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Stability Evaluation of Sustainable Development Ability of Financial Management of Environmental Protection Companies Facing Artificial Intelligence

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Abstract: As the economy continuously develops, environmental problems are becoming increasingly serious. Companies need to improve their competitiveness if they want to continue to develop steadily. In order to compete for customers and expand the scale of sales, companies would carry out various credit sales methods to attract more customers and gain more profits under the fierce marketization, but at the same time, a large amount of waste would be discharged into the ecological environment, resulting in ecological damage and environmental pollution. This has seriously affected the economic benefits. Therefore, it needs to be scientifically and effectively controlled and managed to achieve sustainable development. This paper proposed to apply Artificial Intelligence (AI) to the Financial Management (FM) of environment-friendly companies, analyze the stability of the sustainable development ability of company FM, and put forward countermeasures to realize the sustainable development strategy of environment-friendly company FM by analyzing the problems related to the implementation of the financial strategy of environment-friendly companies. Through the company development environmental protection index test, company sustainable development stability test and management model comprehensive scoring test of different environment-friendly companies, it was found that AI can effectively reduce the financial risk index in the FM of environment-friendly companies. The application of AI has improved the development and environmental protection index of companies. The company FM model based on AI can improve the stability of the sustainable development ability of environmental protection company FM. Applying AI to company FM can improve its comprehensive score, and the comprehensive score of management mode has increased by 7.8%.

1. Introduction

1.1 Background and Significance

With the progress of society, environmental issues have become a topic that all companies are facing and need to pay attention to. In information age, it is particularly important to research and optimize FM. Therefore, in the current situation of fierce competition, diversification of interests and ever-changing and complex market environment, it has become a problem for every industry to continuously improve its competitiveness and obtain sustainable development advantages. Therefore, it is necessary to analyze the stability of the sustainable development ability of the FM of the guaranteed companies.

1.2 Evaluation Status

Many scholars have studied the development of company FM. Tkachenko Volodymyr. has studied the development process and efficiency of managing company financial potential under modern market conditions. Increasing financial potential and ensuring the absolute stability of the market would bring competitiveness and investment attraction, strengthening the interests of stakeholders and further entering the international market [1]. Sosnovska Olga provided companies with an appropriate level of financial security by establishing a flexible financial architecture. Ensuring an appropriate level of financial security would help to achieve financial sustainability and form high-quality financial potential [2]. Valaskova Katarina assessed the financial risks of companies by identifying the important and decisive factors affecting the prosperity of companies [3].

Anyakoha Chukwunonye studied the impact of strategic management on corporate profitability, revenue and sustainability, and the challenges faced in implementing strategic management. The results showed that there is a significant positive correlation between strategic management and corporate profitability, revenue and sustainability [4]. PHAM Cuong Duc investigated the impact of capital structure on the financial performance of companies listed on the stock market, and suggested that companies focus on stabilizing the macro environment and creating a good environment for companies [5]. The above studies have achieved good results, but new problems have emerged with the continuous updating of technology.

Many researchers have applied AI to company FM. Wei Lin has designed a set of distributed unstructured text data security analysis system using AI technology, which reduced the dependence on manual bookkeeping, and reduced the human cost of companies [6]. Tan Zhiqi discussed how to do a good job in risk prediction of company FM with the optimization of BP (Back Propagation) neural network algorithm as the core. The final experimental results showed that BP neural network algorithm has research value in company FM risk prediction [7].

Through the construction of financial security early warning system, Cao Yali can diagnose crisis signals as soon as possible, and prevent and solve crisis signals in a timely and effective manner [8]. Azman Nurul Akmar has established an automatic bookkeeping system based on AI, and introduced AI and methods for automatic bookkeeping, making it simpler and more efficient for companies at all levels [9]. The above research showed that AI can optimize the FM of companies, but there are still some problems.

1.3 Evaluation Content

In order to solve the problem of economic benefits in environment-friendly small and medium-sized companies, this paper adopts AI technology, proposes practical and effective

solutions, discusses how to grow healthily, stably and rapidly into a powerful company in the increasingly fierce competition under the economic background of the future technology era, and gives corresponding suggestions from different angles. Through the experiment, it is found that the stability of the sustainable development ability of environmental protection companies' FM has been improved.

