Innovation of Enterprise Financial Management Model Under the Background of Big Data

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ABSTRACT

With the continuous development of science and technology, the rapid popularization and wide application of the Internet and smart terminals, data has shown explosive growth, and the emergence of massive data heralds the arrival of the era of big data. The theory and practice of enterprise financial management aiming at creating value must fully consider and proactively respond to the challenges and changes brought by big data to enterprises, so as to seek better development space for enterprises. This article discusses the characteristics and functions of financial management, the opportunities and challenges faced, and how to innovate financial management models.

Keywords: big data, enterprise financial management, opportunities and challenges, mode innovation

1. INTRODUCTION

The use and innovation of big data technology have higher requirements for people's ability to filter and process data, but it also creates more space for people to form a full range of insight and accurate analysis capabilities. From an enterprise perspective, the era of big data brings challenges and opportunities. On the one hand, through the analysis and processing of massive data, valuable information can be extracted to provide more powerful support conditions for enterprise management and decision-making; on the other hand, the management personnel of the financial department of the enterprise are required to have higher information screening, extraction and analysis capabilities. Nowadays, most corporate management also recognize the importance of data assets to the company, so data processing and analysis capabilities have become an indispensable and important competitiveness for companies. Only by making the most of big data technology that brings to companies, can companies better meet the needs of consumers, expand their management channels, expand their advantages, so as to enhance the competitiveness of enterprises in the market.

2. DEFINITION AND CHARACTERISTICS OF BIG DATA

2.1. Definition of Big Data

In May 2011, McKinsey Consulting first defined the concept of big data. In the research report "Big Data: The Next New Field of Innovation, Competition, and Productivity", it pointed out: the collection, storage, management, and analysis of data far exceed the capabilities of traditional database software tools. Big data has four major characteristics: huge data scale, fast data flow, low-value density and multiple data types. At present, as a terminology in the IT industry, big data is widely recognized as the definition: a collection of data that cannot be captured, processed, and managed by commonly used software tools within a certain time frame. When dealing with big data, only new processing models can be used. Only by using a new management model that is different from the past to treat information assets in a big data environment can companies have stronger decision-making power, insight, and process optimization capabilities. Companies can realize the "value-added" of data by professionally "processing" meaningful data, in order to enhance the core competitiveness of the company in the market.

2.2. Characteristics of Big Data

2.2.1. Large data capacity

Big data has a large capacity. The huge amount of data information is a typical feature of big data. In recent years, the development momentum of information technology has been strong, data storage units have also been upgraded from the previous MB to GB, and then to the common TB, PB, EB, and even reached the ZB level. With the rapid development of information technology, the scale of data information resources is also expanding. In 2013, the global data volume has reached 1.2 ZB. According to a report issued by IDC (International Data Corporation), it is

predicted that the amount of data stored in electronic form in the world will reach 32 ZB by 2020.

2.2.2. A wide range of types and sources

The sources of big data include not only databases in the traditional sense, but also related channels such as social networks and online transactions. Three types of data constitute big data: structured data, unstructured data and semi-structured data. Any form of data has its value, such as video, audio, geographic location, images, etc., through the analysis of users log data is used to recommend content that meets their actual needs for users [1].

2.2.3. Fast extraction and analysis

Big data is mainly transmitted through Internet channels, subverting the traditional form of data storage and processing. Big data has high requirements for people's ability to produce, extract, and analyze data. Using professional technology can not only obtain rapid and valuable data, but also analyze and process the data in time, so as to provide a basis for enterprises to make scientific decisions.

2.2.4. Valuable

Big data has unparalleled social and economic value, and is conducive to the progress of scientific research, and can promote social development and continuous innovation in the field. But it also has the embarrassing problem of low value density [2], and not all data is useful, only part of the data has core value. Therefore, only when big data is used reasonably can its application prospects be used by us.

2.2.5. Complexity

The kind of data with irregular or incomplete structure is called unstructured data, which is a data model that is not predefined. Therefore, the formats and standards of unstructured data are diverse and are not suitable for display in two-dimensional logical tables of databases. Due to the complexity and variability of the constituent data, unstructured data is more difficult to standardize information than structured data. IDC's survey results show that unstructured data accounts for approximately 80% of the total data, and these data are increasing exponentially at an annual increase of 60%, which shows that the content of big data is diverse and complex.

