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Internal Control of Supply Chain Risk Management in Sports Goods Enterprises under the Background of Artificial Intelligence

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Abstract Internal control of risk management is still the main problem faced by current sports goods enterprises in the supply chain operation. Supply chain risks have transmissibility and complexity, and have an important impact on the daily operation and development of sports goods enterprises. In order to reduce business losses and enhance supply chain risk response capabilities, this article took Anta Enterprise as an example and conducts in-depth research on the internal control of supply chain risk management (SCRM) in the context of artificial intelligence (AI) for this sports goods enterprise. It used Back propagation neural network (BPNN) to construct a supply chain risk assessment and control model. By training the network on known supply chain sudden risk assessment samples and determining parameters such as risk factor state variables, it achieves risk assessment and internal control. To verify the effectiveness of the model, this article took the 2022 supply chain operation data of Anta Enterprise as a sample and conducts empirical analysis of key risk factors from the perspectives of risk assessment and internal control. The results show that in internal control, the risk decomposition and control effectiveness results of the model for supply chain order completion rate, on time delivery rate, and information transmission accuracy were approximately 70.58%, 72.53%, and 66.00%, respectively. The empirical analysis results of this article indicate that the internal control of SCRM in sports goods enterprises under the background of artificial intelligence plays a certain role and significance in promoting the stable development of the enterprise supply chain.

Index Terms Supply Chain Risk Management, Artificial Intelligence, Sports Goods Enterprises, Internal Controls, Back Propagation Neural Network

I. Introduction

With the vigorous development of the sports industry, sports goods enterprises have ushered in broad development space in the market, while their market competition is also becoming increasingly fierce [1]. Taking Anta Sports Goods Enterprise as an example, the supply chain of Anta has effectively optimized its sports goods production cycle, but the accompanying risks are gradually becoming more complex. Supply chain risks not only have a negative impact on the operational efficiency of enterprises, but also hinder their normal operation [2]. How to effectively manage and control supply chain risks has become the primary consideration for sports goods enterprises in exploring their future development path. With the in-depth development of computer scientific theory, AI technology has made great progress and is widely used in various production fields. Artificial intelligence technology has the characteristics of efficiency and adaptability, which can accurately and quickly process data. In the internal control of SCRM, artificial intelligence models can be used to analyze enterprise business data and information in real-time, effectively conducting internal control and risk assessment. It minimizes the operational losses of enterprises and has important practical value for optimizing the supply chain management (SCM) of sports goods enterprises.

Internal control of SCRM plays an important role in the sustainable development of enterprise operations. Chang, Che-Wei proposed a grey sharing decision-making evaluation model for the movement of shoe production base and the sustainable operation of enterprises. He identified the most suitable country for production base relocation based on the grey situation decision-making algorithm of group knowledge and entropy, and optimized the risk management of enterprise supply chain. He finally demonstrated through the evaluation results that the model can effectively achieve internal control in the supply chain and promote sustainable development of the enterprise [3]. Zhang, Liye proposed a multi-attribute decision-making method based on normal random variables, and used the compromise Mean squared error and expected variance criteria of the criterion value to determine the order of the SCRM scheme. By establishing an optimization model to solve for the optimal criterion weight, he finally demonstrated through analysis that the algorithm can be widely applied in enterprise supply chain selection, investment decision-making, and internal control comprehensive evaluation [4]. Based on a combination of model and data-driven methods, Ivanov, Dmitry revealed the interrelationships between supply chain risk data, interruption modeling, and performance evaluation. The results indicate that this method can enhance the responsiveness of internal control decisions in SCRM, ensuring end-to-end visibility and business continuity of supply chain enterprises [5]. Vishnu, C. R. proposed a method combining systematic review and descriptive review. He introduced techniques for managing and modeling supply chain risk drivers to assist risk related decisions in the industry [6]. Currently, the internal control of enterprise SCRM has made good progress. With the changes in the supply chain environment, appropriate improvements and optimizations need to be made to the internal control of SCRM. Currently, research has not fully considered the issues of risk prediction and internal control management optimization.

