

Research on the Application of Big Data Technology in the Integration of Enterprise Business and Finance

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Abstract: With the advent of the era of big data, traditional financial management has been unable to meet the needs of modern enterprise business. Enterprises hope that financial management has the function of improving the accuracy of corporate financial data, assisting corporate management to make decisions that are more in line with the actual development of the company, and optimizing corporate management systems, thereby comprehensively improving the overall level of the company and ensuring that the company can be in business with the assistance of financial integration, can better improve and develop themselves. Based on the investigation of enterprises and universities, this article analyzes the problem of accounting talent training from both the demand and supply ends, and puts forward some suggestions for the teaching reform of accounting integration with big data in financial colleges and universities, and strives to promote the integration of business and finance. The optimal allocation of enterprise resources will gradually enhance the market competitiveness of enterprises, and explore the application strategies of big data technology in the integration of enterprise business and finance.

Keywords: Big data; enterprises; integration of enterprise business and finance; application

1 Introduction

With the advent of the information age, the amount of data information in various industries has grown exponentially. The development and utilization of these data has caused tremendous changes in social production methods and laid the foundation for the transformation and upgrading of social industrial structures. The integration of business and finance is the main content of current management accounting [1–3]. It is to integrate business management and financial management by enhancing the connection between business and finance, and to combine big data technology for information processing to improve the standard of daily work of the enterprise sexuality and effectiveness. This has become one of the important means and key links to promote the long-term development of enterprises [4–6].

But for now, there are still some problems in the integration of industry and finance, which have hindered the healthy and long-term development of the enterprise to a certain extent. Business data of business operations can quickly reflect changes in customer needs and market development trends, while financial data is a static record and summary of business results over a period of time, and has a certain lag [7]. By establishing a close connection between business and financial data systems, it can reveal the possible impact of business data changes on financial statements, analyze corporate value drivers, and provide scientific basis for management investment operations and management improvement decisions, thereby supporting the company's business development and company continuous growth in value [8]. It can also assist the company in solving the deep-seated problem of poor connection between business and financial data under existing and new operating models, and build a docking channel for business and



financial information systems in a rapidly changing business environment to meet the company's listing financial data requirements, and Provide a scientific basis for the company's business decision-making through data analysis [9–11]. When leaders formulate strategic plans for corporate development, they can use rich financial information as a reference, and they can also make reasonable evaluations of business results. Therefore, the rational use of big data technology in finance and business can collect all kinds of information and data more quickly, and provide a basis for decision-making through integration and analysis, and truly enhance the market competitiveness of enterprises [12–14].

2 Problems in the Integration of Business and Finance in the Era of Big Data

2.1 *Insufficient Professionalism of Professional and Financial Integration Staff*

The integration of business and finance is a new idea and new method for the development of modern enterprises. Compared with the previous method of separate business and financial management of enterprises, it has a certain degree of science and system. Its management advantages have gradually become prominent in recent years. People are paying more and more attention. However, judging from the current practice of business-financial integration development of Chinese enterprises, the corporate business-financial integration in the era of big data still has the problem of insufficient professionalism of the staff, and the professional knowledge of the staff is difficult to effectively support the reasonable management of business-financial integration [15]. The reason for this problem is that the management concept of the integration of industry and finance is relatively new, the development time is relatively short, and the experience for reference and reference is relatively small. Therefore, the staff with professional quality is relatively inadequate. At this stage, due to the lack of compound financial talents in Chinese enterprises, a considerable number of enterprises have business-financial integration management teams based on the original financial personnel base. Under this background as showed in Fig. 1, the business-financial integration of enterprises to a large extent, it presents a simple addition of business work and financial work, without deep understanding of the practical significance of business-finance integration and specific and detailed operation methods, resulting in the failure of the development of business-finance integration work.

