

# Research on Computer Technology and Enterprise Financial Management under the Background of Big Data

Qian Yao<sup>1, a</sup>

<sup>1</sup>Shandong Women's University, Jinan, China

<sup>a</sup>sdnzxyy@163.com

## Abstract

With the accelerated development of the globalization of the world economy, the competition among enterprises is becoming more and more fierce, and the application of advanced technologies and methods is a way to continuously improve their own business performance. In the era of data, computer technology has been widely used in various departments of enterprises. The real-time and high-efficiency characteristics of computer technology have also made more and more enterprises choose to use computer systems to transmit and process business data information. These changes have inevitably impacted the traditional financial management activities of enterprises. Taking the necessity of introducing computer technology and big data method into enterprise financial management as the starting point, this paper expounds the influence of big data method and computer technology on enterprise financial management, as well as some difficulties existing in the application at this stage. On the basis of this, some suggestions are put forward for the integration of computer technology and enterprise financial management.

## Keywords

**Big Data; Computer Technology; Financial Management; Data Mining.**

## 1. INTRODUCTION

With the development of computer technology, the amount of data in various fields of the global economy has shown an explosive growth trend, and the era of big data has arrived. Big data has gradually become an important resource for enterprise development and the strategic basis for modern enterprise competition. Big data is a collection of data, but the commercial value of big data does not only come from the data itself. Its core capability is to mine and analyze data, which needs to be collected, stored, mined, analyzed, transmitted and used by enterprises to reveal its potential value. Therefore, more and more computer technology is used in the production and operation process of enterprises. In the era of big data, financial activities are still an important part of the production and operation process of enterprises, and computer technology and methods are also applicable to various financial activities of enterprises. At present, the budget management, cost management and internal control in enterprise financial activities are all affected by big data methods and computer technology. On the basis of information resource sharing, enterprises use cloud computing and other technologies to mine and analyze financial data, realize the integration of finance and business, and improve the quality of financial data and information. At the same time, enterprises use big data technology to analyze external resources and environment, integrate internal financial resources, improve the sensitivity of enterprises to the external economic environment, and also provide more comprehensive information for the management to make decisions. Therefore, the reasonable

application of computer technology in enterprise financial activities can effectively improve the quality and efficiency of financial work.

## **2. THE NECESSITY OF INTRODUCING COMPUTER TECHNOLOGY AND BIG DATA METHOD IN ENTERPRISE FINANCIAL MANAGEMENT**

Enterprises are the main body of economic development. The wide application of big data method and computer technology has brought many effects to the current enterprise business mode and management mode. The upgrade of big data method and computer technology is helpful to the deep mining of enterprise financial information, so as to improve the business performance of enterprises. Therefore, it is practically necessary to apply computer technology to enterprise financial activities.

On the one hand, the innovation of computer technology in the era of big data has also led to the innovation of corporate financial activities, and it has become inevitable to widely use advanced information technology methods and means to process data and financial data in enterprises. The internal business process processing and the collection of external information all require the enterprise to establish an information platform to improve the speed of information transmission and the ability of business processing. Computer systems have strong data processing capabilities, which can reduce workload and improve work efficiency. Accounting informatization, which acquires, processes, transmits, and applies the accounting information of enterprises through comprehensive use of information technology means mainly based on computer and network communication, has emerged as the times require.

On the other hand, compared with traditional manual accounting, the computer-based accounting information system transfers the data to be processed to the computer in a timely manner, and uses software programs to classify, operate, store and transport the data. This can better help accountants to complete the recording and sorting of daily business and save time and labor costs. At the same time, the improvement of calculation accuracy can also further improve the quality of accounting information. This can provide timely and accurate financial data for internal and external information users to make decisions.

In addition, the application of computer technology to financial management is also an important prerequisite for enterprises to accurately predict financial risks. Enterprises use computer technology to establish a control system, which can realize real-time monitoring of enterprise financial activities, and send early warning signals in time when risks are found, so as to help enterprises reduce financial risks to a minimum level. In addition to controlling financial risks, companies also need to manage funds. Computer technology can analyze the best capital flow ratio for enterprises through specific algorithms, so as to ensure the safe and efficient use of enterprise funds and avoid losses caused by corporate decision-making mistakes.