The development of artificial intelligence technology has provided more possibilities for internal control of enterprise SCRM. Baryannis, George believed that artificial intelligence technology is suitable for identifying, assessing, mitigating, and monitoring supply chain risks. He conducted a comprehensive review of supply chain literature and investigated various definitions and classifications of supply chain risk, as well as related concepts such as uncertainty, proposing directions for the integration of internal control and AI in enterprise SCRM [7]. Helo, Petri analyzed the application of internal control in SCRM driven by artificial intelligence in the context of artificial intelligence. He evaluated artificial intelligence solutions related to SCRM and determined the effectiveness of artificial intelligence in the application of internal control in SCRM [8]. With the assistance of artificial intelligence technology, internal control of enterprise SCRM has achieved further development, but most studies have not provided more effective guidance for internal control of risk management by combining practical problems in enterprise development. They only explored the application of artificial intelligence technology in internal control of SCRM from a theoretical perspective.

In order to enhance the SCRM and response capabilities of sports goods enterprises, and promote their healthy growth, this article conducts in-depth research on the internal control of SCRM in sports goods enterprises, combined with the background of artificial intelligence. They conducted empirical analysis on the supply chain risk assessment and control model constructed from two perspectives: risk assessment and internal control. With the support of BPNN, the model can effectively evaluate and predict risk factors accurately, and achieve effective decomposition and control of risks. In practical applications, internal control of SCRM in sports goods enterprises under the background of artificial intelligence can effectively ensure the safety of supply chain operation and promote the stable development of enterprises.

II. Internal Control of SCRM for Sports Goods Enterprises

II. A. Internal Control of Anta SCRM

II. A. 1) Development Situation

Anta Enterprise was established in the early 1990s and, after continuous exploration and growth, was listed on the Hong Kong Stock Exchange in 2007 [9]. Up to now, Anta has become one of the well-known enterprises in China's sports goods industry. It has a wide variety of brands, covering almost all sports products in the sports market, mainly including the design, development, production, and sales of sports shoes and clothing. As a practitioner of implementing the unified operation and management system for the production, purchase and sales of sports goods, it established its exclusive stores for the first time in various regions of China in 2001, and transformed from a single product centered business model to a multi brand centered business model. As of the end of 2022, Anta has over 6000 stores in various regions and has a relatively complete marketing network.

In 2015, Anta's annual revenue exceeded the 10 billion mark and achieved a revenue performance of 11.126 billion yuan; In 2018, Anta Company's annual operating revenue reached 24.121 billion yuan, and its operating revenue achieved stable growth [10]. By 2022, Anta Company had achieved a total annual revenue of 53.651 billion yuan, an increase of approximately 8.8% compared to the same period last year. The specific revenue situation from 2015 to 2022 is shown in Figure 1:

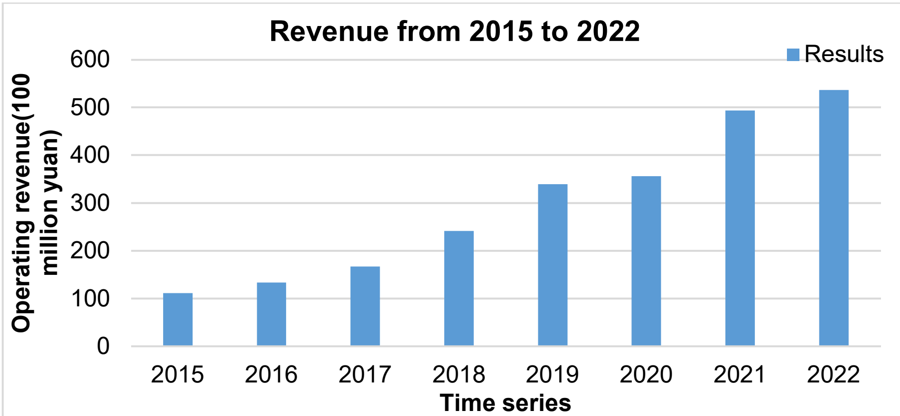

Figure 1: Anta's revenue from 2015 to 2022

From the statistical data in Figure 1, it can be seen that with the development and expansion of the enterprise, Anta's operating revenue has shown a stable upward trend in recent years.

II. A. 2) SCM

At present, Anta's main business is designing, developing, manufacturing, and marketing sports goods. Its profit model mainly includes five aspects:

Sales of sports goods: Anta Enterprise's main business is the sales of various sports goods such as sports shoes and clothing. Anta can increase brand awareness by launching new sports products and generate more sales revenue from meeting customers' demand for sports products.

