

Design and research of financial intelligent cooperation system under financial sharing mode

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Abstract: Financial Shared services as one of the most common intelligent era enterprise group financial management and enterprise management form, the earliest scattered in various areas and individual entities in the accounting business, on the one hand to keep accounts and the consistency of the report, on the other hand can effectively reduce the system cost, therefore belongs to the enterprise to improve efficiency and reduce the capital of the important management means. Under the development trend of modern enterprise intelligence, establish and promote the financial sharing service mode, start to guide the financial to share the form of transformation, so as to build a new financial management mode. On the basis of understanding the development trend of enterprise financial intelligence, according to the construction significance of financial sharing mode, this paper deeply discusses how to build the application of intelligent financial cooperation system, and puts forward the corresponding intelligent management measures, so as to create a high-quality operating environment for enterprise financial management.

Keywords: Financial sharing mode; Financial intelligent cooperation system; BP neural network; Vector machine (SVM)

1. Introduction

From the perspective of enterprise finance, intelligent financial sharing platform can help managers understand the whole process of enterprise operation faster, and guide enterprise employees to deeply explore the relationship between account and account business. On the one hand, according to the correct operation of the financial accounting system, fully combined with financial data and electronic invoices, timely matching purchase orders, merchant receipts, enterprise invoices and other information, to ensure that the enterprise financial management is fully improved. On the other hand, it is necessary to gradually improve the comprehensive level of enterprise financial management, comprehensively popularize to the enterprise financial management work, to ensure that all transaction information is recorded in the system. [1.2.3]According to the implementation of enterprise financial management in recent years, the analysis shows that the financial sharing service mode under the background of intelligence has the following characteristics: First, it is helpful to control labor cost expenditure. Compared with the traditional financial forms, it is found that the financial sharing service mode has unique technical advantages. In the past, enterprise finance can only calculate data and compare data, and need to consume a lot of human resources. In the financial sharing service mode, the enterprise management will choose the scientific reward and punishment mechanism, which can fully mobilize the enthusiasm of the department staff and create a good working atmosphere for the enterprise; Secondly, it helps to improve the reliability of data. Financial sharing service mode is proposed through computer data sharing, the overall operation is rigorous and professional, can effectively prevent data problems caused by operational errors. At the same time, the financial sharing service mode can also ensure that enterprises have more perfect and accurate data information, and help employees of all departments to deeply explore the potential value of data, so as to provide effective basis for practical management countermeasures. Finally, it is helpful to control the risk of enterprise operation. Financial sharing mode can be unified analysis, accounting business data of all branches of the enterprise, the information and feedback collected by the enterprise, timely uploaded to the leadership and management of the enterprise, so that they can put

forward more targeted management decisions, effectively control the occurrence probability of enterprise business risks.[4.5]

Nowadays, great changes have taken place in the external market environment of our country. The integration of market economy and the process of economic globalization are faster and faster. The financial management work of enterprises has achieved excellent results in the practice of research. In this background, the traditional sense of the financial, accounting and enterprise development demands a bigger deviation, along with the continuous renewal of science and technology, the market gradually emerged large quantities with high-end technology processing software functions and accounting tools, traditional simplification calculation management gradually degraded, start towards modern management of finance Shared and intelligent direction. In essence, financial sharing and intelligent mode, as a new mode of accounting and reporting business management, has been paid attention to by the leadership and management of enterprises. The application of advanced information technology in internal entity accounting business activities should be presented to the required users in the form of reports, which is conducive to the efficient development of various financial management work. Financial sharing and intelligent mode, as a service extension of multi-level sharing, can be applied to enterprise management activities because of the continuous development of its business and the gradual generalization of its operation area. The concept of financial sharing first appeared in the 1980s. With more and more group enterprises choosing the mode of financial sharing for innovative analysis, the shared application mode has gradually become the only way for the development of enterprise financial management mode. Some scholars have proposed that the integration and complementarity of shared services and enterprise daily work should be deeply explored when studying financial sharing services. Therefore, on the basis of understanding the requirements of enterprise financial sharing mode, according to the design content of financial intelligent writing system, this paper deeply discusses how to do a good job of enterprise financial intelligent management in the new era.[6.7]

