

# Analysis of Business Management and Efficiency Issues from a Managerial Economics Perspective Based on the Data Mining

Shengbo Zhang\*

\* Corresponding author: b285924820@163.com

School of Management, South-Central Minzu University Wuhan (430074), China

**Abstract**—As the economy grows faster and faster, so does the speed and scale of enterprises. The direction and mode of operation of modern enterprises have changed, the original management model can no longer be used, and an excellent enterprise management model can enable enterprises to achieve long-term development and improve their own efficiency. This paper analyses the management and effectiveness of enterprises from the perspective of management economics based on the data mining. The author uses the data obtained to carry out analysis on three aspects of enterprise financial management, human resource management and information construction. It analyses in detail how to improve the management of enterprises and enhance their effectiveness, and makes suggestions for improvement of existing problems such as the lack of rational financial decisions, the lack of scientific assessment performance of human resources, and the failure to fully understand the relationship between the construction of information technology and the enterprise's own business operations, in order to improve the profitability of enterprises.

**Keywords:** Managerial economics, Business management, financial management, Effectiveness

## 1 INTRODUCTION

With the continuous and rapid development of the economy and society, enterprise management has ushered in an unprecedented major development opportunity. How to adopt effective methods and strategies to improve the overall effectiveness of enterprise management has become one of the focal issues in how to improve the effectiveness of enterprises and has attracted much attention from the enterprise management industry. The various components of China's enterprise management model are now human production management, sales management, financial management, etc. These management models form a dependency as well as a linkage relationship with each other. The efficiency of a business is inextricably linked to the day-to-day content of its management. If the management of a business is scientific and standardised, it will enable the business to obtain numerous revenues and maximise its economic benefits. This is why the focus of this research is on how to improve business management and therefore business efficiency. In this paper, Python is used to draw visual graphs such as word cloud diagrams, to analyse the data from the articles crawled in the category of enterprise management and efficiency, and to come up with three key words for enterprise management: "financial management", "human resource management" and "information technology". This paper

analyses their background and current problems and proposes improvement strategies from each of these three aspects, which in turn improve enterprise management and increase enterprise efficiency.

## **2 ANALYSIS OF CURRENT PROBLEMS**

### **2.1 Analysis of current issues in corporate financial management**

In enterprise management, financial management belongs to an important part, must be sound and good financial management, financial management work to have a certain target, in order to ensure that the enterprise benefits show positive growth. At present, many enterprises have many problems with the implementation of financial management work, especially for financial decision-making management, financial control system implementation and financial supervision. All these factors will affect the process of financial management, which, as an important part of enterprise operation, has a core position. Operating a good financial management is an effective way to improve the efficiency of the enterprise.

### **2.2 Analysis of current HRM issues**

Firstly, under the conditions of management economics, there is still a lack of proper understanding of human resources management economics in human resources management. Enterprises still operate in the traditional mode of human resources development and management, and the relevant units are still deficient in establishing the correct concept of human management science, etc., and there are deficiencies in the rational use of relevant management methods and experience, etc., and there is no comprehensive study of management economics within the enterprise. Secondly, there is a lack of human resources assessment performance and the fairness of the assessment results is in doubt. The way of motivating the staff shows the problem of insufficient material motivation and lack of spiritual motivation, and the performance appraisal system is not sound and fails to achieve the motivating effect.

### **2.3 Analysis of the current situation of enterprise information management**

At present, many enterprises do not fully understand the relationship between the construction of enterprise information technology and their own business operations. Many enterprises do not fully understand that information technology is only a means to an enterprise's needs is the root, in the process of building enterprise information technology system functions to seek large and comprehensive, so that the construction of enterprise information systems and their own business processes, management processes are very different, so that after the implementation of the results are very little.

## **3 RESEARCH METHODOLOGY**

### **3.1 Text data pre-processing and mining**

Data from papers on business management and efficiency in management economics were obtained from the Internet using Python programming and "crawler" software, formatted, stored and analyzed for comparison. As the structure and content of the crawled data are relatively

complete and standardized, the data processing in this paper is mainly done by text splitting and de-selecting words. The Jieba package was called for word separation, and the deactivation package was used to deactivate certain words, keeping only adjectives, nouns and verbs.