(2) Hosting sports competitions or events: In addition to selling sports goods, Anta Enterprises would promote their brand through sponsoring sports events or hosting various sports activities in their daily operations, in order to attract and expand more consumers.

(3) Store Monopoly: Anta has established multiple chain stores in various regions to expand its sales channels and increase its sales performance. With its diversified business methods, Anta has achieved revenue and profit growth at multiple levels and maintained a high-speed development trend.

(4) Building an online e-commerce platform: Currently, Anta not only has a relatively mature offline store monopoly system, but also has developed an online sales platform. This allows customers to purchase Anta's products anytime and anywhere, effectively expanding their sales channels and improving their sales of sports goods.

(5) Expanding overseas markets: Anta has conducted a series of marketing activities worldwide, promoting its brand image and products internationally, thereby further enhancing its global awareness and sales.

The supply chain is the internal process of Anta sports equipment material procurement, production planning, logistics transmission, and marketing. It specifically refers to the process of transferring the sports equipment raw materials purchased externally by Anta enterprises to stores and users through production planning, logistics transmission, and marketing activities. In response to Anta's diversified profit model, Anta has adopted a vertically integrated SCM model in the supply chain, as shown in Figure 2.

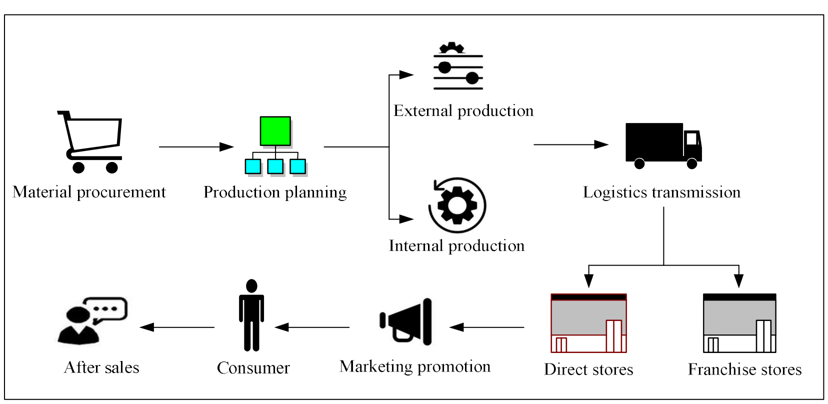

Figure 2: SCM mode

Supply chain integration can enable enterprises to have strong interaction and participation in all aspects of the entire supply chain, including procurement, production planning, logistics transmission, and marketing activities [11]. The design of sports equipment is entirely under the independent responsibility of Anta. Raw material procurement is obtained from designated suppliers, and then processed and manufactured through their own production or outsourcing. In production planning, Anta has achieved real-time management of production lines, standardized operation, and control of product quality through modern production technology. It has also adopted methods of in-house processing and outsourced processing to improve production efficiency. In terms of logistics transmission, Anta has formed a complete global logistics network by utilizing its own warehouse and third-party logistics cooperation. It has constructed a logistics model that complements the distribution of stores nationwide, with centers, regions, and sub warehouses. This can meet the personalized logistics service needs of customers in different regions, and the supply chain logistics transmission mode is shown in Figure 3.