2. Evaluation on Sustainable Development of FM of Environment-friendly Companies

2.1 Financial Overview of Sustainable Development of Environment-friendly Companies

When designing, operating and formulating strategies, environment-friendly companies should take into account resource utilization and environmental protection to ensure that their investment strategies conform to the trend of sustainable development [10]. The theory of sustainable development emphasizes that companies should create harmony with human society and ecological environment in the process of economic development and improve the quality of economic development. The financial support provided by the financial strategy is an important prerequisite for the sustainable development of companies. Capital plays an important role in the development of companies. If an company wants to develop continuously, it must have sufficient financial resources.

2.2 Countermeasures to Realize the Sustainable Development Strategy of FM of Environment-friendly Companies

2.2.1 Appropriate FM System

The goal of company FM is determined by the ideology of company management and the goal of management. The goal of company governance is generally survival, growth and profit [11-12]. Because FM is a comprehensive value management activity, the internal differences between corporate governance and FM objectives are small to some extent, and can be considered to be basically the same. The logical connection between the objectives of FM and corporate governance comes from the logical connection between the activities of corporate FM and corporate governance. The power to manage an company comes from the owner of the company, that is, the owner's power. The authority of FM activities is usually delegated by the director. Therefore, the FM objectives formulated by companies are determined by their corporate governance activities.

2.2.2 Fully Collecting Information Required for Decision-making

Financial decision-making needs to collect a large amount of data, such as historical data, policies and regulations, market dynamics and forward-looking information. These data are time-consuming and error-prone in manual analysis. Therefore, computer technology must be used to establish appropriate mathematical models to improve accuracy and efficiency. Investment decision is the most critical and important business decision. Investment needs to be efficient and profitable. Risk awareness and risk aversion are very important. Investment must be profitable and can be rewarded in time to achieve success.

2.2.3 Optimizing Resource Allocation

In the era of knowledge economy, human capital would be the most important resource for companies, the whole society and economic growth, and also the most important factor determining the distribution of social wealth. Modern workers are knowledge workers. By becoming employees

of companies, human capital is actually introduced into companies. From the perspective of added value, the added value of physical capital is provided by human capital, and the added value of human capital is higher than that of physical capital. Taking the brand as the guide, through the efforts of excellent talents and high-quality services, developing target markets and consumer groups with the characteristics of the company can effectively solve the long-term survival and development problems of the company.

3. Sustainable Development Ability of AI in the FM of Environment-friendly Companies

3.1 Application of AI in Company FM

The application of AI in company FM is mainly divided into six modules: confirmation financial module, calculation financial module, analysis financial module, development prediction module, expert module and network module, as shown in Figure 1.

