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Retraction

Retracted: Research on the Significance of Big Data and Artificial Intelligence Technology to Enterprise Business Management

Mobile Information Systems

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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

(1) Discrepancies in scope
(2) Discrepancies in the description of the research reported
(3) Discrepancies between the availability of data and the research described
(4) Inappropriate citations
(5) Incoherent, meaningless and/or irrelevant content included in the article
(6) Peer-review manipulation

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their agreement or disagreement to this retraction. We have kept a record of any response received.

References

[1] H. Li, "Research on the Significance of Big Data and Artificial Intelligence Technology to Enterprise Business Management," *Mobile Information Systems*, vol. 2022, Article ID 7639965, 10 pages, 2022.

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Research Article

Research on the Significance of Big Data and Artificial Intelligence Technology to Enterprise Business Management

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With the continuous development of information technology, China has officially entered into the era of big data, the enterprise business management has realized intelligent business management based on information technology, and the arrival of the era of big data has to some extent reduced its management and risk costs and improved its work efficiency and economic benefits, but at the same time, it also faces a series of challenges, such as with the continuous expansion of business scope. As the business scope continues to expand, its current management model cannot meet the development needs. The integration of artificial intelligence technology and enterprise business management has become the main trend of future development. The application of big data technology to corporate business management enables the production of products and the creation of product value in the direction of socialization, increases the mutual influence between companies and consumers, and enhances the fairness, openness, and justice between corporate development and consumer activities. In this paper, after a detailed understanding of the current situation of the combination of artificial intelligence technology and enterprise business management, we focus on the application path of artificial intelligence technology in enterprise business management and finally elaborate the future development direction of artificial intelligence technology in the field of enterprise business management, hoping to further deepen the relevant personnel's understanding of artificial intelligence. Analyzing the current situation of business management development in China, this paper proposes applying big data technology and artificial intelligence technology to enterprise business management work and proposes a new model to bring new development opportunities and development directions for enterprise business management work. The big data technology proposed in this paper is based on cloud platform services, while artificial intelligence based on neural network is embedded in the cloud platform for enterprise business management services.

1. Introduction

With the promotion of Internet technology and information technology, big data technology has emerged as an important technology in the development of modern society and has greatly contributed to the development of China's economic construction. Compared with traditional data forms, big data technology has three specific aspects: fast generation speed, complex data types, and large data volume, which brings huge development opportunities for many business fields such as e-commerce, human resources, and marketing and sales in China and introduces Chinese business to a brand-new development stage [1–3].

The development status of business management in the context of big data, enterprise production, and creation tend to socialize the use of big data technology to enterprise business management. By using big data to change the way information is generated and disseminated, the relationship between enterprises and consumers is gradually moving toward a balanced state, increasing the mutual influence between enterprises and consumers, and enhancing the fairness, openness, and justice between the development of enterprises and consumer activities. The data and information created by Internet users are the basic means of generating massive amounts of information on the Internet, effectively replacing the traditional "closed" management model, increasing the interactivity between the production

activities of enterprises and consumer activities, and allowing consumers to participate in the management of enterprise business processes using the Internet platform. Enterprise operation and ecology tend to dynamic use of big data technology to enterprise business management, so that the enterprise operation and ecological operation develop gradually towards the direction of network, information technology, dynamic development. From the current situation of enterprise management, the "network ecosystem" formed by social media, network people, cooperative enterprises, and competitors, the system has a greater impact on modern enterprise production management and business management, so that enterprise production management and enterprise business management gradually show horizontal and vertical joint. The system has a greater impact on modern enterprise production management and business management, so that enterprise production management and enterprise business management gradually show two kinds of development situation: horizontal and vertical joint [4–6]. First, from the perspective of horizontal alliance, the networked business model can change the competition mode between enterprise organizations, enhance the cooperation between enterprises in different regions, and gradually form "enterprise alliance" or "virtual enterprise"; second, from the perspective of vertical alliance, enterprise groups are connected by industrial supply chains, increasing the connection between related enterprises, and the mutual benefit and symbiosis among enterprises, so that the supply chain gradually develops in the direction of value chain and eventually transforms into a network ecological chain. The application of big data technology to business management enables enterprises to gradually develop their market demand in the direction of precision and real time, enabling them to make full use of the massive information in the Internet platform to provide a reliable theoretical basis for their decision-making work. Influenced by the Internet technology, enterprises can use the Internet technology to record various information of this enterprise, comprehensively collect customer behavior information, realize the quantification of enterprise performance assessment work, and improve the accuracy of enterprise decision-making information; influenced by the development of the times, consumer idiosyncrasies have changed greatly. The company's products are trimmed and reorganized according to the development trend of the times and the actual needs of consumers [7–9]. The connotation of enterprise business management is shown in Figure 1.