After the collected data has been pre-processed with text, it needs to be text-mined. Text mining is the semi-automated process of extracting patterns, i.e. useful information or knowledge, from a large amount of unstructured data. The first thing we do is to extract the keywords from the text. Extracting keywords measures: the more times a word appears in a text, the more important it is. In this paper, the TF-IDF (term frequency-inverse document frequency) keyword extraction method is used.

### 3.2 Word cloud mapping and visualization

The author has used TF-IDF to preprocess the text data and extract the comment keywords. At this stage, the author will draw a word cloud diagram. Word cloud diagrams are a common visualization tool in data analysis, showing the more important keywords in the text data through word cloud diagrams, showing people the results of data analysis in a very vivid way. In this paper, the top 20 keywords extracted from the above process are plotted as word cloud diagrams, as shown in Figure 1.



Figure 1. Top20 word cloud map

Echarts was used to create a bar chart of the Top4 words in the word cloud chart above, except for the words Management, Business, and Effectiveness, as shown in Figure 2.



Figure 2. Top4 Words

From the word cloud and bar charts it can be summarised that almost all of the authors have studied the areas of finance, information and human resources, so we have focused our research on these areas as well.

## **4 STRATEGIES TO INCREASE THE EFFECTIVENESS OF YOUR BUSINESS**

### **4.1 Financial Management Strategy**

#### **4.1.1 Emphasis on the core position of financial management, sound enterprise financial management, enhance the basic efficiency of enterprises**

Enterprises should place financial management in an important position in their production and operation, combine their characteristics, design a reasonable financial management mechanism, intensify training in financial knowledge and skills, explore basic financial information, prevent cost risks, assess the enterprise in a comprehensive manner, scientifically design and plan the enterprise's budget, and rigorously implement the enterprise's financial plans and systems. The company's financial planning and systems are implemented rigorously, solving management problems, making reasonable assumptions about business risks, and designing solutions for the company's management to use as a reference in making decisions in the light of the company's specific situation. Financial analysis and accounting statements play a central role in the overall analysis and management, and can be used to make scientific forecasts before formal decisions are made. Financial reports can be used to speculate on the direction of development of the enterprise, making it easier for the enterprise to find the key to the problem, and then solve the problems within the development of the enterprise, as well as helping the enterprise to improve its economic efficiency [3].

#### **4.1.2 Refine the specific formulation of financial management strategies**

To achieve innovation in the financial management of enterprises, attention should also be paid to the formulation of different management strategies for different financial management contents, with emphasis on the following aspects. First, in terms of financing management, diversified financing methods, such as note mortgage, commercial credit and accounts receivable mortgage, note deposit, etc. should be actively explored. The second is to scientifically and rationally arrange corporate financing methods to maintain an appropriate scale of corporate debt. The company should maintain a reasonable level of indebtedness, reasonably control the proportion of indebtedness, and maintain appropriate asset liquidity and optimize the capital structure. In terms of investment management, the company should focus on standardizing its investment decision-making procedures, strengthening research and analysis of the company's external environment, market conditions and financial situation, adopting dynamic monitoring and management of the company's investment projects, timely tracking of economic data records of investment activities, improving the evaluation of the benefits of investment projects and improving the level of investment returns. In terms of working capital management, the focus should be on strengthening the monitoring of the enterprise's accounts receivable, shortening the turnover time of accounts receivable as much as possible, continuously improving the efficiency of the enterprise's current assets and enhancing the enterprise's capital operating capacity; at the same time, the enterprise's inventory costs should be reduced, the enterprise's inventory holding

costs should be strictly controlled, and the relationship with suppliers should be strengthened to ensure that the enterprise's inventory and capital flow are maintained at a reasonable level[2].

#### **4.1.3 Increase the supervision and management of enterprises**

In the improvement and optimization of enterprise financial management, we should also focus on increasing the financial supervision and management of enterprises, especially improving the internal audit supervision system of enterprises, combining the characteristics of the corporate governance model and the organizational structure of enterprises, establishing a perfect internal audit organization system of enterprises, enhancing the independence and authority of the internal audit work of enterprises, expanding the functional scope of the internal audit of enterprises, covering financial management, strategic management, risk management and other aspects of enterprises.

