

## Research Article

# Based on Data Mining and Big Data Intelligent System in Enterprise Cost Accounting Optimization Application

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With the continuous development of science and technology, we have completely entered the information age. The amount of data around us increases linearly, and everyone lives in a pile of data. Enterprises also need to use big data technology in the process of operation and management to mine data and realize various data management functions. For the current enterprise, the operation of data will not only affect the management cost of the enterprise but also affect the future development of the enterprise. Based on the problem of enterprise management cost, this paper proposes to effectively use big data technology to solve the problem of enterprise cost management. The article also uses big data technology to optimize the management cost of the enterprise and uses big data technology to innovate and apply the management method of the enterprise. This paper constructs a cost management model based on data mining and expounds on the objects, sources, and calculation methods of data mining. Under this model, the company's data was mined, a specific plan was proposed, and an improved association algorithm was proposed to test the completion and consolidation of tasks. In the case of a large number of tasks, in order to efficiently realize the selection and merging of data, this paper proposes a new cost forecasting scheme based on a fuzzy model. Use time series for cost forecasting, and the accuracy is relatively high. In the process of forecasting, our forecasting method is suitable for the human reasoning process and can have better adaptability. Finally, we applied the research results of the thesis to actual business management to meet the management needs of the business, thus verifying the feasibility of the method proposed in this article.

## 1. Introduction

With the advent of the era of economic globalization, the competition among enterprises is becoming increasingly fierce. If every enterprise wants to remain competitive and invincible in the torrent of economic globalization, it needs to innovate and explore its own management mode and management tasks. If a company wants to succeed, it must control its own costs. In cost management, we need to recognize the status of cost management and the significance of cost management. In the process of cost management, the concept, technology, and method of cost management will affect the future development of the enterprise and even determine the success or failure of the enterprise. At present, the management strategies described by the existing cost management schemes in the market are mostly described in

words, and there is no quantitative management scheme. With the advent of the information age, we can realize intelligent cost management so as to innovate the solutions and methods of cost management. Enterprises will face competition in the process of operation. This is inevitable. Only when enterprises continue to attach importance to their own management process, continuously deepen the process of informatization, and accumulate cost data year by year, this will become a valuable resource for the company. To promote the further development of the enterprise, with the advent of the era of big data, traditional database queries can no longer perform detailed queries on all information. Because the amount of information is too large, it is difficult for us to distinguish which data is valid and which is invalid. As a result, when we process data, much data will be destroyed before it is processed, and much data will be

processed repeatedly. Because there are so much data and the types of data are very complicated, it is very difficult for us to find useful information from the huge data. At the same time, we also need to manage the information. The emergence of data mining technology has solved this thorny problem, and people can transform data into valuable information for application.

In the process of cost management, it is necessary to calculate the cost, which is the most basic and core part. Cost accounting provides basic data for enterprises to carry out cost management. If the calculated cost is not accurate enough, it will eventually affect other aspects of cost management. The object of data mining is for a large amount of data. In the process of cost management, we need to mine the cost data, which requires the use of data mining technology. It is very important that we should refine the cost accounting method as much as possible and improve the accuracy of cost accounting. By integrating big data technology into the cost management process, this paper can not only meet the achievements of technology development but also improve management efficiency. With the continuous development of science and technology, big data technology and Internet of things technology are more and more widely used in life, and we have completely entered the data age. The amount of big data is very large, and there are many kinds of data. We must study more advanced methods to achieve faster data processing. In the era of big data, enterprise managers should be able to obtain information faster, manage and make decisions on information, and combine big data technology in the process of processing information to improve processing efficiency. At the same time, it discusses the optimization process of enterprise cost management under the background of the big data era and combines big data technology with enterprise cost management technology.

## 2. Related Work

In the mid-fifteenth century, cost accounting began in various companies. Around 1820, some theories about cost management began to appear. Literature [1] mentioned some methods that can improve management efficiency and reduce management costs. This method separates the planning department from the executive department. This also lays the foundation for subsequent management work. Management thinking has become more and more scientific. The cost is getting lower and lower. Literature [2] put forward a concept of value engineering. This concept is mainly to set up some products under the premise of market demand so as to obtain benefits. In order to ensure that the function and cost of the product are matched, the value of the product must be fully utilized during the entire production and sales process, and the consumer must do its best to gain the recognition of consumers. Literature [3] puts forward a concept of strategic management accounting. This concept is to say that the company's performance evaluation should be based on each person's own evaluation. In the process of management, we must also pay attention to the management of employees themselves. The company can