3. OPPORTUNITIES FACED BY ENTERPRISE FINANCIAL MANAGEMENT UNDER THE BACKGROUND OF BIG DATA

3.1. Help Companies Save Management Costs

The traditional production and operation management model, the way to improve the efficiency of the enterprise is to continuously increase the cost of manpower, material resources and financial resources. Now it is completely different, companies can manage financial data and information with very little labor costs. In addition, data analysis and processing technologies will continue to be updated, and various patented technologies and trademarks will be produced faster than ever before. If companies can take advantage of big data technology, they will gain advantages in market competition and improve their economic benefits.

3.2. Help Companies Avoid Related Financial Risks[3]

Through the organization of the information contained in big data, companies can provide reference cases or countless reference data when making major decisions. Big data is not just a simple pile of data literally, but is valuable data that can help companies make decisions that are beneficial to their own decisions after analyzing and comparing large amounts of data. In view of a large number of adverse cases and previous lessons, it can ensure that enterprises do not make the same type of mistakes.

3.3. Improve Corporate Data Mining Capabilities and Comprehensively Strengthen Budget Capabilities

Companies must not only make good use of reports for data acquisition, but also actively conduct data mining, and use big data information collection systems to understand market trends and tap customer needs, so as to integrate financial management with corporate development strategies. Budget represents currency and profit, so enterprise budget management can be said to be the top priority. An accurate and scientific budget can be formed through the overall summary analysis of a large amount of data, so as to ensure that the budget amount obtained through the analysis is close to the actual expenditure amount of the activity. The promotion of big data technology can promote enterprises to establish a comprehensive and systematic budget management platform, form operation procedures and business objectives that are more in line with the status quo of the enterprise, thereby effectively improving the operating efficiency of the enterprise.

3.4. *Improve Information Accuracy and Increase Value Density*

Enterprises can improve the accuracy of financial information by strengthening information construction. Enterprises use advanced information analysis systems to improve the reliability and accuracy of financial management information [4]. In addition, companies can establish advanced information management systems and databases to increase the value density of financial data, the use of advanced information technology to help enterprises deal with financial information. Modern financial management information system can not only help financial staff to reduce some of the workload, so that financial management staff to focus more on the company's decision-making and strategy, but also improve the use value and efficiency of financial information.

3.5. *Encourage Financial Personnel to Complete the Role Change*

In the traditional enterprise management model, the job responsibilities of financial personnel are relatively simple, mainly responsible for the financial data statistics of various economic activities of the enterprise, so the valuable information displayed in the financial statements of the enterprise is also relatively limited. Due to lack of sufficient and valuable information, it in turn restricts the development of the financial department, reduces the value of its work, and forms a vicious circle. Rich data resources provide financial personnel with more diverse management information, and correspondingly improve the auxiliary role of financial accounting work in corporate management, helping financial managers to more clearly understand their own functions.

4. CHALLENGES FACING CORPORATE FINANCIAL MANAGEMENT UNDER THE BACKGROUND OF BIG DATA

4.1. *The Quality of Financial Personnel is not High, and the Management Consciousness is Weak[5]*

Up to now, there are still many companies that have insufficient understanding of informatization and do not realize the core position of financial management informatization. Financial managers do not realize the great value of sorting and analyzing large amounts of data, and then extracting meaningful information. In practice, the financial management awareness and foundation of corporate managers are weak, lack of centralized financial management concept training and learning after entry, and the corporate financial management system is scattered. Therefore, it is difficult for financial managers to

effectively manage corporate assets. In addition, the low quality of middle and senior financial managers is common in enterprises, which makes it impossible to instruct employees to process and analyze information with big data. As a result, financial managers are actually unable to perform the financial management of the enterprise.

4.2. *Outdated Concept of Employee Management, Lack of Technical Staff[6]*

The correct personnel structure within the enterprise should be that there are few middle-level and management personnel, but each employee is smart and capable and has a high ability to analyze and process data. However, the current financial concepts of corporate employees are relatively backward, and the financial management ideas and concepts of corporate employees have not been updated in a timely manner, resulting in a relatively low number of middle and senior technical personnel. In addition, employees have not received systematic training on corporate culture and have no sense of belonging to the company. Because employees only passively accept orders from their bosses and complete tasks mechanically, and the data analysis does not combine their own views and suggestions, the financial management of employees is restricted by positions and thinking, let alone how to innovate.