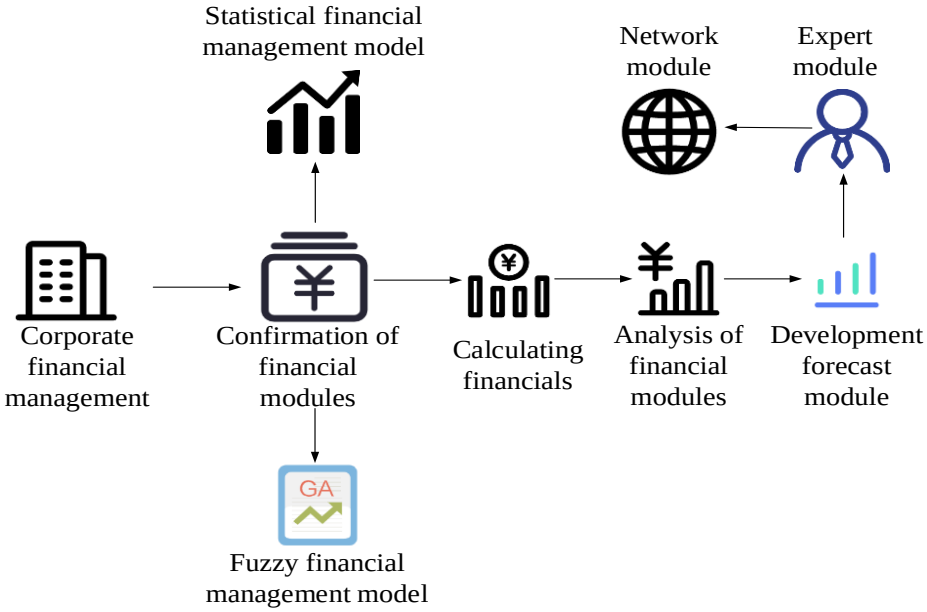


Figure 1: Application of AI in company FM

3.1.1 Calculation Financial Module

In traditional computational finance, the processing of accounts payable and receivable needs to retrieve and manually process thousands of transaction records, perform detailed write-off for invoices, and check current accounts. It also needs to record supplier payments and subsequent documents, and a lot of manual work. However, using robots instead of manual labor can not only complete the process in non-working hours, but also reduce the working hours, with few errors, and maximize efficiency and customer and supplier satisfaction.

3.1.2 Evaluation Financial Module

The AI system is very rigorous and meticulous. Its computing system can achieve more than 3 billion calculations per second, which is impossible for human computing speed to achieve. The AI system has very obvious advantages [13-14]. Therefore, the AI system can be used for the financial analysis of companies. The AI system compares and analyzes the financial data of companies, carries out professional integration, and designs a standard model after many verifications [15]. In

the model, any data in the whole model can be changed. Even if only one data is changed, it would cause huge changes in the three-dimensional and multidimensional space model. Through these changes, the FM problems become clearer. The changes of these data can be used to formulate company FM actions and identify potential opportunities. Some financial risks can be effectively prevented to avoid the loss of the company.

3.1.3 Development Prediction Module

The development forecast module has a significant impact on the FM of companies. The main purpose of company prediction is to formulate the FM plan for the next stage of the company according to the financial situation of the previous stage of the company, and realize the development goal of the company. Traditionally, business forecasting is mainly accomplished through manual data input and summary activities, which are not accurate enough and have some degree of volatility. AI analyzes company data from multiple perspectives, comprehensively analyzes the prediction of company costs, revenue costs, company liabilities and operating profits, and supplements the work that traditional company prediction cannot complete, which is worthy of promotion and application in company FM [16].

3.1.4 Expert Module

Expert module is an expert AI system with professional understanding, which can solve complex problems faced by companies. It uses function transformation to decompose complex economic problems into small sub-problems that are easy to solve one by one, and then combines these sub-problems one by one to form a complete solution. In the field of accounting and finance, many problems can be solved through expert FM systems. For example, in the field of FM, many financial ratio analysis systems have been developed by analyzing a large number of data. By comparing and analyzing a large number of data reported by companies, abnormal financial ratios can be found and management can be strengthened. In addition, audit and financial experts and financial analysts can gain a lot of valuable experience and knowledge from this process, which can be stored and accumulated in the knowledge base of the expert module.

3.1.5 Network Module

AI consists of neural network, which mainly simulates human neural system, effectively processes a large amount of data information, classifies these data information accurately and quickly, and then processes them by different special systems. After the above process is completed, the data information is integrated, classified and transferred to the original location. At present, the AI neural network system has been improved and widely used in many fields of company FM, such as potential financial crisis early warning, financial crisis diagnosis, financial information data quality monitoring, implicit financial data information extraction, etc. It can be said that in the aspect of company FM, the role of AI network neural network system has been fully affirmed.