not only analyze problems from within the company but also vertically compare other companies in the market and compare the direction of the market. Literature [4] mainly analyzes the management awareness of managers and also conducts in-depth analysis and exploration of the relationship between management knowledge and management effects. The analysis results show that there is a certain correlation between management awareness and management knowledge of managers. Literature [5] believes that in order to manage costs, companies need to control their own costs and understand their own production processes, all of which can affect the company's operating results. Literature [6] pointed out that the cost management of enterprises will also be affected by the environment. Different enterprises are in different environments and face different risks. These risks will affect the cost of the company and, thus, the profit of the company. Make an impact. Literature [7] mainly explains that in the process of cost production, structural costs and management costs are combined and analyzed. Only by focusing on financial performance can we better manage costs. In the process of management, we should not only focus on the supply chain but also on other aspects. Literature [8] mainly studies the management of project costs and proposes that costs should be managed in accordance with global unified standards. Literature [9] proposes that the arrival of the big data era may cause an industrial revolution in information technology. This revolution involves not only the Internet of Things technology but also cloud computing. This information revolution will also affect other industries and even our corporate activities and business operations. Literature [10] pointed out that this information technology revolution will have a certain impact on the business management style of enterprises and will also affect the decision-making work of enterprises. Literature [11] proposes that big data technology will become the basis for the management of the majority of enterprises in the future, and many mistakes can be avoided. Literature [12] proposes that data mainly faces three major challenges: data generation, data processing, and data storage. If we want to use big data technology to optimize the industry, we must explore the problems ourselves and propose our own solutions. Literature [13] proposed that in a big data environment, all our information will be recorded, and all information will be stored in the form of data. Literature [14–18] proposes that in a big data environment, all data needs to be accessed and extracted multiple times and will be used in different places. Different processing methods for big data will lead to different processing results, and sometimes two completely opposite results may occur. For the impact of such uncertain factors, we need to provide solutions. Literature pointed out that in the era of big data, the operation of enterprises will be affected by the results of big data, but the results of data analysis will affect the decision-making of enterprises, and it can also provide enterprises with some scientific suggestions to affect product development and enterprises. Literature proposes that Europe has already applied big data technology in legal ethics and other fields. Literature pointed out that in the future, we still need to further explore big data, seize the opportunity to make a

comprehensive evaluation, and then apply it to people's lives. Literature pointed out that the era of big data brings both opportunities and challenges to people. We need to use the cognitive prediction function of big data to analyze potential users so that people can recognize big data technology. Literature [19] proposes that when managing costs, companies should not only consider the internal supply chain costs but also the external environment. The company should strategically control the supply chain management and coordinate the internal supply chain. Literature [20] pointed out that there are many factors that affect the operating cost of a company, such as the strategy of the company and the management style of the manager [21, 22]. From the current research, scholars analyze cost management and supply chain management.

### 3. Based on the Internal Data Mining and Information Management System Design

#### 3.1. The Establishment of Enterprise Production Cost Data Warehouse

*3.1.1. The Process of Enterprise Data Mining.* Before the application and analysis of the enterprise production cost data information management module, we need to use the codes of some attribute data to store the data and then use the dictionary for comparison in the process of comparison. We first need to encode the preprocessed data. Some quantitative attributes are discrete, and all attributes are divided into different categories. Among them, Table 1 shows the results of discretized character attribute values. Table 2 shows the values of the converted sample data, as shown in Figure 1.

*3.1.2. Data Warehouse Design Structure.* First, extract the data, then transform it, finally store the data in the warehouse, and use the data mining tool for data mining. When designing the data warehouse, we mainly divided it into four parts, and its structure is shown in Figure 2. In the first part, we mainly store the basic information of the company and the information and processes in the production process. This information is relatively discrete and difficult to use [23]. The second part is used to store data in the center. It also includes some multidimensional data and raw data. These data have been preprocessed to make it easier to store and analyze. The third part is used to store application services, mainly including various data mining technologies and data analysis technologies. The fourth part is mainly used to display information, display processing results, and display users.

*3.1.3. Data Conversion Method.* In the process of data selection and data analysis, we need to convert the data format. We need to check the stored data one by one, convert the data format of each field, and reorganize the data. If there are some vacant fields in the stored data, we should also set corresponding values to keep the data standardized. In the process of data conversion, we must pay attention to the

TABLE 1: Discretization of decision attribute values.

Category code	Numerical range	Profitability
1	(0, 2520)	Relatively low profit
2	>2520	Relatively high profit
3	(-2520, 0]	Less loss
4	<-2520	More losses

TABLE 2: Decision table sample data after data conversion.

