A Study on the Risks and Opportunities of Business Management Based on the Background of Big Data

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Abstract. Under the premise of financial sharing, management informationization must rely on real and accurate data information. The creation of a management accounting database can accelerate the progress of the implementation of financial shared services, which is conducive to the faster and better completion of the management accounting informationization work. In the digital era, based on digital technology to collect, organize, analyze and apply data, can improve the previous cumbersome and complex manual processing mode, management tends to the development of information technology, and in the construction of financial shared service centers, the company's accounting data can be in the internal departments of the integration, corporate decision-making on the data to increase the efficiency of the invocation of the data to enhance the validity of the data. Therefore, management accounting informatization construction on the basis of financial sharing and the establishment of a sound and complete enterprise financial data information base can accelerate the process of management accounting informatization construction. This paper studies and analyzes the risk of enterprise management based on the research of big data background.

Keywords: Big Data Context; Corporate Governance; Risk studies; Opportunity analysis

1 Introduction

The current enterprise management information base construction mainly exists in the problem of insufficient data calling convenience and overly complex database operation [1]. In response to such problems, the developing company should improve the convenience of data calling by optimising the data management mode and invoking new technologies, and at the same time improve the convenience of database operation by optimising the operating system architecture. What's more, it should carry out modern company management through the support and analysis of big data [2]. First of all, in terms of data call, the arrival of the era of big data and the establishment of financial shared service centres so that the enterprise's financial data volume has increased geometrically, a large amount of financial data stored in the enterprise's central service server room, although the 5G era has greatly increased the speed of Internet data transmission, but due to the huge amount of data, and as an investment company, the need for a large number of daily calls to the data, the current centralized data management model The current centralised data management model affects the ease of use of corporate data. Therefore, the developing company can cite the blockchain decentralized data management model, based on the demand for data in various departments and the frequency of invocation, the data will be decentralized storage, this move can not only effectively improve the efficiency of the data

BDEDM 2024, January 12-14, Ningbo, People's Republic of China

DOI 10.4108/eai.12-1-2024.2347159

invocation, but also alleviate the pressure of the stock under the centralized data storage, and at the same time, it can reduce the management cost of data, which can help to promote the construction of informationization of management accounting based on financial sharing [3]. Secondly, under the background of rapid development of automation technology, artificial intelligence AI, financial robots, etc. have become important products in people's work and life. Based on the company's current problem of high complexity of database operation, the company can improve the level of automation of data calling, reduce the number of manual operations in the process of data calling, and set up a simple and efficient operating system, which will provide the basis for the role of management accounting informatization under the company's financial sharing by introducing AI technology, financial robots and other means.

2 Enhancing the development and application of enterprise information technology

First, the company must continuously optimize the financial shared service center and accelerate the construction of the management accounting information system.

2.1 Text formatting

The main text should be written using Times New Roman, 10pt, fully justified. Italics can be used for emphasis and bold typeset should be avoided. Because in the actual construction process, must be combined with the company's specific operating conditions, and the financial sharing center can provide the enterprise with efficient and reliable management accounting information is the establishment of financial sharing based management accounting information technology system must focus on the problem [4]. Therefore, for the company, in the process of establishing the financial sharing center, it should be guided by the information needs of the enterprise's business decision-making, accelerate the speed of creating the financial sharing service center, and organically combine all the information within the company's financial sharing service center and the company's information needs of management accounting, in order to truly achieve the goal of management accounting informatization under the company's financial sharing center [5].

(1) It is important to integrate the development of the old and new systems.

(2) The application of cloud computing technology should be expanded.

(3) To promote the development of management accounting software.

In the information age, the security management of data is an important work in the context of the information age, and the security protection of data and information is also a fundamental guarantee for the realization of management accounting informatization under financial sharing. Based on the current deficiencies in data encryption and data tracking, the company should further increase the encryption of data information and strengthen the tracking of data usage [6].

First of all, in the encryption processing of data information, encryption processing of data information can not only provide security for the data, at the same time, in the information age, the timeliness of the data largely affects the value of the data, due to the cracking of encrypted information requires a large amount of capital costs and time costs, higher data encryption

processing can further improve the data cracking the funds and time consumed, reduces the value of the data cracked, and can effectively reduce the desire of the unscrupulous elements of the data theft to improve the security of the data [7].