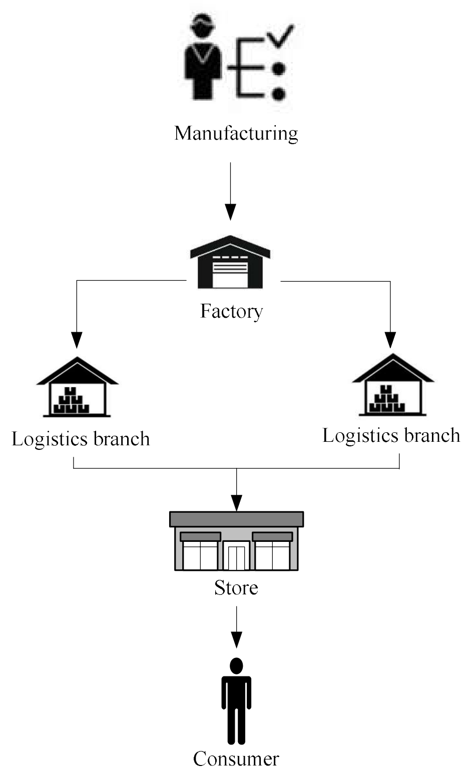

Figure 3: Logistics transmission mode

II. A. 3) Supply Chain Risks and Internal Control Deficiencies

Supply chain risks not only hinder the normal operation of node enterprises in the supply chain, but also pose a threat to the safe operation of the entire supply chain. This can prevent each link in the supply chain process from achieving their respective goals within a specific time frame, resulting in reduced operational efficiency, increased costs, and even the collapse of the supply chain network. SCRM mainly includes the design of supply chain organizational structure and the methods and measures taken by node enterprises to respond to risks [12], [13]. The main purpose of internal control is to achieve timely prevention and evaluation before risks occur, and to achieve effective decomposition and control after risks occur. From the perspective of actual development, Anta's supply chain risks and internal control deficiencies are mainly reflected in four aspects:

(1) Difficulty in achieving real-time feedback

Anta Company has been using traditional distribution methods since its inception, and distributors purchase at an annual ordering event organized by Anta Company. Dealers' operating income after completing transactions is accounted for in Anta Company's annual revenue. Afterwards, the dealers would operate independently of the dealership and bear their own profits and losses. Although this mode allows Anta to confirm revenue after placing an order, traditional distribution methods do not allow Anta to monitor the inventory status of each dealer in real-time. Meanwhile, the agency relationships among various distributors are very complex, making it difficult to achieve a reasonable distribution of profits. The traditional distribution method makes it difficult for the entire supply chain to effectively achieve overall circulation, resulting in long product development cycles and difficulties in achieving real-time feedback in all aspects of the supply chain.

(2) Lack of accuracy in supply chain information

The production and sales of sports goods largely rely on supply chain information. From this perspective, how to quickly and accurately transmit information is the key for sports goods enterprises to adapt to the market and meet consumer needs. However, Anta's current supply chain is still difficult to achieve sufficient and accurate information transmission. In the supply chain, Anta obtains order data and information, mostly collected by various departments and distributors from major agents and distributors, and then makes predictions. These data are not the first party data of Anta, and coupled with Anta's inventory management system, in a sense, the order data and information obtained by Anta often have certain deviations from actual operating data.

(3) Failure of supervision and evaluation of internal control in the supply chain

In the existing internal control system of Anta Company, the main body of internal control is the management, and the training on internal control is only limited to middle and senior management, without achieving the participation of all employees. The overall structure of the internal control organization for SCRM has not been fully implemented, and the internal control team still lacks a certain degree of integrity and professionalism. Most of the internal control work is completed by various departments and project leaders, lacking supervision and evaluation of the internal control department. This can lead to a lack of comprehensive and necessary processes for supply chain risk linkage, and weak execution of risk management internal controls.

(4) Weak risk control system

There are numerous node enterprises distributed within the supply chain, and their service types are diverse. Therefore, in risk management, it is necessary to have a strong control system to timely control potential major risks or emergencies. When relevant situations occur, it can quickly respond and decompose risks to minimize losses [14], [15]. However, the current risk control system of Anta Company is weak and mainly relies on offline manual management. When faced with uncertain factors, it is unable to effectively decompose and control risks in real-time. Enterprise managers have many unclear aspects in setting risk management goals and strategies, and their selection of risk assessment methods is not thorough enough, resulting in the inability to comprehensively control the supply chain operation process.

II. B.Artificial Intelligence Risk Assessment and Control Model

The enterprise supply chain is a complex and nonlinear system, and neural networks are also nonlinear when simulating the operation of the human brain. It can analyze and process uncertain information in supply chain risks with greater flexibility.