	$a_1$	$a_2$	$a_3$	$a_4$	$a_5$	$a_6$	$a_7$
$x_1$	00001	000018	070200	1	01	05	02
$x_2$	00002	000018	070200	1	01	04	02
$x_3$	00041	000020	070201	1	01	05	12
$x_4$	00050	000018	070200	2	81	11	02
$x_5$	00053	000017	070100	1	01	04	02
$x_6$	00052	000020	070200	1	26	11	02
$x_7$	00096	000015	070105	1	41	01	22
$x_8$	00126	000014	070101	1	58	33	15
$x_9$	00130	000014	070101	1	61	32	15
$x_{10}$	00199	000015	070103	1	24	33	15
...	...	...	...	...	...	...	...

conversion of some inconsistent data but also pay attention to the validity of the data and the corresponding rules. Some data represent the same meaning, but the unit is different. Here, we also need to convert. In order to meet the task requirements of data mining, we must perform data conversion in a unified format. All date formats must follow certain rules, all measurement formats must be unified units, and all to themselves must be converted into long bytes. Type conversion is to convert one data type into another data type. Using the same data type can ensure the validity of the data and better meet the needs of data mining tasks.

*3.2. Application Analysis of Enterprise Production Cost Data Information Management Module.* In the application analysis of the production cost data informatization management module, enterprises need to preprocess the data, calculate according to the value, then obtain the minimum attribute value, consolidate the records, and finally detect the enterprise data information management system through the algorithm.

*3.2.1. Data Preprocessing.* We use the encoding of some attribute data to store the data and then use the dictionary for comparison in the process of comparison. We first need to preprocess the encoding of the data. Some quantitative attributes are discretized, and all attributes are divided into different categories. Table 1 shows the result of discretizing the character attribute values. Table 2 shows the values of the converted sample data.

*3.2.2. Data Mining and Cost Knowledge Transformation.* After preprocessing the data, we need to calculate based on the value, then get the smallest attribute clip, and merge the records. Table 3 shows our most simplified rule.



Transforming the original function into the objective function is as follows:

$$L(w, b, \alpha) = \frac{1}{2}\|w\|^2 + \sum_{i=1}^n \alpha_i (1 - y_i (W^T X_i + b)). \quad (3)$$

Among them, the partial derivative is as follows:

$$\left\{ \begin{array}{l} \frac{\partial L(w, b, \alpha)}{\partial w} = w - \sum_{i=1}^n \alpha_i y_i x_i, \\ \frac{\partial L(w, b, \alpha)}{\partial b} = \sum_{i=1}^n \alpha_i y_i. \end{array} \right. \quad (4)$$

Let it be 0 to get the following:

$$\left\{ \begin{array}{l} w = \sum_{i=1}^n \alpha_i y_i x_i, \\ b = \sum_{i=1}^n \alpha_i y_i. \end{array} \right. \quad (5)$$

Converted into a duality problem, the formula is as follows:

$$\max_{\alpha} -\frac{1}{2} \sum_{i=1}^n \sum_{j=1}^n \alpha_i \alpha_j y_i y_j (x_i^T x_j) + \sum_{i=1}^n \alpha_i, \quad (6)$$

$$s.t. \quad \sum_{i=1}^n \alpha_i y_i = 0 \quad \alpha_i \geq 0, i = 1, 2, \dots, n.$$

The final dual problem is as follows:

$$\min_{\alpha} \frac{1}{2} \sum_{i=1}^n \sum_{j=1}^n \alpha_i \alpha_j y_i y_j (x_i^T x_j) + \sum_{i=1}^n \alpha_i, \quad (7)$$

$$s.t. \quad \sum_{i=1}^n \alpha_i y_i = 0 \quad \alpha_i \geq 0, i = 1, 2, \dots, n.$$

The iterative optimization algorithm SMO can solve the dual problem of SVM, and the optimal solution satisfies the following:

$$y_j ((w^*)^T x_j + b^*) - 1 = 0. \quad (8)$$

Use KKT to get the following:

$$\left\{ \begin{array}{l} w^* = \sum_{i=1}^n \alpha_i^* y_i x_i, \\ b^* = y_j - \sum_{i=1}^n \alpha_i^* y_i (x_i^T x_j). \end{array} \right. \quad (9)$$

The final classification decision function is as follows:

$$f(x) = \text{sign} \left( \sum_{i=1}^n \alpha_i^* y_i ((x_i)^T x) + b^* \right). \quad (10)$$

Rewrite the formula optimization problem as follows:

TABLE 4: Confusion matrix.