Secondly, in the tracking of data, the company should further strengthen the data monitoring mechanism to further clarify the status of data collection, collation, analysis, storage, call, use, flow and destruction of all aspects of the data, which can effectively reduce the possibility of internal employees to steal enterprise data, greatly increase the cost of illegal elements, but also to constrain employees in the use of data compliance for the company's financial sharing center under the management of accounting information technology construction to provide protection [8].

3 Technical analysis studies

3.1 Embedding Vector Generation

When performing recall, it is often necessary to calculate the similarity between items to recommend similar items for fast recall [9]. The Embedding technique is good for vectorizing items and facilitating the calculation of similarity. Word Embedding, which originated in the field of Natural Language Processing, is a method of representing an object (Object) through a numerical vector by learning a low-dimensional dense vector representation of the word.

Embedding technology is a powerful tool to deal with sparse features, but also can be fused with a large amount of feature information, can be said to be the basic tool to build deep learning recommender system, YouTube DNN, Wide & Deep, and other models are used to Embedding to vectorize the input feature representation. In this paper, we directly use the embedding vectors as feature vectors and compute the embedding vectors of users and items for personalized recall [10]. Word2vec is a model proposed by Google for generating word Embedding, which generates embedded representations of words through correlations between words in a sentence. Word2vec has two models, the CBOW model if the input is the surrounding words and the prediction is the center word w_t, and the Skip-gram model if the input is the middle word w_t and the prediction is the surrounding words, and the Skip-gram model works better in general. During training, a sliding window of length $2c + 1$ is selected for the sentence, sliding the sliding window from left to right, and the phrases in the window constitute the training sequence samples.

Assuming that a training sequence of length n in Skip-gram is $w_1, w_2, \ldots, w_n$,based on the great likelihood estimation method to maximize the product of conditional probabilities $p(w_j/w_i)$ in the sample, the optimization objective of $Word2vec$ is:

$$\frac{1}{n}\sum_{i=1}^{n}\sum_{j\neq i}^{n} log\, p(w_j/w_i) \tag{1}$$

$Skip-gram$ model predicts surrounding words from the center word, viewed as a multicategorization problem, using $softmax$ defined $p(w_j/w_i)$ as shown in Eq. 2:

$$p(w_o|w_I)\frac{\exp\,(V_{w_o}^{`T}V_{w_I})}{\sum_{w=1}^{W}\exp\,(V_w^{`T}V_{w_I})} \tag{2}$$

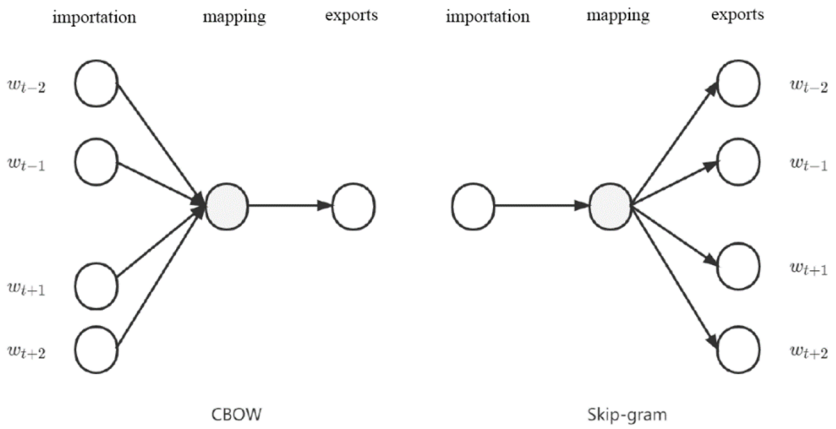

Fig. 1. CBOW model (left) and Skip-gram model (right).

As show in figure 1. Where w is the entire corpus size and V_{w_o} *and* V_{w_I} are the input vector and output vector expressions, respectively. The size of the actual corpus is so large that the direct Eq. 2 computation is almost unbearable. In order to reduce the training burden, negative sampling is adopted for training. The error sum is computed only for the few negative samples sampled, at which point the optimization objective of $Word2vec$ degenerates into a binary classification-like form of Eq. 3:

$$-\log\left(V_{w_o}^{`T}h\right)-\sum_{w_j\in w_{neg}} log\sigma(-V_{w_j}^{`T}h) \tag{3}$$

Let the dimensions of both the input and output layers be V. The input vector is a one-hot code (One-hot) for a particular word, and the output vector is a multi-hot code (Multi-hot) consisting of multiple words. At the end of training, the row vectors of the input vector matrix $W_{V\times N}$ represent the embedding vectors of the input words, and thus the input vector matrix is also referred to as a lookup table.As show in figure 2.