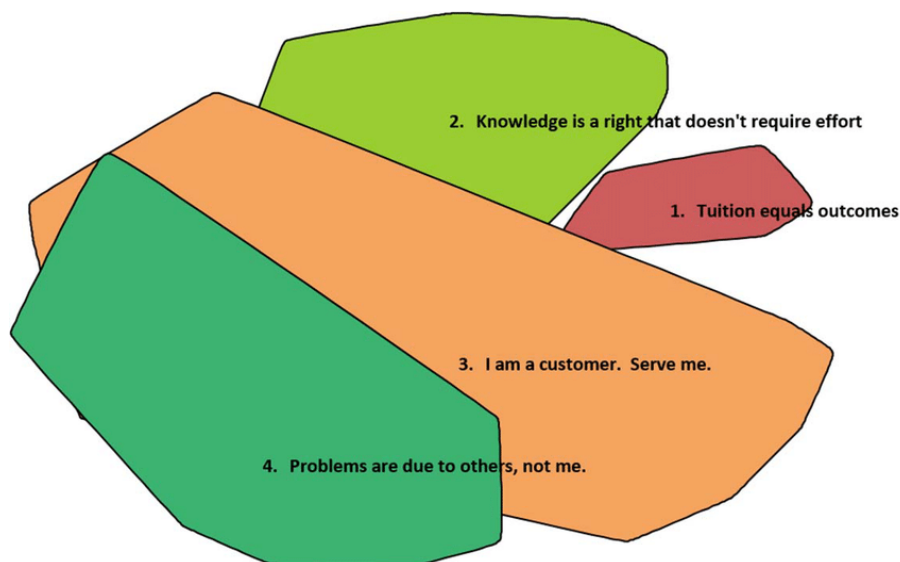


Figure 1: 4 factor model after lack of professionalism category removed

2.2 *The Communication Mechanism for the Integration of Industry and Finance is Not Sound*

It should be clear that the basis of business-financial integration lies in the organic combination of corporate financial work and business work. Therefore, the level of meticulousness and comprehensiveness of the integration work and connection work between the business department and the

financial department of the enterprise will be to a large extent. The above influences the actual effect of the integration of industry and finance. At present, judging from the development practice of the integration of business and finance in my country's enterprises, there are quite a few companies in my country whose business and finance integration communication mechanism is not sound, effective risk management requires the elements showed in Fig. 2, and it is difficult to effectively ensure the convenient and effective communication between the business department and the financial department. There is a certain degree of misunderstanding, blindness and disorder in his work. In addition, many companies' business departments and financial departments failed to communicate and communicate effectively during the development of the department's development goals. This resulted in a great difference in the development goals between the two departments. Financial integration has caused more obstacles and brought great challenges [16].

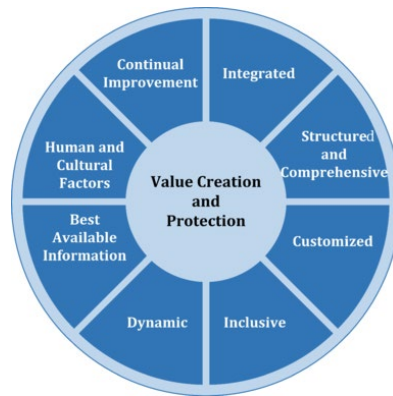


Figure 2: Effective risk management requires the elements

2.3 The Industry-Financial Integration System Lacks Scientificity and Effectiveness

The reasonable and orderly development of the business-financial integration work is inseparable from the optimization and upgrade of the business-financial integration system. Only by ensuring the scientific and high-technical nature of the business-financial integration system to the greatest extent can it ensure that the business-financial integration work is in accordance with the established development of the enterprise. Goals are carried out in an orderly manner which showed in Fig. 3. As far as the current situation is concerned, the relatively obvious problem of the lack of scientific and technical nature of the business-financial integration system in the process of business-financial integration in Chinese enterprises has largely adversely affected the healthy and long-term development of the company. The establishment of many enterprises business-financial integration systems has not been able to fully analyze the company's own development laws and development characteristics in depth and detail, but only rely on the application of a large number of information technology as the main work, which makes the business-finance system established by the enterprise difficult to effectively satisfy and adapt to the requirements of enterprise development [17]. In addition, there are some companies that do not have a unified business coding method, which makes a lot of business data of the company unable to rely on the information system to automatically generate financial data, and relevant business and financial staff have to further collect and process data information [18]. And processing increases the workload of the staff and reduces their work efficiency.

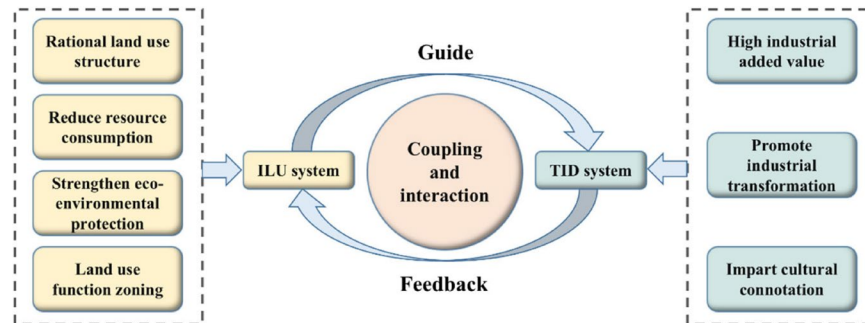


Figure 3: The business-financial integration goals are carried out in an orderly manner

2.4 Absence of the Company's Own Database

In the era of big data, the integration of business and finance cannot be carried out without the company's own database. Only by analyzing and sorting out its own development information and combining big data technology for database analysis and sorting can companies make scientific and reasonable judgments. To achieve the goal of organic integration of business and finance. However, the current issue that needs to be realized is that many Chinese enterprises have not yet realized the importance and necessity of establishing their own databases, which makes it difficult for enterprises to carry out the integration of business and finance.