2. Method

2.1 Support Vector machine algorithm

As a new management mode integrating big data technology, financial sharing mode aims to improve customer satisfaction, centralize the decentralized business, ensure that enterprises can maintain high economic interests and operating efficiency, and have obvious advantages in enterprise management. In the financial intelligent writing system, support vector machine (SVM) is used to predict the capital risk of assisting construction contract. Because this algorithm has strong generalization ability, it is widely used in linear and nonlinear problems. According to the analysis of the warning structure chart shown in Figure 1 below, the overall process involves information collection, feature extraction, model construction, training and testing, and grade division.[8.9]

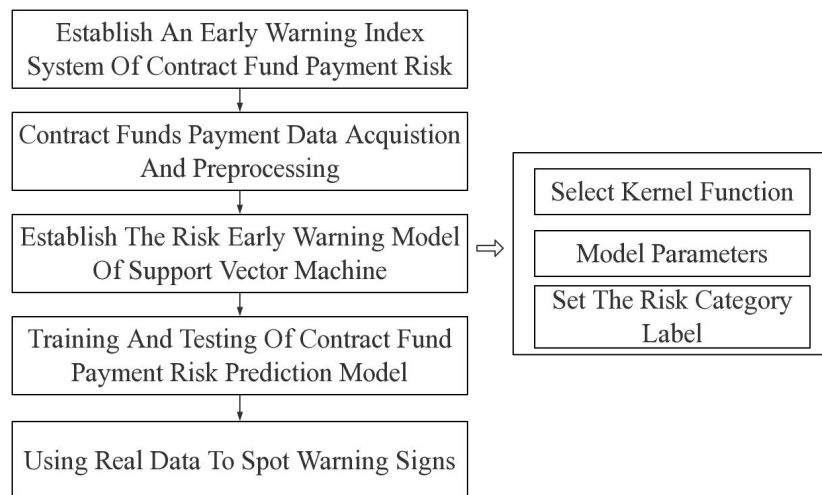


Figure 1. Early warning structure diagram based on support vector machine

At the same time, the various grades of the enterprise cooperative construction business are shown in Table 1 below, where the security situation refers to the fund payment within the set range; The second level risk represents the abnormal situation of funds in individual indicators; Level 1 risk represents that money has been out of control.[10]

Table 1 Risk index and grade division of enterprise assisted construction contract

Payment ratio of cooperative construction contract	First level risk A	Secondary risk B	The security C
Pure labor funds X_1	[0.85,1.0]	[0.65,0.85]	[0,0.65]
Migrant workers pay security deposit X_2	[0.9,0.1]	[0.7,0.9]	[0,0.7]
Performance bond X_3	[0.75,0.1]	[0.55,0.75]	[0,0.55]
Advance payment	[0,0.1]	[0.1,0.3]	[0.3,1.0]
Contract labor and materials, professional subcontracting X_4	0,0.05]	[0.05,0.1]	[0.1,1.0]
Earthwork, landfill project X_5	[0.8,1.0]	[0.5,0.8]	[0,0.5]
Guarantee of quality X_6	[0,0.2]	[0.2,0.3]	[0.3,1.0]

According to the analysis of the flow chart of support vector machine algorithm shown in FIG. 2 below, it can be seen that, as a generalized linear classifier that carries out binary classification of data according to the supervised learning method, the decision boundary is the maximum marginal hyperplane to solve the learning sample, which can transform the problem into a problem of solving sudden quadratic programming. Compared with neural networks and logistic regression algorithms, support vector machine algorithm provides a more clear and effective way to learn complex nonlinear equations. From the point of view of practical application, it is to find the optimal classification hyperplane of two kinds of samples in the original space in linear separable. In the case of linear inseparability, adding relaxation variables and using nonlinear mapping, the sample mapping in the low-dimensional input space is transformed into linear separability in the high-latitude space, so that the optimal classification hyperplane can be found in this feature space.