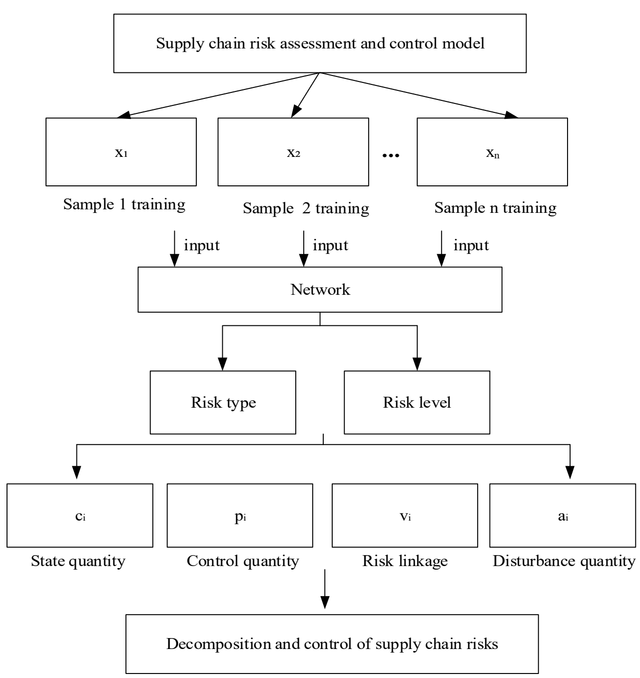

Figure 4: Supply chain risk assessment and control model

This article uses BPNN to construct a supply chain risk assessment and control model, first training and learning known samples, and then spreading them. By learning the experiential knowledge of supply chain risk types and levels, it is possible to determine the risk types and levels of unknown new samples. Then, by determining the risk factor state quantity, risk factor control quantity, risk factor disturbance quantity, and the risk correlation between each risk factor state quantity, supply chain risk prediction and risk decomposition can be carried out, which can provide reference solutions for internal control of risk management. The overall framework of the model is shown in Figure 4:

The BPNN used in this article is a standard three-layer structure, which mainly includes input layer, hidden layer, and output layer. Each layer is composed of corresponding units. The input layer contains m input units, each corresponding to m corresponding secondary risk assessment indicators. The risk assessment sample is composed of secondary risk assessment indicators; the hidden layer is composed of n units; the output layer contains l output units, and the neuron nodes between adjacent layers are connected. The corresponding supply chain risk categories and levels are shown in Table 1:

Table 1: Risk categories and risk levels

Risk sequence	Risk category	Rank sequence	Risk level
1	Production risk	0	Normal
		1	Low risk
		2	Medium risk
		3	High risk
2	Demand risk	0	Normal
		1	Low risk
		2	Medium risk
		3	High risk
3	Logistics risk	0	Normal
		1	Low risk
		2	Medium risk
		3	High risk
4	Information risk	0	Normal
		1	Low risk
		2	Medium risk
		3	High risk

According to Table 1, this article establishes a supply chain risk evaluation index system, as shown in Table 2:

Table 2: Supply chain risk evaluation indicator system

Risk sequence	Risk category	Risk factor sequence	Secondary indicators
1	Production risk	F1	Case fill rate
		F2	Order fulfillment rate
		F3	Qualified rate
		F4	Return rate
2	Demand risk	F5	Customer churn rate
		F6	Number of orders
		F7	Order changes
		F8	Customer financial status
3	Logistics risk	F9	Be out of stock rate
		F10	On time delivery rate
		F11	Inventory readiness rate
		F12	Customer complaint rate
4	Information risk	F13	Real time information transmission
		F14	Accuracy of information transmission
		F15	Frequency of information exchange
		F16	Information personnel

In the forward propagation of signals, for each input sample x in the training set, the output value of each neuron i in the hidden layer is:

$$S_i^t = h^t\left(\sum_{j=1}^{m} w_{ij}^t x_j + \delta_i^t\right), i = 1,2,\cdots,n \tag{1}$$

The output value of each neuron k in the output layer is:

$$S_k^r = h^r\left(\sum_{i=1}^{m} w_{ki}^r S_i^t + \delta_k^r\right), k = 1,2,\cdots,l \tag{2}$$

Among them, the connection weight from the kth unit of the output layer to the ith unit of the hidden layer is w_{ki}^r. So, the calculation of network error is expressed as:

$$E = \frac{1}{2}\sum_{k=1}^{l}(D_k - S_k^r)^2 \tag{3}$$

Among them, D_k is the expected output of the neuron.

In the backpropagation of errors, update the weights of output layer neurons:

$$\Delta w_{ki}^r = \eta \mu_{ki} S_i^t \tag{4}$$

Among them, η is the learning rate.

Update the hidden layer neuron weights to:

$$\Delta w_{ij}^t = \eta \mu_{ij} x_j \tag{5}$$

Repeat the above process until the network error is low enough.