4.3. *Insufficient Attention and Low Degree of Innovation in Financial Management[7]*

From the current situation of information technology development, enterprises pay insufficient attention to big data technology and fail to treat it and the advantages it brings with a correct attitude. Although some companies have begun to implement corporate financial management innovation, but the implementation of innovation is not strong enough. Enterprises have not innovated and made breakthroughs in financial management models, and are still using traditional financial data processing methods. The adoption of big data technology is just a sign, and there is no actual adoption. However, it is imperative to use this technology to ensure the steady development of enterprises. In addition, the enterprise financial management innovation is bound to produce conflicts with the traditional management mode. If an enterprise fails to handle the relationship between these conflicts and its development, it will seriously hinder its innovation and development process.

4.4. *Inadequate Risk Control Awareness and Capabilities*

When carrying out financial management work within an enterprise, the issue of information protection is often ignored. The importance of information management is

often overlooked by corporate managers, especially data about business and personal privacy. If the scope and authority of its use are not strictly regulated, the "behavior data" scattered everywhere is likely to be used by criminals. Once an enterprise cannot guarantee the security of financial information, it may cause the risk of theft or loss of corporate financial information and reduce the quality of financial management. A lack of awareness of corporate risk management and control will lead to inadequate information protection, and cause a series of adverse effects on the company, and ultimately cause the enterprise to suffer serious losses [8].

4.5. The Construction of Information System is not Perfect, Financial Management Sharing is Poor[9]

When some companies carry out financial information sharing, due to a series of deficiencies in the construction of financial sharing, the quality of the construction of financial sharing has gradually declined. The construction of corporate financial sharing is a long-term process. In many cases, corporate financial sharing will take a lot of time to see the meaning and effectiveness of financial sharing. To promote the improvement of financial management level and carry out informatized financial management, enterprises must establish an efficient financial management system, adopt effective measures to manage financial data informatization, and establish efficient financial information feedback methods. At present, most companies in my country do not have the spirit of independent innovation, nor do they independently develop information-based financial management software; Meanwhile, corporate financial information is asymmetric and not shared due to many reasons, which leads to inefficient processing of financial system information and financial poor management sharing.

5. INNOVATIVE WAYS OF FINANCIAL MANAGEMENT

5.1. Establish an Innovative Concept of Financial Management[10]

Big data is not only an information technology for massive processing of data, it is also a comprehensive, scientific, and information-based approach to understanding and changing the world. On the one hand, the concept of big data and high-tech technology should be integrated into the process of financial management, in order to provide comprehensive and valuable information for enterprises to choose intelligent and efficient financial management mode and provide strong data support for enterprises to make decisions; On the other hand, only the use of big data technology can process and analyze massive financial data.

Therefore, the primary problem in the development of enterprise financial management is to take advantage of its management concept and information technology related to financial management, so as to ensure that data information resources can better serve enterprise financial management.

5.2. Attach Importance to the Introduction and Training of High-quality Big Data Financial Talents

Enterprises themselves must clearly realize that the essence of competition among enterprises is actually the competition among internal high-tech talents. Only high-tech talents can take advantage of big data technology. In this context, financial personnel must not only do well in accounting work, but also do well in financial supervision and management. Therefore, companies want to innovate in financial management models, enterprises should strengthen the investigation and training of employees, recruit financial management personnel with high quality, high knowledge and high technical level, and insist on regular vocational training for internal employees, so as to improve the information management level and capability of employees' financial data.

5.3. Innovate the Financial Management System

When an enterprise is innovating its financial management system, it must analyze which stage of its life cycle it is in, and construct a financial information system from the perspective of coordinating with the existing system. While innovating the existing financial management system of the enterprise, we should also realize the importance of coordination and continuity of financial management system information construction. The construction of financial information system is a long-term and gradual process, and it should focus on the overall situation instead of seeking for quick and disruptive innovation of the existing system. Under the control of the overall goal, companies should continuously improve their own financial management information level, and at the same time build their core competitiveness to help enterprises develop with high quality.

5.4. Increase Practical Value

The methods and technologies of financial management are in the process of continuous update and change. Only when companies have a full and scientific understanding of the technology of financial management information can they change their management thinking and have big data financial management thinking to better embrace the era of big data better. Enterprise managers must be fully aware of the importance of improving the level and ability of financial management, further through training and inspections, do a good job of ideological education for

employees, so that employees at any position in the enterprise can establish the concept of financial management innovation.