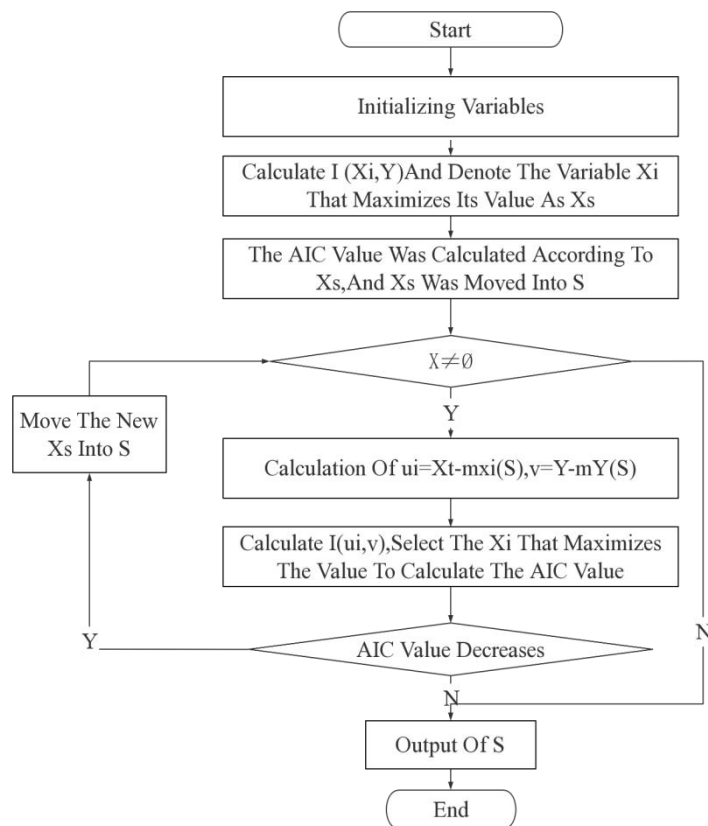


Figure 2 Flowchart of support vector machine algorithm

On the one hand, this application algorithm can solve the problem of computer learning with small samples, simplify the common problems of classification and regression, and will use slack variables to allow the distance of the classification plane of some points to not meet the original requirements, so as to avoid the impact of these points on model learning. On the other hand, this algorithm is difficult to deal with large-scale training samples. The classical support vector machine algorithm only proposes binary classification algorithm, but it needs to solve multiple classification problems during data mining, so support vector machine can not achieve ideal results when solving multiple classification problems. At the same time, there is a timely relationship between the effect of SVM algorithm and the choice of kernel function. It is often necessary to try a variety of sum functions. Even if the Gaussian kernel function with better effect is selected, the corresponding parameter value should be adjusted.

2.2 BP neural network algorithm

According to the current situation of credit evaluation of subcontractors, the final result is greatly affected by subjectivity. Therefore, some scholars proposed in the study that the construction of credit evaluation indicators of subcontractors should be completed by using BP neural network, and the three factors of operability, importance and comprehensiveness should be fully considered as the preferred indicators. Among them, maneuverability means that in the process of selecting data, the difficulty of data acquisition and whether it can be quantified are fully considered. Importance refers to whether the obtained data can reflect the credit, so as to guarantee the scientific nature and perfection of the evaluation on the basis. Comprehensiveness refers to the completeness of accounting information of collaborative construction, including all information before, during and after the event.

On the basis of the integration of research, this paper financial subcontractor credit evaluation model in the design of intelligent collaborative system as shown in figure 3, the primary index related to the performance situation, safety assessment, operating conditions, competitive strength

and credit situation, the secondary index contains the security situation, the construction progress, income, accounting, etc.