Confusion matrix	Predictive value		
		Invade	Normal
Actual value	Invade	TP	FN
	Normal	FP	TN

$$\min_{w, b, \xi} \frac{1}{2}\|w\|^2 + C \sum_{i=1}^n \xi_i, \quad (11)$$

$$s.t. \quad y_i (w^T x_i + b) \geq 1 - \xi_i \quad \xi_i \geq 0, i = 1, 2, \dots, n.$$

The dual problem of this optimization problem is as follows:

$$\max_{\alpha} \frac{1}{2} \sum_{i=1}^n \sum_{j=1}^n \alpha_i \alpha_j y_i y_j (x_i^T x_j) + \sum_{i=1}^n \alpha_i, \quad (12)$$

$$s.t. \quad \sum_{i=1}^n \alpha_i y_i = 0 \quad 0 \leq \alpha_i \leq C, i = 1, 2, \dots, n.$$

The final classification decision function is as follows:

$$f(x) = \text{sign} \left( \sum_{i=1}^n \alpha_i^* y_i ((x_i)^T x) + b^* \right). \quad (13)$$

### 3.4. System Performance Simulation Results and Analysis

**3.4.1. Experimental Data Set.** The data characteristics in each data set are very close to the network attack data. The main advantages of data sets are as follows. Firstly, the new dataset deletes a large number of duplicate records in the original dataset and tests the duplicate records so that we can improve the performance of the system and save testing time. In the preprocessing process, each data set is evaluated only once, which can reduce the deviation. I have figured it out clearly. I cannot go yet. The total number of records in different difficulty sets is inversely proportional to the number of data sets, which will lead to great differences in the performance of tasks solved by different machine learning methods, which can be applied to evaluate the performance of machine learning methods. When setting the number of records, we must select appropriate parameters for setting and budget the complete data set to make it more reliable.

**3.4.2. System Evaluation Indicators.** A new data mining and management system based on data mining is proposed. We need to check the effectiveness of the intrusion detection method of the system. In the detection process, we use the confusion matrix to calculate its accuracy and other indicators. Table 4 shows the basis of our intrusion detection using a confusion matrix.

Calculated as follows:

The accuracy calculation formula is as follows:

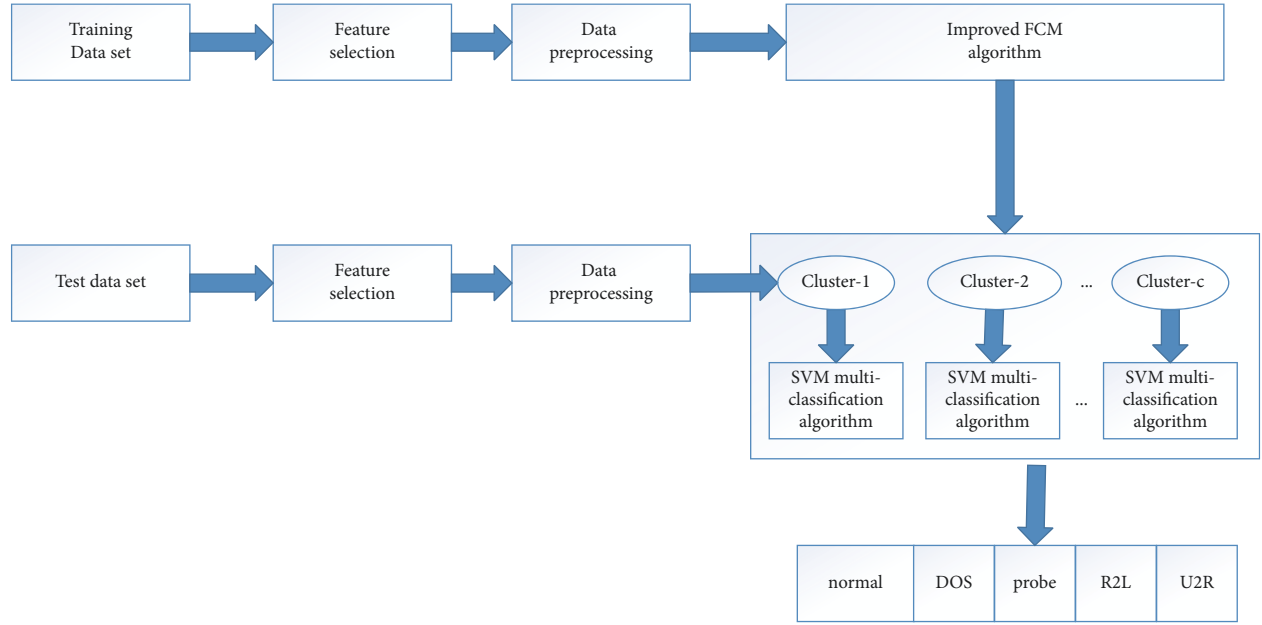


FIGURE 3: The structure diagram of the integrated intrusion detection method in the training and testing process.

