 | 1.67 |
| | Fit rate | 0.73 | 0.91 | 0.73 | 0.94 |
| | Cycles | 2 | 7 | 13 | 7 |

The experimental data in Table 3 shows that in the integration of the credit data set, the hybrid framework shows better performance, and its fitness rate is about 4% higher than that of the B/S framework. The hybrid framework and the B/S framework are in the debit data set. In terms of integration, the matching rate of the output results of the two is low. The multi-attribute financial value is a prerequisite for the hybrid framework. If the value of the data item in the data set is relatively small, the hybrid framework is difficult to take advantage of the financial attributes of the multi-attribute grading of the financial value. According to the response time and the number of cycles the C/S framework takes the least time in terms of time consumption, followed by the time consumption of the hybrid framework. The Webservice framework and the B/S framework take longer. The reason lies in the calculation of the dependence between financial data in the system framework. It needs to be implemented in a circular way, which leads to the need to consume a lot of system response time and increase the time cost. The time cost of the credit data set is the most obvious, which provides a more practical solution to the system's comprehensive response problem.

5. Conclusion

The system is not only friendly in interface, but also easy to operate. Even people who have little contact with the computer can operate according to the prompts of the menu. In addition, information management is also more detailed, including specific operations for adding and deleting functions. The most important thing is that it supports operations for multiple identities, so that various users can be connected, which is convenient for enterprises to conduct business and financial information. Unified management.

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