3 Application Advantages of Big Data Technology in the Integration of Business and Finance

3.1 Expand the Scope of Data Collection

The scope of management accounting data collection is the main factor that determines the effect of corporate financial work. Regular business data and financial data are the main objects of data collection. In addition, structured data is the main form of data. However, in the development of enterprises in the new era, the amount of unstructured data and semi-structured data has increased significantly, which undoubtedly increases the difficulty of data collection and sorting. The application of big data technology in data collection can realize the effective collection of unstructured data and semi-structured data, so that it can be used in the current business and financial integration work to provide reliable and comprehensive data information for management accounting [19]. At the same time, data cleaning has become more convenient, enhancing the application value of various types of data. In corporate finance and business work, more external platform media information is also involved. If the traditional data collection method is adopted, the workload and difficulty of the work will be increased, while the big data technology has obvious advantages in obtaining images and images.

3.2 Expand Data Storage Space

In the era of big data, enterprises need to face massive amounts of data and information to carry out business-financial integration work, and the types of data also present complex characteristics, so larger data storage space is needed to meet the requirements of work implementation. The reasonable use of distributed storage technology and cloud platforms can solve the current problems faced in the integration of business and finance and realize the expansion of data storage space. The construction of the database needs to be based on distributed storage technology, which can enhance the stability and security of the database, and can realize the unified processing of multiple types of data. Due to the certain differences in the nature of the business of enterprises, the database can be reasonably divided during the implementation of business-financial integration, to provide guarantee for the implementation of supply, production and marketing, and to enhance the effective connection between various links [20]. This not only enhances the order of data management, but also provides convenience for data query and call.

3.3 Expanding the Depth of Data Analysis

In business decision-making, accurate financial information needs to be used as the basis, which requires strengthening the depth of data analysis to reflect business results more objectively. Sample of this is showed in Fig. 4. Due to the lack of comprehensiveness in the application of traditional sampling techniques, it is easy to produce large deviations in data analysis, resulting in the loss of accuracy of data analysis results. At the same time, there are certain limitations in the analysis of unstructured and semi-structured data. sex. Big data technology uses cloud computing as the main platform, and the type of data is no longer a limiting factor for data analysis. The application of multiple analysis methods truly reflects the value of data.

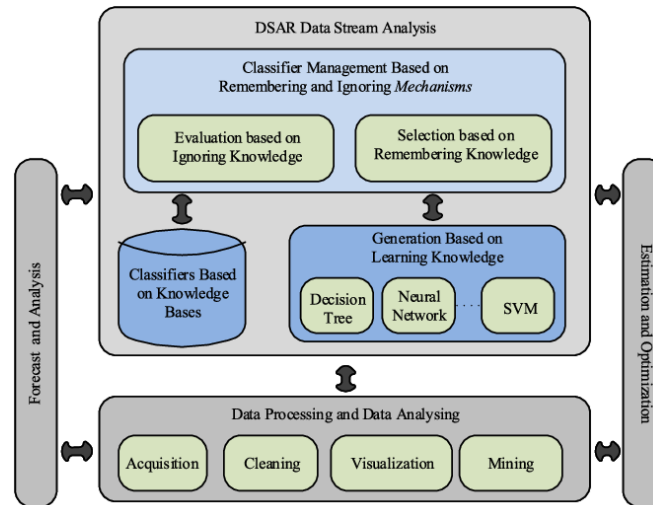


Figure 4: Sample of deep data analysis

4 Application Strategies of Big Data Technology in the Integration of Business and Finance

4.1 Value Data Collection

The amount of data generated in the financial and business work of enterprises is increasing, and the types are various. The reasonable use of big data technology can ensure the efficiency and accuracy of data collection. Purchasing data, production data, sales data and environmental data are the main content of business data, and each link of supply, production and marketing should be controlled [21–23]. When collecting procurement data, it is necessary to start with the formulation of the procurement plan, the selection of suppliers, the signing of the contract, and the settlement of the payment to ensure the comprehensiveness of the data collection; when collecting the production data, it is necessary to start with the formulation of the production plan. , The procurement of raw materials and cost settlement and other processes to avoid major omissions in the collection process; when collecting sales data, you should focus on sales plans, sales tasks, and after-sales services; when collecting environmental data, Mainly focus on the collection of policy information, industry information and competitor information. Ensure the integration of financial data production and collection, and promote the improvement of work efficiency. Material specifications, unit prices, inventory quantities and costs, transportation costs, etc., are the main content of the current procurement financial data, while payment methods and customer information, etc., belong to the sales financial data.