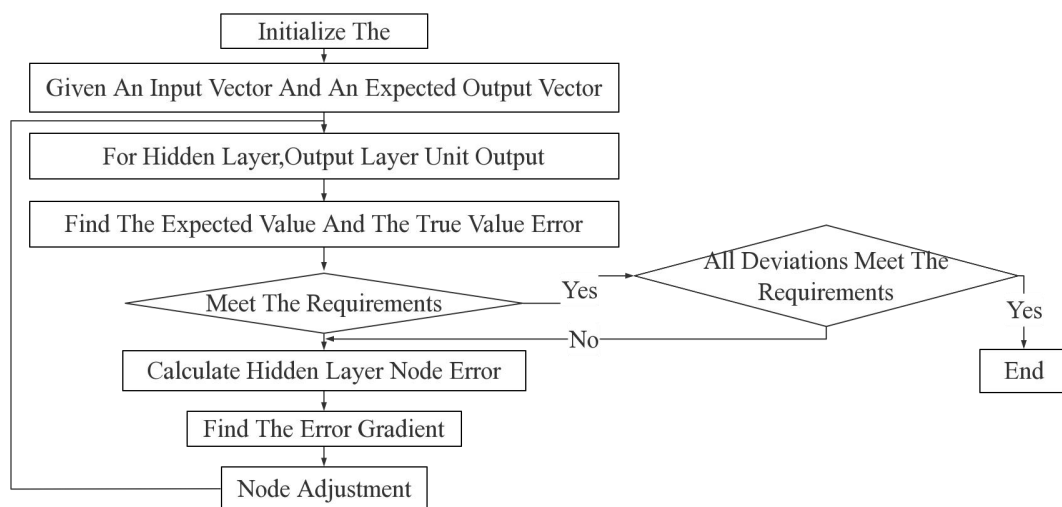


Figure 3 Flowchart of subcontractor credit evaluation model

Because BP neural network has the technical characteristics of signal forward transmission, error back propagation and so on, the overall topology structure is more, contains a number of independent neurons, will use the full coefficient to connect each level, so it can play a positive role in the operation of financial intelligent cooperation system. The specific structure is shown in Figure 4 below:

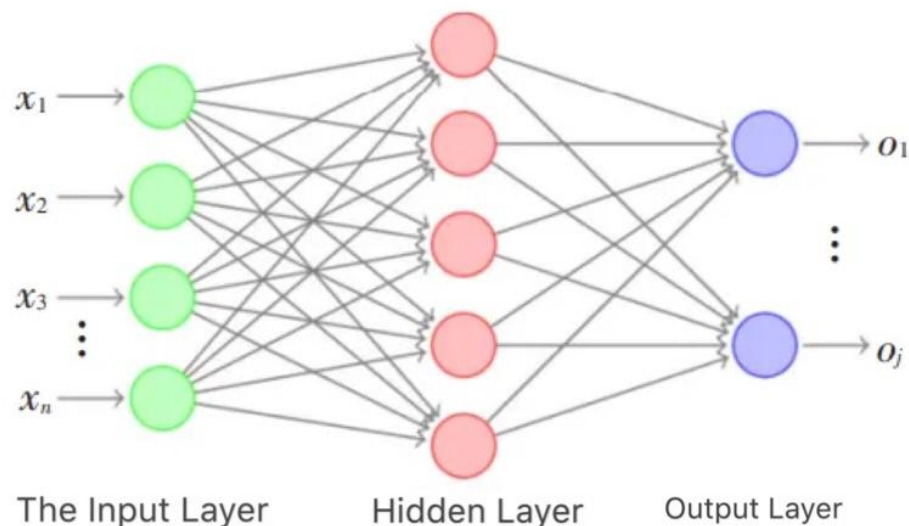


FIG. 4 Structure diagram of BP neural network

According to the analysis of flow chart, the overall operation is divided into three parts: First, the sample data should be input into the network structure, and the data set is divided into two forms, one refers to the test set, the other refers to the training set. According to the existing network threshold and weight values, the sample data should continue to operate according to the predefined rules. In the process of sample data operation, all neurons have to play the role of transmission operation, and through the last layer to get the final operation result; Secondly, the output result of the previous step is compared and analyzed with the size of the initial setting value. If it does not reach the ideal state, the full time and operation value of the network must be adjusted, and the interference degree of the error caused by the two values obtained is referred to the reverse order calculation. Finally, the second step is repeated until the governance criteria are met, and the