Then it is necessary to determine the parameters of supply chain risk factors, mainly including state variables, control variables, and disturbance variables. Set their corresponding risk state quantities as $c_i(i = 1,2,\cdots,n)$; the risk control quantities are $p_i(i = 1,2,\cdots,n)$ respectively; the corresponding risk associations for each state are $v_i(i = 1,2,\cdots,n)$; the disturbances are $a_i(i = 1,2,\cdots,n)$ respectively. The supply chain risk prediction and decomposition control are expressed as:

$$x_i(k+1) = c_i(k) + p_i(k) + v_i(k) + a_i(k) \tag{6}$$

$$x_i(k) = x_{ki}, i = 1,2,\cdots,n \tag{7}$$

Finally, based on the predicted and decomposed control results, quantitative analysis can be provided for internal control of SCRM.

III. Empirical Analysis of Internal Control in SCRM

To verify the effectiveness of internal control in SCRM of sports goods enterprises under the background of artificial intelligence, this article conducts an empirical analysis on it. Taking Anta Enterprise as an example, the effectiveness of the supply chain risk assessment and control model in this article is verified from two aspects: risk assessment and internal control.

Before evaluating supply chain risks, it is necessary to identify the corresponding risks. This article conducts risk factor analysis and investigation, based on the risk categories in Table 1 and the risk evaluation indicator system in Table 2. Based on the actual operation of Anta's supply chain, this article designed a risk survey questionnaire and surveyed employees at various nodes in the supply chain. It investigates and analyzes the risks and related factors faced by the current supply chain through employees. A total of 216 questionnaires were distributed and 203 valid questionnaires were collected. This article analyzes the interrelationships between various indicators that affect the risk of Anta's supply chain. Based on the survey results, a direct impact matrix is formed, as shown in Table 3:

Table 3: Direct impact matrix

Risk factor sequence	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	F14	F15	F16
F1	0	0	2	0	0	0	1	0	0	0	3	0	1	0	1	0
F2	0	2	0	0	0	0	2	0	1	0	0	1	2	0	0	0
F3	0	0	0	0	2	0	3	0	0	0	0	0	0	0	0	0
F4	1	0	0	3	3	0	2	0	0	0	0	0	0	0	0	0
F5	3	0	0	2	0	1	0	0	0	1	1	0	0	1	3	0
F6	3	1	3	0	0	2	0	0	0	1	1	0	0	0	0	0
F7	1	0	0	1	0	0	2	1	3	0	1	0	0	0	1	1
F8	1	0	2	0	1	0	0	0	0	0	0	0	0	0	1	2

F9	0	3	1	0	1	1	3	0	0	2	0	1	0	0	0	0
F10	0	0	0	0	2	0	0	2	0	0	0	1	1	3	0	1
F11	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
F12	3	0	3	0	0	0	0	0	1	0	0	0	0	0	2	0
F13	2	0	2	1	0	0	0	0	0	0	2	0	0	0	0	1
F14	0	1	1	1	3	1	1	0	0	1	1	0	2	0	0	1
F15	0	1	1	3	0	2	0	1	0	2	1	3	1	0	1	0
F16	3	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0

This article standardized the direct impact matrix in Table 3 and concluded that the key factors for Anta's supply chain risk were F2, F10, and F14, namely order completion rate, on time delivery rate, and information transmission accuracy.

(1) Risk assessment

In the risk assessment, this article takes the operational data of the Anta supply chain system for the entire year 2022 as a sample, randomly selects 120 operational data to form a sample set, and sets the ratio of the training set to the testing set to be 7-3. The number of samples in the training set is 84, and the number of samples in the test set is 36. This article trains the training set samples of the supply chain risk assessment and control model, and the performance test results of some sample network training are shown in Figure 5:

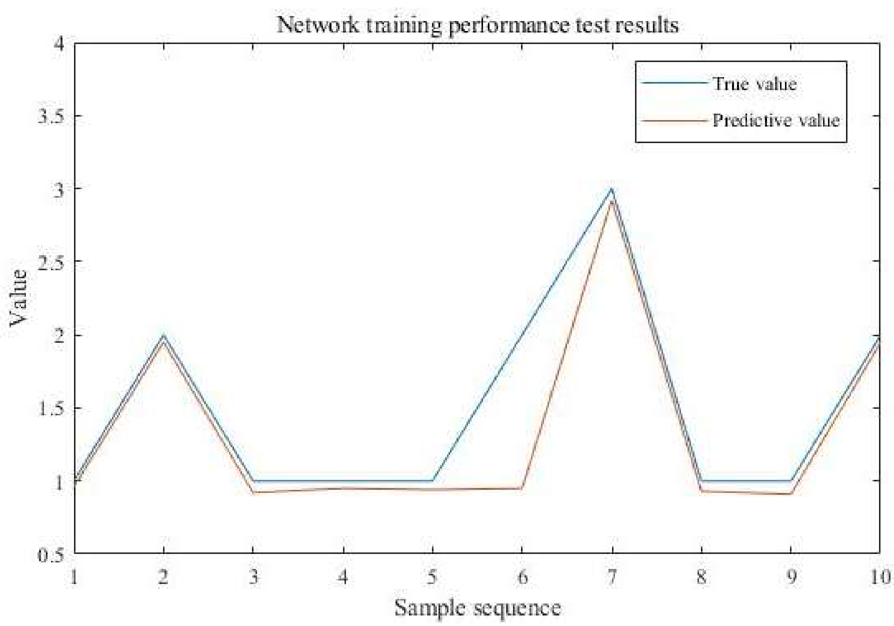

Figure 5: Training performance test results of some sample networks

In Figure 5, the horizontal axis represents the sequence of some samples, and the vertical axis represents the performance test results of the sample network training. According to the classification and description of risk levels in this paper, the supply chain risk Elo rating system were normal, low risk, medium risk and high risk, and their corresponding serial numbers were 0, 1, 2 and 3 respectively. Among them, the true values of 10 samples were 1, 2, 1, 1, 1, 1, 1, 3, 1, 1, and 2, respectively; the predicted values were 0.96, 1.95, 0.92, 0.95, 0.94, 0.95, 2.92, 0.93, 0.91, and 1.95, respectively.

The sample error results are shown in Table 4:

Table 4: Sample error results

Sample sequence	True value	Predictive value	Error result
1	1	0.96	0.03162
2	2	1.95	0.01146
3	1	0.92	0.01703
4	1	0.95	0.01109

5	1	0.94	0.02211
6	1	0.95	0.01035
7	3	2.92	0.01262
8	1	0.93	0.01557
9	1	0.91	0.02011
10	2	1.95	0.01254

From the results in Table 4, it can be seen that the deviation between the network simulation results and the expected results is small, indicating that network training is effective and can be used for risk assessment.

In risk assessment, this article randomly selects 10 sample data from the test set and aims to evaluate key risk factors. The supply chain risk assessment and control model constructed in this article conducted risk assessment tests on the order completion rate, on time delivery rate, and information transmission accuracy of each sample data. The number of tests is set to 20 (the final test results are taken as the average). The accuracy of supply chain risk assessment based on the BPNN model in this article is shown in Figure 6:

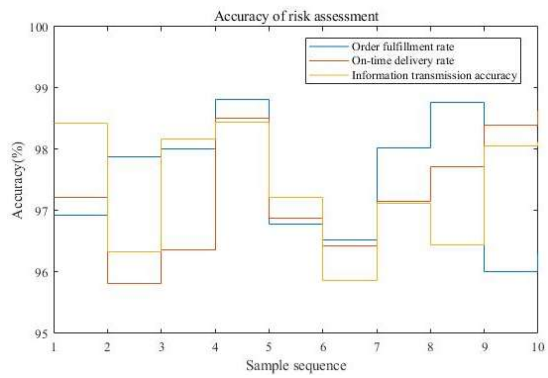

Figure 6: Accuracy results of risk assessment

In Figure 6, the horizontal axis represents the sequence of random samples, and the vertical axis represents the accuracy results of the supply chain risk assessment of the model. From the specific results, the supply chain risk assessment and control model based on BPNN in this article has relatively ideal performance in terms of risk assessment accuracy. In the risk assessment of supply chain order completion rate, the average accuracy of risk assessment under different samples reached about 97.41%; in the risk assessment of on-time delivery rate in the supply chain, the average accuracy of risk assessment was about 97.31%; in the risk assessment of supply chain information transmission accuracy, the average accuracy of risk assessment for random samples in this model reached 97.42%.