4. Stability Evaluation of Sustainable Development Ability of FM of Environmental Protection Companies

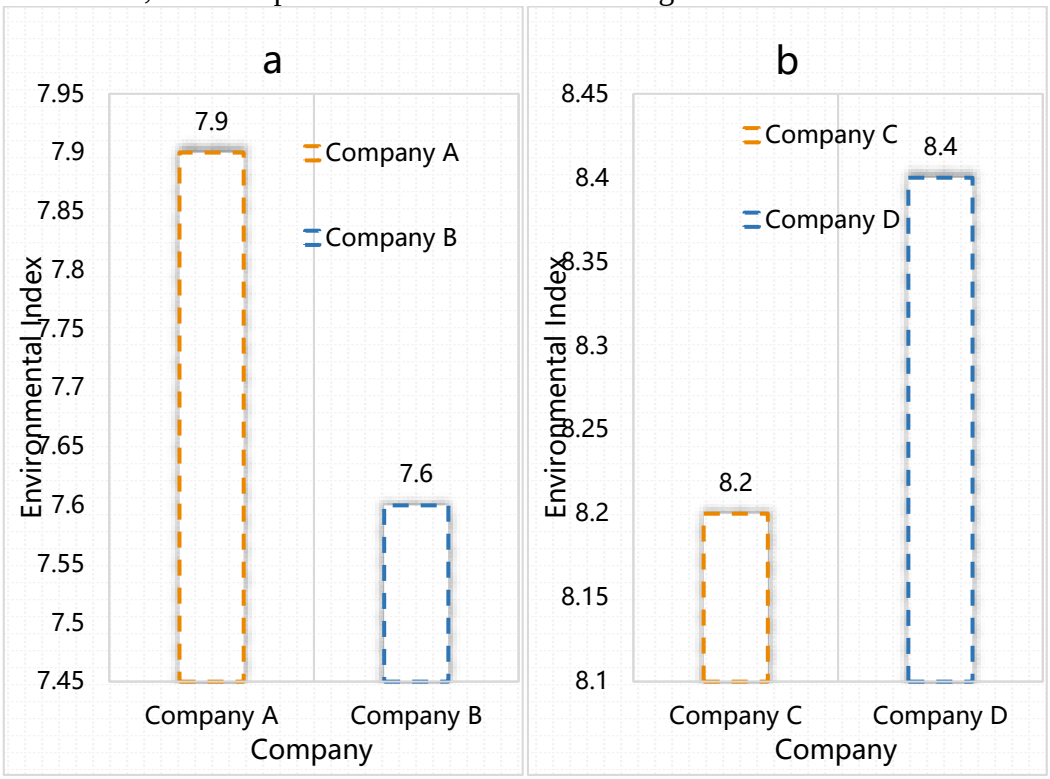
4.1 Experimental Process

In order to explore the impact of AI on the stability of the sustainable development ability of environmental protection companies' FM, the following experiments were carried out. Four environmental protection companies in a certain place were randomly selected and named as

Company A, Company B, Company C and Company D. Among them, Company A and Company B adopted the traditional company FM mode, while Company C and Company D adopted the company FM mode based on AI. They conducted the financial risk index test, company development environmental protection index test, company sustainable development stability test and management mode comprehensive scoring test on four companies, recorded the experimental results, and observed the improvement of AI on the FM of environment-friendly companies.

4.2 Company Development Environmental Protection Index Test

The higher the company's environmental protection index is, the more beneficial it is to the sustainable development of the company. The development environmental protection index score test was conducted for four companies. This paper observed the differences in the test results of the development and environmental protection index of four companies, and recorded and analyzed the experimental results, and the specific results are shown in Figure 2.



a. Company A and Company B environmental protection index b. Company C and Company D environmental protection index