### **4.2 Human Resource Management Strategy**

#### **4.2.1 Strengthen the construction of corporate culture and build a long-term mechanism for staff communication and coordination**

Enterprise human resources management work has typical systematic and holistic characteristics, which includes both the selection and employment of people, as well as the cultivation of people to retain people, etc. Changing the organizational form of the enterprise to achieve directional, organized and step-by-step adjustment and improvement, and building a learning organization. In order to enhance the effectiveness of human resources management, it is necessary to carry out solid construction of corporate culture within the enterprise, taking elements such as spiritual values as an important carrier of cultural construction and improving the sense of identity of the majority of employees. The enterprise cannot be made into a bureaucratic workplace where employees are alienated, emotionless, or even hostile, but should become an enterprise group with a high sense of intimacy and harmonious human and human relations. Focus on staff communication and exchange, timely listening to enterprise employees on their values, career planning and other aspects of the advice and suggestions to improve the interpersonal environment, and promote the enterprise output value efficiency.

#### **4.2.2 Build a professional human resources management team**

Under the perspective of management economics, in order to promote the smooth implementation and development of various tasks, it is also necessary for human resources management to combine the current situation of talent training and build a professional human resources management talent team. In the process of constructing the human resources management team, it is possible to strengthen personnel training to comprehensively improve the working ability of human resources management personnel in terms of management economics knowledge and application, etc. At the same time, during personnel training, it is also possible to adopt the way of perfecting the economic management training system and regularly organize management personnel to study the relevant contents of management economics to continuously improve their own quality and The training system can also be used to improve the training system of economic management and regularly organize the management personnel to study the relevant contents of management economics, so as to continuously improve their quality and ability, thus realizing the goal of constructing a professional human resources management team. In the construction

of a professional human resources management team, enterprises and units can also adopt the way of school-enterprise cooperation, establish long-term cooperation mode with universities, actively introduce talents in economic management, and constantly inject fresh blood into the human resources management work team. And through the way of school-enterprise cooperation, it helps to promote the smooth implementation of human resources management work, constantly create a good atmosphere for enterprise human resources management work, and through reasonable human resources management work, play the role and advantages of the use of economic management science, and improve the efficiency and level of human resources management work [4].

#### **4.2.3 Sound salary allocation system, show the value of talent**

Breakthrough income distribution of corporate behavior, for being limited to the amount of wages, in the process of configuration need to enhance the importance of the core talent, expand the core talent and enterprise grassroots staff pay gap. Create a pay system that values core talent and demonstrates their capabilities and value. The pay system needs to promote a basic pay system that combines position and performance, while at the same time creating a payment system that is fair to the company and competitive to the outside, fair and objective and encouraging. The salary system is a scientific reward for the quality of the work done by the employees, showing the different levels of value of the different abilities of the employees, and thus serving as an incentive for all employees. With a reasonable performance review system, the salary and benefits of staff are gradually increased to give them a sense of economic satisfaction, stimulate a sense of responsibility for the company and retain a team of talented people.

### **4.3 Information Management Strategy**

#### **4.3.1 Intranet mode of applying information technology**

At present, Intranet, as a mature and advanced technology that uses Internet technology to form an enterprise internal network, has become a common platform for information queries between various departments of the enterprise, and is the most important way to achieve enterprise informatization. Specifically, in terms of business applications, it achieves the construction of business information management systems of various departments of the enterprise on top of the network platform to help enterprises achieve decision support. In terms of internal information dissemination, the company's news, major events, production behaviour and decision-making information are released quickly and accurately on the intranet, so that every employee who is concerned about the development of the company can be informed of the relevant situation in the bureau in the first instance. Traditional paper-based media cannot achieve this effect. We can obtain faster development and improve the efficiency of the enterprise with the least cost through this latecomer advantage of directly using the world's advanced technology.

#### **4.3.2 Building LAN single application level**

Enterprises at this level achieve sales order management, computerized accounting management, production order processing, inventory management, payroll accounting, quality management, collaborative office work, information sharing and external communication through internal local area network construction. Combined with the use of ERP (Enterprise Resource Planning) software, we develop our own ERP procurement plan to improve the core competitiveness of the enterprise and increase the benefits gained by the enterprise.