(2) Internal control

In the internal control of enterprise SCRM, risk prediction, risk decomposition and control have a decisive impact on the effectiveness of internal control work. This article analyzes the risk prediction accuracy and risk decomposition and control effectiveness of the supply chain risk assessment and control model based on 10 randomly selected samples in the risk assessment accuracy test. Among them, the accuracy of risk prediction is measured by the relative error (RE) of the model's prediction, as shown in Figure 7. The results of model risk decomposition and control effectiveness are shown in Figure 8:

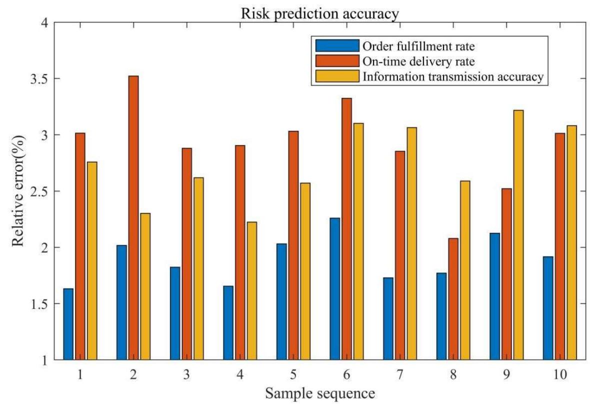

Figure 7: Risk prediction accuracy results

In Figure 7, the horizontal axis represents the sequence of random samples, and the vertical axis represents the relative error result of the model's risk prediction. Generally speaking, the larger the relative error, the less ideal the risk prediction accuracy effect. In the risk prediction of supply chain order completion rate, the average relative error under different samples was approximately 1.8961%. In the risk prediction of on-time delivery rate and information transmission accuracy in the supply chain, the average relative error results under different samples were about 2.9140% and 2.7523%, respectively. From the perspective of accuracy results, this model can achieve relatively accurate risk prediction. Under the BPNN, relevant factors such as the state quantity of risk factors and the control quantity of risk factors in the supply chain can be effectively determined, providing objective support for risk prediction.

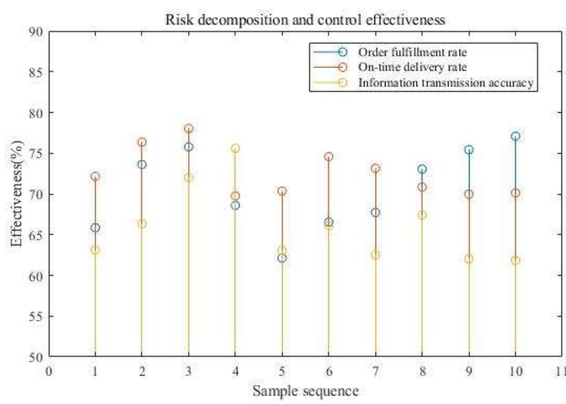

Figure 8: Risk decomposition and control effectiveness results

In Figure 8, the horizontal axis represents the sequence of random samples, and the vertical axis represents the risk decomposition and control effectiveness results of the model. In the risk decomposition and control of supply chain order completion rate, the average effectiveness results of the model were about 70.58%. In the risk decomposition and control of supply chain on-time delivery rate and information transmission accuracy, the average effectiveness results of the model were about 72.53% and 66.00%, respectively. From the specific results, it can be seen that the model in this paper has a relatively ideal effect in risk decomposition and control, and can effectively decompose and control risks in the supply chain system.

IV. Conclusions

Under the sustained development of the social economy and sports industry, the supply chain competition of sports goods enterprises can largely determine whether they can occupy a favorable position in the market. Currently, many sports goods enterprises have a complex supply chain development environment, and any risk in the supply chain would have a serious impact on the development of the enterprise. In order to enhance the SCM and risk response capabilities of enterprises, this article conducted effective research on internal control of SCRM in sports goods enterprises under the background of artificial intelligence. The supply chain risk assessment and control model constructed in this article not only significantly improves the accuracy of supply chain risk assessment, but also effectively improves the internal control of enterprise risk management, achieving more ideal risk prediction, risk decomposition and control effects. Although the research on internal control of SCRM in sports goods enterprises under the background of artificial intelligence has a certain guiding role in promoting stable development of enterprises, there are still certain shortcomings in the research of this article. In future research, it would consider analyzing supply chain risk factors from more perspectives, in order to promote the safe and sustainable development of sports goods enterprises in the market.

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Data Availability Statement
Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

Conflicts of Interest
These are no potential competing interests in our paper. And all authors have seen the manuscript and approved to submit to your journal. We confirm that the content of the manuscript has not been published or submitted for publication elsewhere.

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