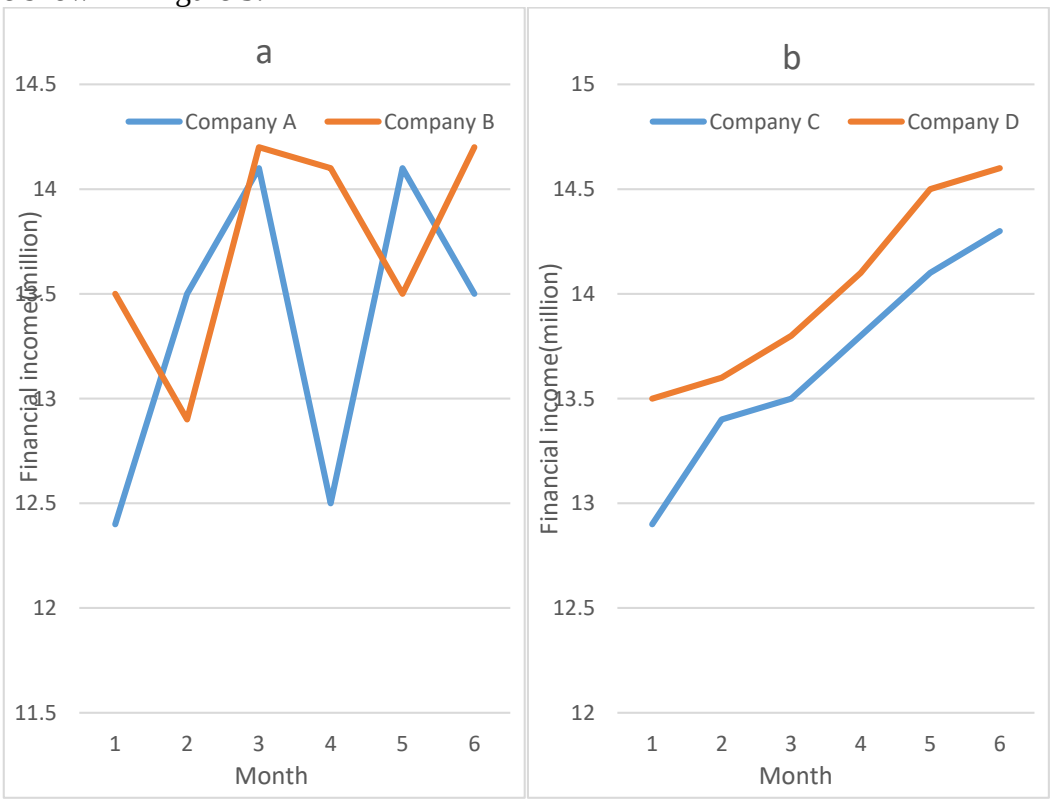
Figure 2: Company development environmental protection index test

As can be seen from Figure 2, Figure a shows the environmental protection index test results of Company A and Company B, and Figure b shows the environmental protection index test results of Company C and Company D. Among them, the environmental protection index of Companies C and D was significantly higher than that of Companies A and B. Company A's development environmental protection index was 7.9; Company B's development environmental protection index was 7.6; Company C's development environmental protection index was 8.2; Company D's development environmental protection index was 8.4. The company development environmental protection index using the traditional FM mode was between 7.5 and 8.0, and the company development environmental protection index using the FM mode based on AI was between 8.0 and 8.5. To sum up, the application of AI has improved the development and environmental protection

index of companies.

4.3 Stability Test of Company Sustainable Development

The stability of the sustainable development of a company determines its future. An excellent company's financial income must be very stable. The financial income of the four companies in the past six months was recorded, and the differences between the sustainable development stability test results of the four companies were observed. The results were recorded and analyzed. The specific results are shown in Figure 3.