## **3. THE IMPACT OF BIG DATA METHODS AND COMPUTER TECHNOLOGY ON ENTERPRISE FINANCIAL MANAGEMENT**

In the era of big data, computer technology can collect and analyze a large amount of data based on information asymmetry and predictability. For example, if computer technology is applied in the production process and material control process of the enterprise, a complete set of logistics and distribution settlement system can be formed for the enterprise including the manufacturing execution system, inspection system, order system, picking system and other systems. It reduces the occurrence of information delays caused by the operation of independent links, and also brings changes in data and processes to the original financial activities of the enterprise. Big data methods and computer technology can enhance the productivity of enterprises, improve the economic value of enterprises, win competitive

advantages for enterprises, and bring potential economic added value to internal and external stakeholders of enterprises. Its impact on corporate financial activities can be summarized in the following aspects.

### **3.1. Impact on Corporate Culture**

With the advent of the era of big data, the rapid growth of data and the continuous upgrading of computer technology have an impact on enterprise management decisions. Enterprise management decision-making is a dynamic process. When faced with various conflicts and uncertainties, enterprises need to collect and screen all kinds of information. In the era of big data, computer technology provides the possibility for enterprises to obtain more accurate forecasts, because enterprises can obtain more comprehensive data resources through computer technology, and their ability to analyze data is also increasing. In the economic society, corporate culture is the soul of an enterprise, which is a unique cultural image composed of its values, symbols, and ways of doing things. As one of the elements of the core competitiveness of an enterprise, enterprise culture can affect the enterprise operation, and is also related to the development and future of the enterprise. Enterprises with long-term development process and strong economic strength have relatively perfect construction in enterprise system, organizational learning, employee development, and team orientation and other aspects. At the same time, its corporate culture has a strong stability, and can be widely recognized by employees, and can adapt to the requirements of the times and continuous innovation. Therefore, in the era of big data, the strength of corporate cultural influence also affects the acceptance and adaptation of employees to new things such as computer technology and big data methods. Enterprises still need to constantly optimize business processes and management methods through conceptual reengineering and technology updates. Enterprises need to use these optimization methods to improve their financial situation.

### **3.2. Impact on Finance Technology**

In the era of big data, the full mining and utilization of data resources by enterprises using computer technology can bring considerable economic value to enterprises. The use of big data methods can timely and accurately grasp the development direction of the industry, improve the resource allocation efficiency of enterprises, promote the optimization and transformation and upgrading of the economic and industrial structure, and carry out more targeted production and operation activities. The use of big data methods and computer technology can help enterprises to manage assets, dynamically monitor business and financial risks, control problems in the operation process in real time, and provide technical guarantees for the improvement of enterprise financial performance. Specifically, it can be reflected in the following aspects.

#### **1. Financial Sharing**

With the advancement of informatization and computer technology, in order to optimize the financial management process, more enterprises have built service centers for information sharing and exchange. Firstly, big data methods and computer technology realize the collection of data resources such as enterprise customer information, business information, and decision-making information. This can provide businesses with more precise financial data. Efficient budget analysis, index analysis, statement analysis, factor analysis, cash income and expenditure analysis also provide a basis for the formulation of enterprise development strategies. Building a big data resource reserve and sharing system enables financial management to grasp continuous and accurate business operation information in a timely and effective manner. Secondly, the financial sharing technology can enable enterprises to better supervise the flow of funds, carry out unified accounting, distribution and management, realize

the efficient operation of financial resources, reduce the risk of illegal operations, and thus improve the operating efficiency of enterprises.

## 2. Data Mining

The focus of big data is to mine potential valuable information from massive data. Data warehouse, data analysis, data mining and other technologies can quickly and timely transform massive data into knowledge, and provide information support for decision-making and strategic development of enterprises. Under the big data model, data analysis and mining algorithms are embodied in many aspects such as financial analysis, forecasting and decision-making. The financial analysis system based on computer technology can use data mining classification technology and forecasting technology to process, organize, analyze and evaluate the past and present data of enterprises, so as to fully and accurately understand the solvency, operating ability, profitability and development ability of enterprises. Financial forecast provides a reference for enterprises to control the uncertainty of capital, cost, income, sales and profit. In the era of big data, the application of data mining technologies such as regression analysis, neural network technology and time series can monitor the implementation and completion of financial budget in real time, adapt to the changes of market environment, and constantly adjust and improve the financial budget plan. Using data mining techniques such as cluster analysis, the financial decision support system can extract and analyze relevant data online, identify abnormal products and customers, and provide support for enterprises' financing decisions, investment decisions and dividend distribution decisions.