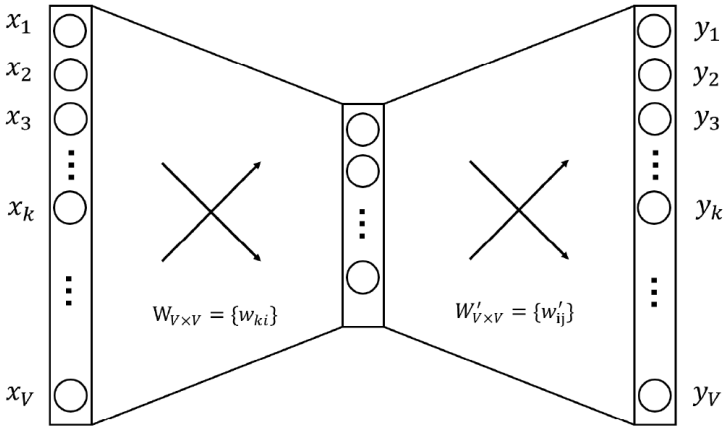

Fig. 2. Lookup table in Word2vec weight matrix.

The success of Word2vec has led to the proliferation of Embedding technology into almost all areas of deep learning, such as advertising, search, images, recommendations, etc., and has become an indispensable technology point in the deep learning knowledge framework. In the field of recommender system, Microsoft proposed Item2vec to extend Word2vec, which makes "everything is Embedding" possible, Embedding technology as an important recall method in this paper.

4 Suggestions for countermeasures to improve the management informationization construction of the company

4.1 Strengthen the introduction and cultivation of enterprise management accounting talents

Based on the current lack of management accounting informatization talents, insufficient ability level, and the problem of poorly targeted talent training, the company should strengthen the management accounting talent team by strengthening the introduction of management accounting professionals, and establishing a targeted management accounting informatization talent training system [11].

First of all, in terms of the introduction of management accounting talents, investment companies are different from other types of companies such as manufacturing and service industries. Investment companies, because of their main business of foreign investment, have more investment analysis, investment decision-making and other work, as well as a larger workload, investment companies have a higher demand for management accounting-related talents, and a higher level of professional competence of management accounting talents, especially in the construction of management accounting informatization under the Financial Shared Service Center, the company is in need of a large number of management accounting talents with high professional competence and composite competence.

Second, to analyze the cultivation of management accounting talents, companies due to the synchronous construction of financial shared service centers and management accounting information technology, increasing the workload of enterprise finance-related staff, while with the advancement of management accounting information technology, the content of the work of the enterprise finance practitioners has also undergone a certain transformation. In this context, the company needs to develop a talent development program based on the company's current situation and in line with the characteristics of the company's employees. In order to cope with the problem of insufficient staff training time, the company can be grouped, batch mode to train talents, is committed to improving the professional level of talents, according to the level of competence of the staff, the work content is different, the staff will be grouped, time-sharing training, when the staff is in the training time, it will be adjusted to the staff's work content and workload, and appropriately reduce the intensity of work of the staff, so as to provide a time base for the staff's ability to training, and at the same time in the training of the staff after the training effect of the training assessment, so as to ensure that the effectiveness of the training of the staff.

5 Conclusion

To build a computer-based management informatization system and ensure its successful operation, we must rely on a good external operating environment, therefore, the company should further adjust the enterprise management mode to ensure that and the requirements of management accounting informatization construction to ensure that the rapid completion of the system construction work to provide assistance.

First of all, the company needs to optimize the organizational structure and increase the internal organizational links. In the communication channels between employees and departments, it ensures the optimal construction of management accounting information, ensures real-time sharing of data, and builds a diversified and intelligent financial management mechanism. Secondly, as an investment company, the Company will face a more complex internal and external environment and higher financial risks than companies in other industries. Therefore, the company needs to optimize the financial risk management process, predict the risks, and clarify the internal environmental controls such as capital and profit. On the basis of formulating a relatively perfect management system, information security is effectively improved to avoid deviation. Combined with the actual situation of the company, reasonable risk prevention and countermeasures are formulated to maximize the management accounting work from the influence of the external environment and promote the development of big data intelligent enterprise. Thirdly, the company should optimize the existing financial management process, innovate the performance appraisal standard, and realize the unified management. Clearly define the long-term goals, comprehensively analyze the specific contents and details of financial supervision, and strictly fulfill the system of rewards and punishments. Create an equal working environment for employees, improve their work motivation and create a good management atmosphere.

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