Retraction

Retraction: Research on Enterprise Economic Management System Based on Computer Big Data Technology (J. Phys.: Conf. Ser. 1865 042078)

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The authors of the article have been given opportunity to present evidence that they were the original and genuine creators of the work, however at the time of publication of this notice, IOP Publishing has not received any response. IOP Publishing has analysed the article and agrees there are enough indicators to cause serious doubts over the legitimacy of the work and agree this article should be retracted. The authors are encouraged to contact IOP Publishing Limited if they have any comments on this retraction.

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Research on Enterprise Economic Management System Based on Computer Big Data Technology

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Abstract. The support system for enterprise economic management is an intelligent decision support system. It is composed of user interface management system, problem handling system, database and database management system, model library and model library management system, method library and method library management system, knowledge base and knowledge base management system. It integrates economic mathematical modelling, artificial intelligence technology, operations research methods and decision-making methods. Through the combination of knowledge reasoning and numerical calculation, it provides more powerful decision support capabilities than traditional decision support systems. Based on this research background, the paper takes financial management in economic management as an entry point and introduces a computer financial economic management system based on mobile Agent. At the same time, the article introduces a financial and economic early warning algorithm for enterprises based on decision trees.

Keywords: big data management technology, enterprise economic management, financial management, mobile agent, mathematical model.

1. Introduction
Economic management is an important part of business management. People, money, and things are the three resources that an enterprise depends on for survival. Economic management includes the accounting and management of the latter two resources, and runs through all business links (supply, production, and sales) throughout the enterprise. Therefore, only by grasping economic management can we improve the level of business management and adapt to the requirements of the market economy. How to build an enterprise's management information system is a problem that people have been exploring for many years [1]. In the accounting departments of supply, production, and gas sales of large enterprises, unified accounting software and unified internal accounting statements are used. As for the physical management of materials, whether it is raw and auxiliary materials, collaborative products, spare parts for repairs, work in progress, finished products, etc., the common things are the quantity (receiving, issuing, depositing) and unit price (fixed assets are managed by the centralized department). Therefore, we believe that it is more practical and feasible to construct an enterprise's economic management information system based on the two types of resource management: wealth (money) and material.
The construction of a scientific financial early warning model requires two key steps. The first step is to determine a scientific and reasonable financial indicator system with strong screening ability; the second step is the construction of a specific early warning model [2]. In addition, a large number of corporate organizational forms that cross-industry and cross-regional multi-economic enterprises coexist have brought certain difficulties to the collection of data statistics in financial management. How to collect the most accurate data in the shortest time. To this end, the paper proposes a financial management system based on mobile Agent.

2. Demand analysis
The financial management system established in this article is designed for the daily financial work of an enterprise. Based on the company's accounting personnel in charge of finance can access this platform through the intranet, to achieve efficient access within the enterprise. At the same time, taking into account the differences in age and computer level of users using this system, the acceptance of new things and the actual hands-on ability are also different, and the system design focuses on humanization, simplicity and ease of use. When designing the system, taking into account the security requirements of the enterprise's financial work, pay attention to the stability of the system and the design of later maintainability. In terms of system functions, it is necessary to realize efficient management of financial management, effectively use financial information, and reduce human repetitive labour. Different users can use this system to achieve their personal needs. For high-level decision makers, they can check the latest financial progress on this platform, grasp the income and expenditure situation, understand the budget implementation, and formulate future strategies. Middle-level managers can also understand the budget and account details within their jurisdiction on this platform, and grasp the use of various special funds [3]. Ordinary employees can query personal salary information and reimbursement status on this platform. Accountants complete daily financial management work through this platform, and update system data information for users to inquire. After investigation, the financial work of the enterprise adopts a hierarchical management method, and each level is general manager, department manager and ordinary staff. After investigating and analysing their respective business processes, the functions that this platform needs to implement generally include voucher management, cashier management, period-end processing, account book statements, auxiliary account management, system management and other daily financial tasks.

3. Agent-based financial economic management system design
The most important function of the financial management system is to collect data, conduct financial analysis and decision management. Due to the development of the financial application system analysing from the client/server model to the browser/server (B/S) model, and the emergence of a large number of corporate organizational forms in which multiple economic enterprises across industries and regions coexist, the data of the entire financial system the scope of collection is getting bigger and bigger, and the amount of data is getting bigger and bigger. In order to be able to collect the most accurate data required by the system in the shortest time, we introduced the mobile Agent technology into the financial management system [4]. The information collection method of the financial management system based on the mobile agent transmits a small amount of running code and status to the hosts in each network, and performs resource performance analysis and prediction locally on the host, and brings the results back to the information server, avoiding the transmission of a large amount of resource dynamic information back to the resource information server, thereby reducing the network load. In addition, when a host exits the network abnormally, the mobile agent cannot reach the node, and the state can be recorded in the internal state. When returning to the information server, the information server can log off the node, which can make the resource information server no longer maintain each node. The presence signal of the resource node. When the members of the entire financial management system network continue to increase, the benefits of this model are obvious. The information collection model of the financial management system based on mobile Agent is composed of three parts, as shown in Figure 1.
The information collection model of the financial management system based on the mobile Agent will further improve the performance of financial management and will be more effective in improving the competition of the overall value chain of the enterprise. Perfect financial management will be the key to improving the level of the enterprise [5]. Here, only financial management the focus and financial management system use mobile Agent for preliminary discussion.