## 3. Risk Management

In the context of the popularization of computers, data access has greatly improved the efficiency of data processing and can timely feedback various problems. Enterprise accounting and report generation are all processed and fed back through computer networking, which greatly enhances work efficiency. Whether it is to set up auxiliary accounting functions in accounting software, or input the responsibility center of the business when inputting the accounting subjects, it is a means to realize the responsibility accounting system and has a certain positive effect on risk management. The sharing of data information can enable enterprises to achieve unified management of resources, implement dynamic tracking, detect existing problems in time, prevent fraudulent behaviors, and better protect the security of enterprise assets. Through the comprehensive control of the business process and information flow of the enterprise, the enterprise can obtain real-time financial data and its analysis results, and discover its possible risks or hidden dangers in a timely manner. In addition, computer technology can deepen internal control into all aspects of business operations, and reduce risks through effective prior prevention.

## 4. SOME PREDICAMENTS IN THE APPLICATION OF COMPUTER TECHNOLOGY TO CORPORATE FINANCIAL ACTIVITIES AT THE PRESENT STAGE

At present, the application of big data method and computer technology in financial activities of enterprises has improved the operational efficiency of various financial activities of enterprises, but some problems have also been exposed in the process of the alternation of new and old systems and the transformation of new and old ideas.

### 4.1. The Lack of Compound Financial Personnel

For enterprises, when using computer and other technologies to build a financial sharing center, the requirements for employees' comprehensive professional knowledge are higher. The existing financial personnel often have certain financial knowledge, but lack of in-depth knowledge and understanding of computer technology, which leads to unreasonable methods

or unskilled operation processes in their use. Therefore, at this stage, a large number of small and medium-sized enterprises generally lack financial personnel with high technical level, which also makes it difficult for big data methods and computer technology to play their due role in the financial activities of small and medium-sized enterprises. In addition, at the current stage, when the post personnel change, the handover process is often lack of monitoring, and it is mostly arranged by the employees who are about to leave and join. Computer technology has not fully demonstrated its role in the implementation of personnel and behavior control, information and property protection control.

#### **4.2. The Application of Computer Technology in Enterprises still has Certain Limitations**

In recent years, the big data method and computer technology have been widely used in various stages of enterprise financial activities, but the application of computer technology in enterprise financial activities mainly focuses on the input, accounting, statistics and output of economic and business information, while the application of data mining technology in the prediction and analysis of enterprise financial information is relatively rare. For small and medium-sized enterprises, affected by factors such as cost, the computer financial software used in actual work often has a single function, and it is difficult to fully connect with the financial work of all links. Even financial sharing systems suffer from operational inefficiencies and excessive information loads. These have hindered the popularization and promotion of computer technology and big data concepts in small and medium-sized enterprises to a certain extent. For large enterprises, they are also faced with the challenges brought by big data and computer technology. For example, the financial sharing center established based on computer technology and big data methods requires enterprises to integrate and optimize the data processing business process to ensure that the sharing center can accommodate the data import of each link and can realize the accurate transfer of data. In addition, for enterprises, financial sharing is accompanied by some new internal control risks while reducing costs. For example, financial data is concentrated in a shared center through computer technology, and business personnel and financial personnel are separated at this time, and abnormal financial information may not be discovered in time. The new model of financial sharing has achieved paperless network approval, but the leakage and loss of information in the circulation has also become a new hidden risk.

#### **4.3. The Security of Computer Hardware and Software in the Big Data Environment needs to be Strengthened**

Compared with financial activities in a manual environment, many regulatory tools no longer work in a computer environment, which also makes it possible for financial signatures to be falsified, user passwords to be stolen, and financial electronic data to be tampered with. In addition, the computer is affected by external factors, and there is the possibility of data loss or errors in data import, port permissions, system connection and other aspects, which affect the security of financial work to a certain extent. At the same time, the financial data is stored in the server in the form of electronic archive. In the final accounting period, excessive data access will easily lead to server overload. Problems such as system paralysis, data loss and time-consuming data extraction also increase the risk of the enterprise to a certain extent. Once the above situation happens, it will bring different degrees of losses to enterprises.

### **5. SUGGESTIONS ON THE INTEGRATION OF COMPUTER TECHNOLOGY AND ENTERPRISE FINANCIAL MANAGEMENT UNDER THE BACKGROUND OF BIG DATA**

The increasingly mature big data technology is changing the environment in which enterprises are located. Based on the popularization of Internet technology and the needs of

enterprise development strategies, it is believed that enterprises can strengthen the application of computer technology in corporate financial activities from the following aspects.