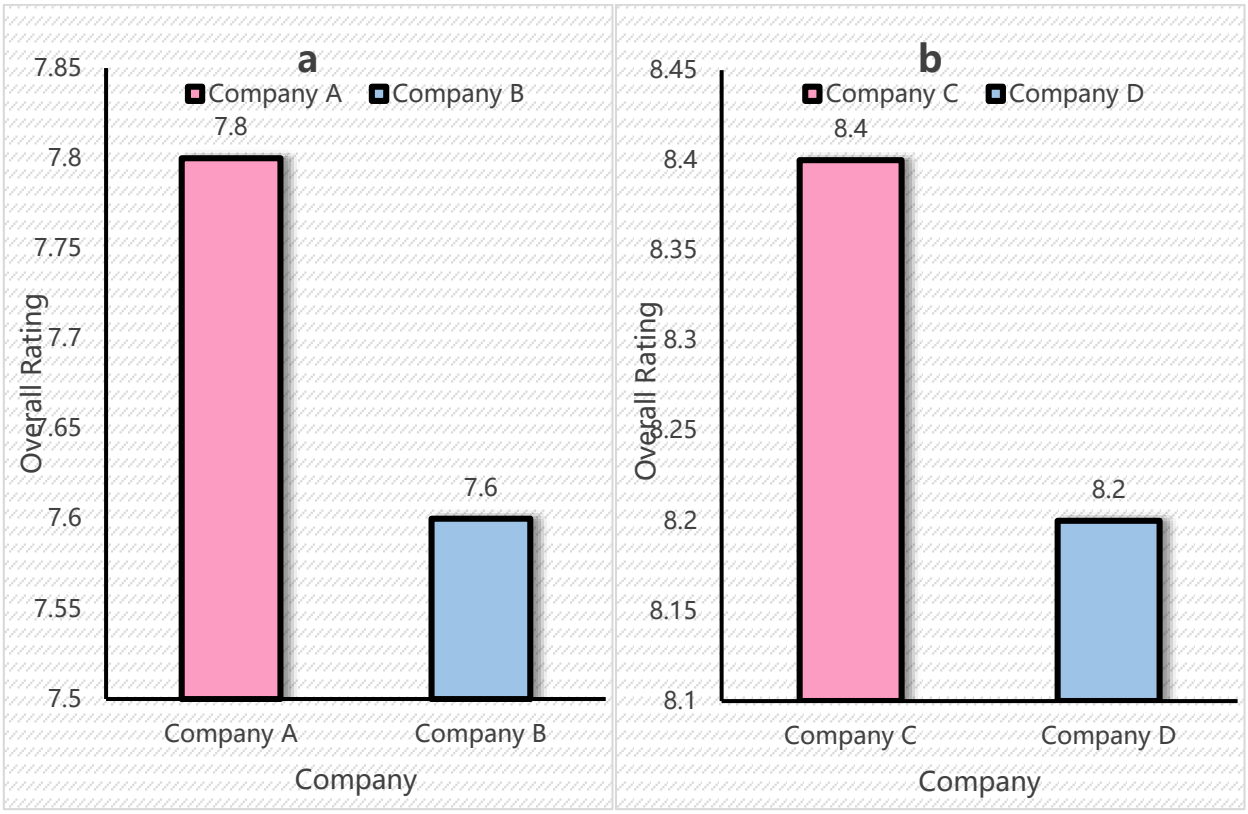
a. Stability of Company A and Company B b. Stability of Company C and Company D

Figure 3: Company sustainability stability test

As can be seen from Figure 3, Figure a shows the stability test results of Company A and Company B, and Figure b shows the stability test results of Company C and Company D. The financial income of the four companies was relatively stable, but the financial income of Company A and Company B fluctuated slightly, from high to low. The financial income of Company C and Company D showed an upward trend. To sum up, the enterprise FM model based on AI can improve the stability of the sustainable development ability of environmental protection enterprises' FM.

4.4 Comprehensive Scoring Test of Management Mode

The application functions of different enterprise management modes are different, and the comprehensive scoring results of their management modes are different. The administrator comprehensively scored the management modes of four enterprises, and recorded and analyzed the experimental results, and the specific results are shown in Figure 4.



a. Combined score of Company A and Company B b. Combined score of Company C and Company D

Figure 4: Management model composite score test

As can be seen from Figure 4, Figure a shows the comprehensive scoring results of Company A and Company B management models, and Figure b shows the comprehensive scoring results of Company C and Company D management models. Among them, the comprehensive score of Company A's management mode was 7.8; the comprehensive score of Company B's management mode was 7.6; the comprehensive score of Company C's management mode was 8.4; the comprehensive score of Company D's management mode was 8.2. The average comprehensive score of enterprises adopting traditional FM mode was 7.7, and the average comprehensive score of enterprises adopting AI FM mode was 8.3. To sum up, the application of AI in enterprise FM can improve its comprehensive score, and the comprehensive score of management mode has increased by 7.8%.

5. Conclusions

With the continuous development of economy, human beings pay more and more attention to environmental issues, and environment-friendly enterprises are an important part of society. However, at present, enterprises still have many deficiencies in environmental protection and ecological protection. At the same time, this paper also pointed out the problems faced by the current environmental protection enterprises in the collection and use of funds. From the perspective of FM, this paper discussed the use of AI technology to establish an enterprise FM model that can make long-term effective investment decisions and control costs and expenses in line with its own situation and future trends and can achieve the goal of sustainable development. Through the improvement of the enterprise FM model, it was found that the FM model based on AI can improve the stability of the enterprise's sustainable development and reduce the enterprise's

experimental risk.

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