4. System function design
After the above-mentioned demand analysis, a financial management system is established. The functional modules of this system are shown in Figure 2. The system function module includes several modules such as voucher management, cashier management, period-end processing function, account book management, auxiliary account function, system management, message board and so on. The specific functions of the respective modules are described as follows:

Figure 2. System function module diagram

4.1. Credential Management Module
In the financial system, vouchers are an important basis for accountants to register their books. They are related to the integrity of financial data. This module is used to summarize and manage the individual information of accounting vouchers. Each business of accountants must be based on
bookkeeping vouchers [6]. The voucher information includes voucher number, voucher date, summary, account title of the borrower, loan amount, and practical currency and real-time exchange rate information. In this module, you can import voucher information, fill in voucher, revoke and modify wrong voucher information, and perform comprehensive queries on voucher information.

4.2. Cashier Management Module
In financial management, the cashier management business includes the combination of cashiers and corporate cash diaries and bank diaries. In this module, it is necessary to update the daily financial statements, balance schedules, bank reconciliations, and management of related checks in a timely manner. In the specific implementation, it is necessary to achieve the daily settlement and monthly settlement of the cashier report, provide real-time query function and the printing of the corresponding journal report, and provide various functions such as query, printing, and load of various bills, diaries, and reconciliations.

4.3. End-of-term Processing Function
The period-end processing function is used to ensure that the accountant does all kinds of summary work, including monthly month-end closing and annual year-end closing. The accounts are automatically backed up and stored in the database for future inquiries. Storage of various vouchers, self-inspection of vouchers' entry, generation of various reports, transfer of various balances of the current year to the database of the new year, and reminders and warnings for various violations.

4.4. Account Book Report Module
This module is an important component of financial management. It is used to summarize and classify various data into the database to create various general reports for query, browsing and printing.

4.5. Auxiliary Account Management Module
Auxiliary account management is used for auxiliary management of accounting data, accounting for various auxiliary accounts between customers, suppliers, departments, and projects, completing the management and control of budgets and special funds, and providing query functions, which can be inquired the funding sources and trial status of each project [7]. At the same time, the income and expenditure details of each department can be printed.

4.6. System Management Module
The system management module includes the function of assigning user permissions, centralizing management of various operators, assigning permissions according to work needs, and allowing unlimited access to the database, improving the security mechanism of the database, and performing timely backup management of the database.

5. System Implementation
In this system, due to the extremely high demand for security and stability of the financial system, the latter is chosen among the B/S and C/S modes. The C/S mode, namely the client/server mode, is a widely adopted one. Compared with the B/S model, its software architecture has the advantages of powerful human-computer interaction potential and safer data storage and reading level. At the same time, from the business perspective of the financial system, because the financial department of an enterprise has a clear division of labour, there are fewer business changes, and different divisions of labour cause different clients to have different requirements for the system, as well as higher requirements for the interactive capabilities of the system. At the same time, all terminals are in the same local area network, and the network structure is simple, so the C/S mode has greater advantages in system development [8]. The system database uses SQL Server2015, and the overall topology of the system is shown in Figure 3.
6. System financial and economic early warning algorithm design

This thesis establishes a multi-variable non-linear financial early warning model based on decision tree and artificial neural network, namely: Hybrid Financial Early Warning Model (HFPM). The first step in establishing a financial early warning model is to establish a financial indicator system for modelling. Its main indicators are composed of specific financial indicators, such as asset-liability ratio. From the basic idea of the decision tree, the ID3 algorithm is based on the following two assumptions:

1) The classification probability of a correct decision tree in the vector space E for any example is consistent with the probability of the positive and negative examples in E. 2) The amount of information required for a decision tree to make a correct category judgment for an example is:

\[ I(p,n) = \frac{-p}{p+n} \log_2 \frac{p}{p+n} - \frac{n}{p+n} \log_2 \frac{n}{p+n} \]  

(1)

If attribute A is taken as the root of the decision tree, A has V values \( \{V_1, V_2, ..., V_v\} \) \( V \) which divides E into V subsets \( \{E_1, E_2, ..., E_V\} \). Assuming that \( E_i \) contains \( P \) positive examples and \( N_i \) negative examples, then the expected information required for subset \( E_i \) is \( I(P_i, N_i) \), the expected entropy required to take attribute A as the root is:

\[ E(A) = \sum_{i=1}^{V} \frac{P_i + N_i}{P + N} I(P_i, N_i) \]  

(2)

The information gain rooted at A is:

\[ \text{gain}(A) = I(p,n) - E(A) \]  

(3)

ID3 selects the attribute \( A^* \) with the largest gain(A), that is, the smallest \( E(A) \) as the root node, and recursively invokes the above process to generate the child node \( B_1, B_2, ..., B_v \) of \( A^* \) on the V subsets \( E_i \) of E corresponding to different values of \( A^* \). ID3 uses information entropy as the separation objective evaluation function, adopts a top-down, divide-and-conquer non-returning strategy to ensure that the establishment of the decision tree is the simplest, and the data required to be tested each time is the smallest.
7. Conclusion
The economic management department of an enterprise is the carrier of the economic management information system. The economic management information system must be able to meet the needs of business leaders and economic management departments and become a handy tool for them. Only such an enterprise economic management information system can have vitality. Research the application of mobile Agent in the data statistics of financial management system. The mobile agent-based information collection method transmits a small amount of running code and status to the resource node, and performs resource performance analysis and prediction locally on the resource node, and brings back the results to the information server, avoiding transmitting a large amount of resource dynamic information back to the resource information server, thereby reducing Network load. This application improves the performance of information management in the current financial management system and improves the execution efficiency.

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