TABLE 5: The clustering results of the improved FCM algorithm on the NSL-KDD data set.

Cluster	Normal	Probe	DOS	R2L	U2R
1	12	107	3370	1	0
2	5024	1	101	166	12
3	727	2038	933	266	1

TABLE 6: Confusion matrix of the method proposed in this paper.

Actual category/Forecast category	Normal	Probe	DOS	R2L	U2R
Normal	2453	7	3	6	1
Probe	8	910	2	1	0
DOS	1	0	1886	0	1
R2L	8	0	0	176	0
U2R	0	1	1	1	3

$$\text{Accuracy} = \frac{TP + TN}{TP + TN + FN + FP} \quad (14)$$

The calculation formula of the detection rate is as follows:

$$\text{DR} = \frac{TP}{TP + FP} \quad (15)$$

The formula for calculating the false alarm rate is as follows:

$$\text{FPR} = \frac{FP}{TN + FP} \quad (16)$$

The formula for calculating the false-negative rate is as follows:

$$\text{FNR} = \frac{FN}{TP + FN} \quad (17)$$

**3.4.3. Integrated Intrusion Detection Method.** We also need to test the effectiveness and feasibility of the system. We mainly use some test data sets to evaluate its performance. We use clustering to divide the data in the test data set, which will roughly classify different attack types, and then use the SVM model to further predict and estimate performance. The training and testing method of the system is shown in Figure 3.

**3.4.4. Experimental Results and Analysis.** The improved FCM algorithm can also divide the data set. Our main attack type is DOS. In normal network behavior, there are very few other attack types. In the third data set, probe type attacks are mainly used. The use of the SVM algorithm can ensure that all features of the system are learned, and the data is shown in Table 5.



TABLE 7: Use of big data technology to control procurement costs.

Procurement cost	Measures to reduce costs	Big data technology used
Order cost	Analyze the cost of purchase	Use big data for analysis
	Develop purchasing plan	Use data for analysis and prediction
Cost of purchase	Establish a database to record supplier information	Use big data technology for data storage, mining, and analysis
	Monitor and evaluate suppliers	Use big data for real-time monitoring
Transaction cost	Real-time price adjustment of products	Use big data for real-time monitoring
	Automatic replenishment of goods	Use big data to analyze and predict technology
Information cost	Feedback on procurement quality	Use big data for quality inspection and product identification

TABLE 8: Using big data technology to control inventory costs.

Inventory cost	Measures to reduce costs	Big data technology used
Customer’s cost	Forecast inventory requirements	Use big data for analysis and mining
	Manage receipts	Utilize radio frequency identification technology
The cost of warehousing	Manage warehousing	Use big data for analysis
The cost of out of stock		Utilize big data analysis technology and radio frequency identification technology
Labor cost	Manage outbound	

TABLE 9: Using big data technology to control marketing costs.

Marketing cost	Measures to reduce costs	Big data technology used
The cost of market research	Forecast sales	Use big data technology for data storage and mining
	Optimize products and services	Use big data technology for data storage and mining
Marketing cost	Precision marketing	Use big data technology for data storage and mining

When the naive Bayes algorithm is used for intrusion detection, the false alarm rate is only about 6%, while the false alarm rate of intrusion detection methods based on vector machines is less than 1%. From the data presented in Table 6, we can see that the false alarm rate of the method proposed in this paper is close to the false alarm rate of the vector machine and even lower than the false alarm rate of the vector machine. The false alarm rate of the intrusion detection system is very normal and acceptable, and it will not affect our final results. If the false alarm rate is too high, it will not only take up network resources but also waste time. The false-positive rate of this method proposed by me is not high, and it does not cost much resources and time.

#### 4. Research on Enterprise Cost Accounting Management Control and Optimization under the Background of Big Data Intelligence

4.1. *The Overall Program Design of Enterprise Cost Management under the Background of Big Data.* In the era of big data, our cost management can promote the development of enterprises and can also promote the optimization and reform of enterprise processes. Big data not only optimize the business process of an enterprise’s supply chain but also enables more effective cost management. When a company conducts cost management, it includes all links, from research and development to procurement and finally to sales. All costs must be included. Enterprises should adopt some scientific and technological means, such as big data

technology to provide support for cost management, and promote the improvement of cost management technology through professional technology.