### 4.3.3 Building the integration level of internal and external processes of the enterprise

These enterprises have a high level of management, mainly foreign-funded enterprises, as well as a few domestic brand-name enterprises. The third level of enterprise informatization needs is mainly the formation of e-commerce community, the theme of enterprise informatization has spread from the internal enterprise to the external enterprise customers and suppliers, in the enterprise and suppliers, distributors and other business transactions between enterprises or organizations to establish information exchange system is their urgent requirements. As the investment in setting up networks and promoting the informatization of subordinate suppliers is huge and cannot be done by a single enterprise, there is an urgent need for the government to step in to improve the investment environment and establish an information superhighway [9].

## 5 CONCLUSION

Although it is now an age of information technology, management still requires managers to decompose and reorganize knowledge. Most Chinese enterprises are not mature enough and still have many problems that need to be solved, for example, the comprehensive quality of business operators is low and their knowledge of customer service is weak; the organisation of enterprises is not scientific, the creation of large institutions and the content of departmental management is too arbitrary. Moreover, having a large number of staff makes the distribution of responsibilities uneven, resulting in a decrease in the implementation of management and an increase in expenditure; financial management is not in order, funds are not sufficient and do not circulate smoothly, there is no scientific control of funds, resulting in an inability to connect the capital chain; enterprise information technology construction is pushed back, resulting in low efficiency of the enterprise. These problems should be dealt with scientifically and efficiently, focusing at the beginning on the development of management work, improving the accounting system, creating a modern enterprise system with clear property rights, strengthening the responsibilities of all departments of the enterprise and creating an efficient form of control. From a managerial economics perspective, companies need to consider the entire internal and external value chain, take a strategic approach to cost management, optimise their organisational structure, broaden their scope of work and innovate their management methods in order to establish a sustainable cost management model. In general, in the context of today's economic development, advanced enterprise management concepts are the cornerstone of good development for enterprises, and the enhancement of efficiency is the ultimate goal of enterprise operation. Enterprises should strictly control the principles of enterprise development, innovate the ways and means of enterprise management processes, grasp the ways to enhance the efficiency of enterprises, and combine methods and approaches. The cleanliness of the data crawled into this paper is not sufficient and there are problems with inaccurate subscripts, which in turn leads to the problem of identifying too few factors affecting business management. In future directions, the authors will further cleanse the data and select more factors that may affect business management and effectiveness for research and analysis, and suggest improvements.

**Acknowledgment.** Firstly, I would like to show my deepest gratitude to Professor Jinsong Zhang in my university and Professor Jonathan Liebenau in The London School of Economics and Political Science, who have provided me with valuable guidance in every stage of the writing of this thesis. Secondly, I would like to thank Ms Zou Zehui for her guidance in the process of

writing my dissertation. She has given me very useful and pertinent advice in the process of writing my dissertation. Finally, I would like to thank my parents for their encouragement and support. Without all their enlightening instruction and impressive kindness, I could not have completed my thesis.

## REFERENCES

- [1] Chen Haiying. Problems and countermeasures in enterprise human resource management under the new situation[J]. Small and medium-sized enterprise management and science and technology (Zhongjun Journal),2021,{4}(07):21-22.
- [2] Yuan Yongzheng. Research on the current situation of enterprise financial management and countermeasures[J]. Finance and Economics,2021,{4}(05):157-158.
- [3] Song Yan. Analysis of enterprise management and efficiency from the perspective of economics [J]. Mall Modernization,2020,{4}(22):98-100.
- [4] Fu Xiaolin. Exploration of human resource management under the perspective of management economics[J]. Industrial Innovation Research,2020,{4}(15):71-72.
- [5] Luo Weihua. An introduction to business management processes and business management efficiency improvement[J]. Inner Mongolia Coal Economy,2020,{4}(02):100+102.
- [6] Meng Lei. The re-improvement of enterprise management capability from the perspective of management science[J]. Journal of Shaoguan College,2020,41(01):105-108.
- [7] Du Yu. The attempt of enterprise cost management from the perspective of management economics[J]. Modern Marketing (Business Edition),2018,{4}(08):140.
- [8] Wang Zhenjiang. Enterprise management innovation, improve economic efficiency research [J]. Modern economic information,2009,{4}(10):172-173.
- [9] Liu Yanzhen. Research on the problems and countermeasures of China's enterprise information construction[D]. Taiyuan University of Technology, 2006.