### **5.1. Build an Adaptable Corporate Culture**

The first aspect is that companies should establish a corporate culture that can adapt to external changes, thereby achieving a sustainable impact on corporate financial performance. In the era of big data, corporate culture can regulate employee behavior, which is conducive to the long-term development of enterprises. From the outside of the enterprise, a strong corporate culture can adapt to the requirements of the times and the changes brought about by changes in the external environment and technological innovation. From the internal point of view, an effective corporate culture can mobilize the enthusiasm of employees, enhance corporate cohesion, and urge managers to make business decisions in accordance with corporate culture requirements, thereby improving corporate financial performance. The big data-driven cultural atmosphere can gradually establish a culture that advocates data sharing within the enterprise, and can also establish a cross-organizational data analysis system, and members can achieve win-win sharing through data sharing.

### **5.2. Improve the Quality of Employees**

The second aspect is to improve the comprehensive ability and quality of financial personnel. In the era of big data, financial personnel should have not only the knowledge of accounting, but also the knowledge of statistics and computer science. In addition, a certain proportion of data analysts should be set up to conduct in-depth data mining using tools such as models and computer technology. In addition, enterprises should also strengthen the computer knowledge training for existing financial staff.

### **5.3. Enhance the Performance of Computer Systems**

The third aspect is to enhance the stability of the computer system. On the one hand, we should improve the connection between computer technology and financial work. Enterprises should pay more attention to big data methods and computer technology, and comprehensively strengthen their application scope and degree in enterprise financial work. The research and development of financial software should be adjusted and upgraded in a timely manner according to changes in accounting standards and the specific needs of users, and targeted research and development work should be carried out. Research and development personnel should also optimize and expand the functions of the computer system to fully meet the actual needs of the enterprise. On the other hand, a data information security mechanism should be established. According to the characteristics of computer systems and data, enterprises should establish internal control mechanisms to effectively manage users' rights, and strengthen the functions of their data recovery system according to the loopholes and deficiencies in the current software platform operation process, so as to ensure the safe and stable operation of financial management software. In addition, enterprises should do a good job of data backup in time to avoid losses caused by data loss.

### **5.4. Upgrade of Risk Management Tools**

The fourth aspect is to use computer technology to strengthen risk management. First of all, financial institutions should set up departments that specialize in managing commercial data and financial big data center development platforms, further enhance the functions of accounting software, and give corresponding permissions and specifications to those who use computer accounting software. Secondly, build a financial early risk warning mechanism. The emergence of big data makes financial management more manifested as cross-departmental cooperation. The financial early warning mechanism should integrate the whole process of enterprise financial management, improve the application of computer in financial analysis, and

timely discover the risks in enterprise financial management through analysis, and then provide scientific financial information for corporate strategy formulation. Finally, companies need to further improve their existing internal control systems against the new risks brought about by big data methods and computer technology.

## 6. CONCLUSIONS

To sum up, with the advent of the era of big data and the advancement of digital transformation, the financial management of enterprises has become more and more important. The application of computer technology can integrate effective information such as capital flow, logistics, information flow and bill flow for enterprises, which can reduce the probability of problems in the process of financial management. Enterprises should pay attention to improving the overall quality of financial personnel, and actively use the latest computer technology to improve the system. By strengthening the security of financial software, standardizing the financial work of the enterprise, and improving the data of the enterprise, the enterprise can provide technical support for its own development, thereby improving the core competitiveness of the enterprise.

## REFERENCES

- [1] Lin Jiangpeng, Xiao Wanyu. Research on Intelligent Transformation of Financial Sharing Service System Based on JX Group [J]. Journal of Hubei University of Economics (Humanities and Social Sciences edition), 2022,19 (04): 62-64.
- [2] Jiang Haiming. Research on the pros and cons of Enterprise Financial Sharing Model [J]. Business Watch, 2022 (04): 36-39.
- [3] Li Chengfeng, Huang Kangmei, Jia Nan. The Application of Data Mining Technology in Financial Risk Early Warning [J]. National circulation economy, 2021 (02): 84-86.
- [4] Zhu Zhijian. Innovation Research on Enterprise Financial Management Mode under the background of Big Data [J]. Modern trade and industry, 2020,41 (17): 110-111.
- [5] Fang Disheng, Yi Hanqi. Analysis of corporate Culture Development in the Era of Big Data [J]. Economic and Social Development, 2016,14 (04): 99-101.
- [6] Jia Jianfeng, Yan Jiaqi, Wang Nan. The impact of the matching of executive competence characteristics and corporate culture on corporate performance [J]. Management Review, 2016,28 (07): 188-199.
- [7] Li Yongshun, Zhou Liyun, Xie Weihong, Cheng Minghui, Dong Yanfeng, Jiang Luan. Study on the Impact of Big Data on Enterprise Management Decision Making [J]. Science and Technology management Research, 2015,35 (14): 160-166.