#### 4.2. The Design of Each Module of Big Data in Enterprise Cost Management

4.2.1. *Optimization of Cost Management in Procurement and Inventory Links.* The cost of the supply chain mainly includes the cost of procurement and the cost of sales. The efficiency of the supply chain is also affected by the efficiency of the entire process. We must adjust our supply chain according to market demand so that we can better manage costs. We can share information through the big data information platform, build a supply chain model, and achieve the goal of reducing costs. In recent years, procurement has become a multiparty collaborative process. We need to establish some good partners to reduce our inventory. At the same time, we should strengthen the management of the supply chain to ensure that the supply of goods is sufficient. Table 7 shows the main cost components in the procurement process, and Table 8 shows the measures we use big data technology for inventory cost management in the era of big data.

4.2.2. *Optimization of Cost Management in Marketing Links.* In the process of cost management, we need to reduce the cost of research and the cost of sales. In this era of big data, we must reduce some nonessential costs, improve operational efficiency, use big data technology to provide

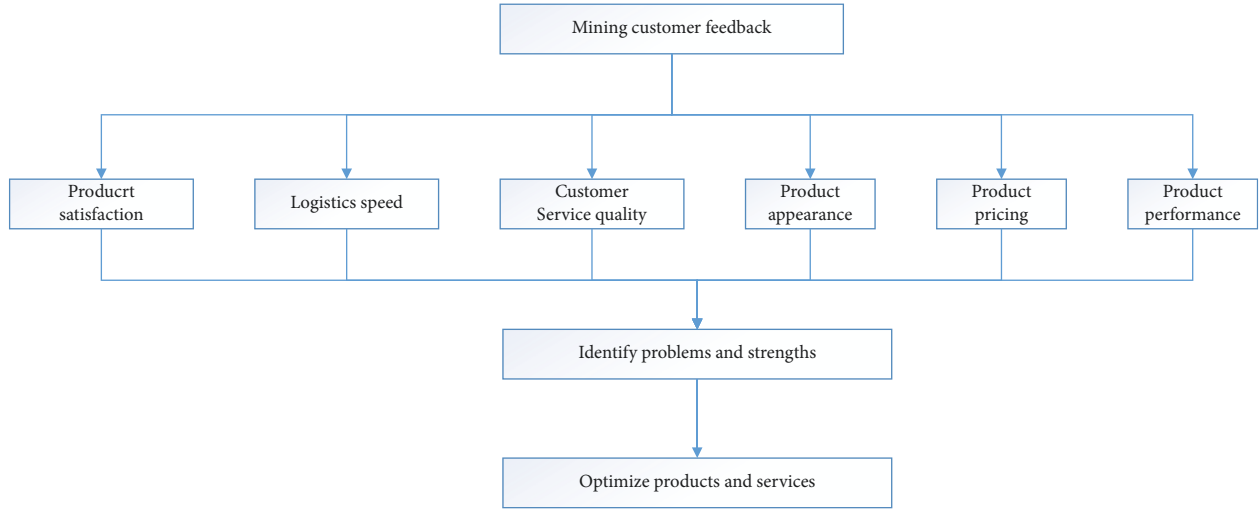


FIGURE 4: The application of big data in optimizing products and services.

reasonable solutions, and manage costs. Table 9 mainly shows the main measures to use big data technology to reduce costs.

In this era, the competition among enterprises has become increasingly fierce, and the phenomenon of product homogeneity has become more and more serious. The prices of the products of each company are very close, and the company cannot obtain an advantage from the price, so it can only provide better services and guide customers in choosing products. At the same time, consumers are also very concerned about service levels. Enterprises should pay attention to establishing service mechanisms and optimizing their products and services. The process is as in Figure 4.

4.2.3. *Data Cluster Analysis and Dissimilarity Measurement.* The objective function of the FCM algorithm is as follows:

$$\min J(U, V) = \sum_{i=1}^c \sum_{j=1}^n u_{ij}^m \|x_j - v_i\|^2. \quad (18)$$

The constructed unconstrained Lagrangian function is as follows:

$$F = \sum_{i=1}^c \sum_{j=1}^n u_{ij}^m \|x_j - v_i\|^2 + \alpha \left( \sum_{i=1}^c u_{ij} - 1 \right). \quad (19)$$

Its partial derivative is as follows:

$$\frac{\partial F}{\partial u_{ij}} = m(u_{ij})^{m-1} \|x_j - v_i\|^2 + \alpha. \quad (20)$$

$$\frac{\partial F}{\partial v_i} = -2 \sum_{j=1}^n u_{ij}^m (x_j - v_i). \quad (21)$$