5.5. Improve the Ability to Avoid Risks and Ensure the Security of Financial Information

Because big data contains a lot of unknown information, and these data are often life data generated by individuals, which contains various privacy such as personal behavior and preferences. Therefore, information security, especially personal privacy security, needs to be highly valued by enterprises. In the process of specific financial information sharing between enterprise departments and between enterprises, one of the biggest problems faced is how to avoid risks. Enterprises need to enhance the overall management of all information, ensure the application value of financial information, and effectively avoid corresponding risks. Enterprises need to establish a safe and efficient information assurance system to maintain information security within the enterprise and implement it in specific tasks. When companies share information, they need to formulate a series of plans to guarantee the information security of the company's financial information during the storage and transmission process, thereby improving the company's ability to avoid risks.

5.6. Establish Financial Management Data System and Improve Information Sharing System

When designing a financial sharing system, an enterprise must meet the requirements of combining traditional data development with modern big data application technology. Enterprises need to conduct unified authority management and application management for the financial sharing system, and enable each independent function of the financial sharing system to provide personalized and diversified services. A complete financial management information sharing system can reflect the current operating conditions of the enterprise, obtain the most true information about the development of the enterprise, and promote enterprises to form a personalized financial management information platform. When an enterprise is sharing financial affairs, it first needs to find the advantages and disadvantages of its own financial management system, and then make certain adjustments to the financial management system based on the actual situation within the enterprise to build its own financial management data platform.

6. CONCLUSION

In general, the advent of the era of big data has brought severe challenges to the traditional production and management models of enterprises in various fields, and tremendous changes in corporate management will occur. People use computers and mobile devices to complete operations on the Internet, which brings opportunities to enterprises as well as challenges. With the development of Internet and technology, companies will accumulate a huge amount of information. If only relying on the traditional manual operations of financial personnel, it will not only consume plenty of time and money, but also prone to work errors and cause certain losses to the company. Enterprise financial management is not only an art, but also a brand-new model. For corporate financial management, it is essential to actively innovate traditional financial management methods, optimize and innovate corporate financial management organizational structures, and use financial management information systems to continuously improve corporate financial management efficiency, so as to promote the realization of enterprise financial management innovation. Enterprises themselves must clearly position themselves and establish the correct development direction according to the development of the times. Enterprises should make good use of big data technology, and give play to its application value and practical role, so as to lay the foundation for high-quality development of enterprises. The research in this article will help Chinese companies in the new round of competition under the big data environment to find their positions, seize opportunities, use big data thinking to conduct business management, and actively embrace big data to promote enterprises high-quality development.

REFERENCES

[1] Shuwen Li. The Optimization Path of Enterprise Financial Management Mode in The Era of Big Data. 2020, 3(1)

[2] Liu Jun. Research on the Innovation of Enterprise Financial Management Mode in the Era of Big Data [J]. Modern Economic Information, 2019 (22): 198.

[3] Tian W. Research on Risk Management and Control Based on Financial Sharing Mode——Taking Sun Paper Group as an example [J]. Jiangsu Commercial Forum, 2018.

[4] Xue W, Coltd W M. The Problems and Solutions of Enterprise Financial Management Under the Background of Big Data [J]. Management & Technology of SME, 2019.

[5] Nan-Nan Z, Bing H, Qiang-Hua Z. The Financial Management of Small Micro Enterprises Based on

Cloud Accounting in the Big Data Era [J]. Computer and Information Technology, 2018.

[6] Jiang L. Research on Financial Management Innovation of Small and Medium Enterprises in the Context of Big Data [J]. Journal of Physics Conference Series, 2020, 1575:012107.

[7] Lijun Jiang, Jiang Lijun. Research on Financial Management Innovation of Small and Medium Enterprises in the Context of Big Data. 2020, 1575(1):012107-.

[8] Y. Li, "Research on Financial Risk Prediction and Prevention Countermeasures Based on Big Data," 2019 11th International Conference on Measuring Technology and Mechatronics Automation (ICMTMA), Qiqihar, China, 2019, pp. 564-567.

[9] Xuan Wang. Thoughts on the Transformation of Enterprise Financial Management in the Era of Big Data. 2020, 9(3).

[10] Ting LIN, Jie KANG. Discussion on Enterprise Financial Management Model under the Background of Big Data [A]. Institute of Management Science and Industrial Engineering. Proceedings of 2020 International Conference on World Economy and Project Management (WEPM 2020)[C].Institute of Management Science and Industrial Engineering: Computer Science and Electronic Technology International Society, 2020:5.