4.2 Strengthen Data Integration

Staff should effectively integrate relevant business data and financial data to provide protection for the integration of industry and finance. In this process, big data technology should be used rationally to enhance the interactivity between data and the logic of data input, and optimize the allocation of resources through

the construction of a data sharing model. Under normal circumstances, unstructured data, semi-structured data and structured data are the basic types of data. When carrying out business-financial integration work, they should be classified and cleaned according to the actual production situation of the enterprise to enhance the application value of data [24]. Clarify the boundaries of data channels, ensure the pertinence of database construction, and prevent confusion. The internal connection of data types should be clarified to ensure the effectiveness of database docking. Follow certain logical rules to build a database to enhance the reliability and integrity of data capture. In the integration of industry and finance, the advantages of the data sharing center should be fully utilized to meet the daily work needs of the enterprise.

4.3 Optimize Data Storage

Should start with data storage space and order, and optimize the data storage effect like using cloud to handle data which showed in Fig. 5. In the traditional working mode, data storage requires the purchase of dedicated servers, and small storage space is difficult to meet the actual needs of enterprises. The application of big data technology can promote the rapid construction of cloud platforms and gradually expand data storage space. The storage and recall of data through the cloud can enhance the convenience of work while preventing the impact of insufficient storage capacity on the integration of business and finance [25]. The security of the cloud is also a key issue that should be paid attention to in this process. It is necessary to introduce advanced network security protection technology while backing up relevant data to prevent data loss and other problems. When formulating the data storage order, the macro logic of data storage and the large database should be constructed, and the business process should be used as the basis for the subdivision of the database. For example, the procurement database can be divided into a supplier database, a raw material management database, a procurement basic information database, and a procurement fund management database, and so on. At the same time, production databases, sales databases, and environmental databases can also be classified according to this classification standard.

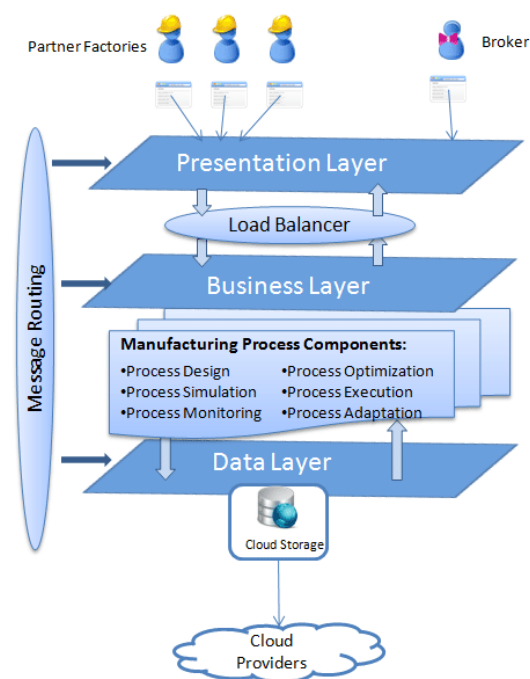


Figure 5: Cloud data storage

4.4 Develop a Data Analysis Result Report

The application of big data technology has changed the traditional working methods to a certain extent. At the same time, it has expanded the data capacity and improved the computing power. It breaks

the dependence on sampling concepts in traditional data analysis, and enhances the accuracy and comprehensiveness of data operations. The use of regression analysis and cluster analysis can ensure the objectivity of calculation results and give full play to the functions of management accounting. Budgeting is one of the key tasks in modern enterprises. It is difficult to obtain accurate budget results using traditional data analysis methods. The application of big data technology can comprehensively analyze internal environmental data, external environmental data, and historical data to realize a budget model. The construction of the budget fully reflects the role of budget accounting in the development of the enterprise. The output of the data analysis result report is also the key to the integration of industry and finance. In this process, it is necessary to formulate effective historical report management methods while enhancing the timeliness of report transmission. Under the traditional working mode, financial reports have a fixed delivery time, which is difficult to adapt to the characteristics of multiple types and multiple forms of reports in the current business-finance integration. The application of big data technology can promote the continuous improvement of the reporting system and provide users with great convenience. At the same time, it needs to be classified based on the differentiation of management decisions, which usually include business decision reports, strategic decision reports, budget decision reports, and performance appraisal reports to meet the requirements of various decision-making tasks.

5 Conclusion

The implementation of the integration of industry and finance can provide convenience for financial personnel to obtain data, analyze data and manage data, and ensure the collaborative implementation of corporate financial work and business work. In particular, the application of big data technology in the current industry-to-financial integration can lay the foundation for data collection, storage and analysis, and meet the actual needs of the future development of enterprises. When applying big data technology, we should start by focusing on data collection, strengthening data integration, optimizing data storage, and formulating data analysis results reports, so as to truly improve the connection between finance and business.

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Conflicts of Interest: All the authors in this paper declare that they have no conflicts of interest to report regarding the present study.

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