Make it equal to 0 to get the following:

$$u_{ij} = \frac{1}{\sum_{k=1}^c \left( \|x_j - v_i\| / \|x_j - v_k\| \right)^{2/m-1}}. \quad (22)$$

$$v_i = \frac{\sum_{j=1}^n u_{ij}^m x_j}{\sum_{j=1}^n u_{ij}^m}. \quad (23)$$

In the process of using clustering to analyze, the selection of appropriate metrics determines the performance of clustering. The formula for calculating the Euclidean distance is as follows:

$$\begin{aligned} d(x_i, x_j) &= \|x_i - x_j\|_2 \\ &= \sqrt{\sum_{k=1}^q (x_{ik} - x_{jk})^2}. \end{aligned} \quad (24)$$

Calculate its Manhattan distance as follows:

$$d(x_i, x_j) = \sum_{k=1}^q |x_{ik} - x_{jk}|. \quad (25)$$

Calculate the Chebyshev distance as follows:

$$d(x_i, x_j) = \max_k (|x_{ik} - x_{jk}|). \quad (26)$$

Calculate its Minkovs distance as follows:

$$d(x_i, x_j) = \left( \sum_{k=1}^q |x_{ik} - x_{jk}|^r \right)^{\frac{1}{r}}. \quad (27)$$

4.3. *Implementation of Enterprise Cost Accounting Management Guarantee Strategy under the Background of Big Data.* According to the experimental results of 3.4.4, enterprises should build their own business and financial integration platforms, and in the process of cost management, they



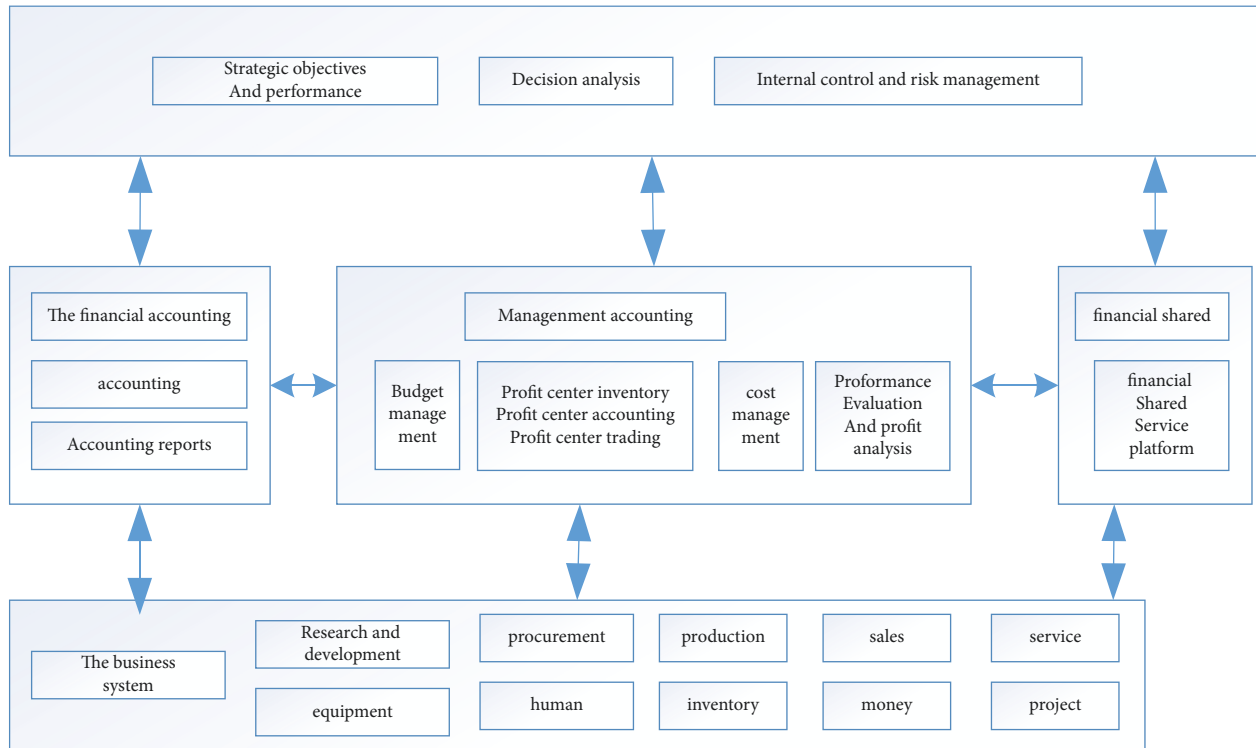


FIGURE 5: Industry and finance integration platform.

should strengthen informatization construction and talent team construction to ensure the efficient and stable operation of enterprise cost data.