appropriate results are output to end the learning process. The whole training object is the pre-processed value, the learning rule is the minimum error between the expected output and the actual output, and the threshold and weight can reach the specified range after constant adjustment, so as to end the model learning.

3. Result analysis

In this paper, 100 sets of financial contract data of enterprises are randomly selected for experimental analysis, of which 85 sets are training sets and 15 sets are testing sets. The model is trained by using functions with a learning accuracy of 0.001 and a training frequency of 2000 times. The comparison between credit evaluation results of test sets and real data is shown in Figure 5 below:

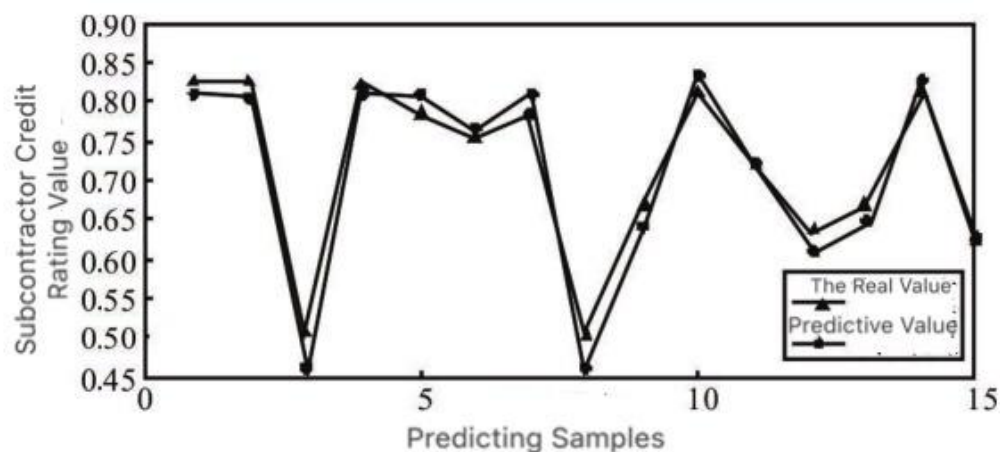


FIG. 5 Experimental comparison results

Combined with the analysis of the above figure, it can be seen that the sample test error is very small, with a gap of only 0.005, which proves the practicability of the credit evaluation model studied in this paper.

4. Conclusion

To sum up, under the development trend of economic globalization, if enterprises want to achieve sustainable development goals, they should not be satisfied with the current technological achievements, but should make optimization and innovation with the help of modern management methods. Nowadays, artificial intelligence, big data has been widely used, such as the Internet information technology, economic globalization to a certain extent changed each big enterprise management mode, enterprise in order to improve the financial comprehensive level, get more profit in the process of production and business operation, start to penetrate financial Shared schema into daily management activities, make it adapt to the development of the current market demand. Because enterprise financial management faces many risks, so the management should in the in-depth exploration and supervision management, build risk management awareness, pay attention to optimize the internal financial cooperation system, improve the overall management mode, in order to achieve the established development goals.

Acknowledgment

Project Name and No.: (Sub-project of "Fintech and Intelligent Finance" (Project No.: 2020074); 2020 Project of "13th Five-Year Plan": "Innovative" Financial Intelligence "under the Background of Digital Transformation" (Project No.: SGH20Y1489); 2018 (Project No.: 2018KC020)

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