**4.3.1. Build an Integrated Platform for Business and Finance.** In the information age, companies will face a variety of data. How to deal with data is an important issue that companies need to solve. Companies should establish a platform for business and financial integration and use information technology to build their own management system. Enterprises should actively adopt some business intelligence technologies to handle the data monitoring that occurs, improve the relationship between the data in each process, promote the integration of the process, and use science and technology to optimize the processing of each process, realize the sharing of data resources, and truly play the role of financial management. Figure 5 shows the design process of a business integration platform.

**4.3.2. Strengthen the Construction of Financial Management Informatization.** In the process of enterprise production management, financial management is very necessary. Most of the current financial management work is based on big data, and the traditional financial management model has not matched the development of modern enterprises. The traditional financial management model cannot provide effective information for corporate management and will increase corporate risks. The financial management system designed in the era of big data can not only standardize the financial management process but also provide reliable

financial management. Basis to further promote the development of finance: Informatization construction of an enterprise can promote the integration of enterprise resources, and it can also bring closer links between various departments. Financial management informatization can liberate financial personnel and promote the reform of financial management. The financial staff can better control the financial information, and the information processing ability can be further improved. It can be seen from this that it is very necessary to carry out informatization construction on the financial management of enterprises, which can promote the development of enterprises. When building a financial management information system, we need certain technical support. Integrating big data technology into the construction of the financial management information system can not only make the information management process more standardized but also promote the construction of the information management system. In order to ensure the effective operation of the informatization process, enterprises must control internal resources, understand their own needs, and constantly adjust their structure to adapt to the development of the times. Enterprises must also plan for the information work process and rationally divide labor so that everyone can stay in their own positions and develop and lay the foundation for subsequent financial work.

**4.3.3. Strengthen the Construction of Big Data Talent Team.** With the advent of the era of big data, Internet technology has been further developed, technology is being updated faster and faster, and the competitiveness of enterprises is

also increasing. If an enterprise wants to occupy a favorable position in the competition, it must have strong R&D capabilities, as well as core technical support and innovation capabilities. In the process of product development and operation, companies must continuously invest in new knowledge and technology. In addition to enhancing their own R&D capabilities, companies should also attach importance to the training of high-quality talents to enhance their R&D capabilities and innovation capabilities. Enterprises should reduce production costs as much as possible and increase profits. In order to ensure the success of an enterprise, it is very important to cultivate talents. If an enterprise wants to establish a big data analysis platform and use big data technology for analysis, it needs to bring in corresponding talents. In the process of enterprise management, data analysis experts are needed to analyze the enterprise data. In the process of handling the company's business, if the company's financial management is lagging behind and is not familiar with the company's production model, some relevant talents can be introduced to make up for these problems. Enterprises should actively accelerate the construction of talents, establish high-quality teams and organize specialized talent teams so that talents can become familiar with the company's management mode and technology as soon as possible, and they must also understand advanced scientific knowledge to meet the needs of outstanding talents. In the process of managing the enterprise, massive amounts of data are generated every day. Financial personnel must ensure the accuracy of the data when performing analysis and at the same time, predict daily financial data. Using big data technology and data mining technology can find some potential problems in the process of financial management. At the same time, companies need to train some information technology talents to solve these problems and promote the development of technology.

## 5. Conclusion

In the process of enterprise management, if there is no systematic management in the process of cost management, it is impossible to process a large amount of data at one time. Some enterprises have not done an in-depth cost analysis, and some cost data cannot be solved. Combined with big data technology and cost management technology, this paper puts forward the optimal strategy of cost management in the era of big data. At the same time, the strategy is applied to the actual company. Big data technology and data sharing technology have solved the practical problems of enterprise management and production. Enterprises using big data technology can not only optimize management costs but also optimize their management functions, which can better solve the problems that many data will be repeatedly processed, data types are complex, and it is difficult to find useful information from massive data. At this stage, the amount of data in the enterprise is huge, the production cost is also very high, and the production process is very complex. Using big data technology for enterprise cost management can not only control the cost of enterprises but also standardize enterprise processes and promote enterprise

optimization. At the same time, we combine big data technology with cost management technology to provide the basis for the follow-up intelligent management of enterprises.

## Data Availability

The dataset can be accessed upon request.

## Conflicts of Interest

The authors declare that they have no conflicts of interest.

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