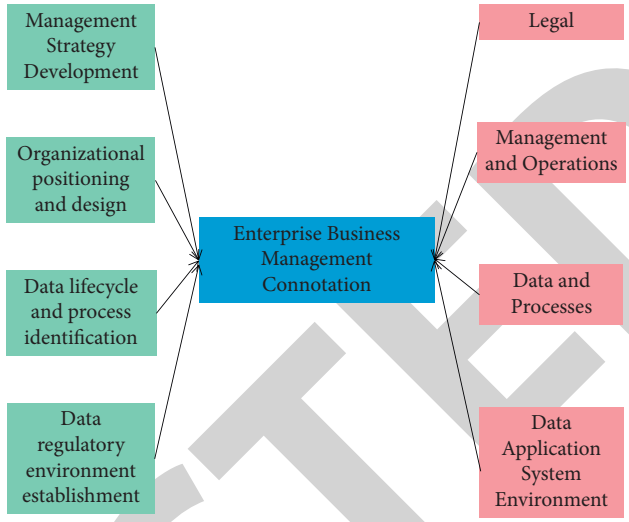

Figure 1: Enterprise business management connotation.

The rapid development of artificial intelligence technology in China in recent years is closely related to the breakthroughs in technologies such as cloud computing and big data, as well as the development of chip technologies such as NPU and CPU. In order to better adapt to the future development requirements of enterprise business management, AI technology will be further developed in the field of enterprise business management in the future, which will eventually make enterprise business management more adaptable [10]. And in this general environment, the combination of artificial intelligence and enterprise business management will reflect more demand-oriented features, not only to focus on the interaction of various types of financial information, but also to focus on the consumer's product experience, not only to improve transaction efficiency, but also to reduce operating costs. Therefore, from the point of view of future development, artificial intelligence technology allows enterprise business management services and products to further close to the user scene, understanding the needs of users and constantly introduce practical solutions to meet the needs of different users rather than just a technical product, and therefore can achieve a significant breakthrough in technology which is because most of the enterprise business management products have the characteristics of stable commodity prices and uniform quality specifications, so the function of artificial intelligence at this time is mainly reflected in the direct operation of the operation. In contrast, enterprise business management is more concerned about the quality of services, so that artificial intelligence technology has a broader space for development, which will become the main trend of future development. To analyze the current situation of business management development in China, this paper proposes applying big data technology and artificial intelligence technology to enterprise business management and proposes a new model to bring new development opportunities and development directions for enterprise business management [11]. The main contributions of this paper are summarized as follows: (1) after a detailed understanding of the current situation of the combination of artificial intelligence technology and business management, we focus on analyzing the application path of artificial intelligence technology in business management and finally elaborate the future development direction of artificial intelligence technology in the field of business management, hoping to further deepen the understanding of artificial intelligence by the relevant personnel Hope to further deepen the understanding of artificial intelligence technology; (2) analyzing the current situation of the development of enterprise management in China, this paper proposes to apply big data technology and artificial intelligence technology to enterprise management work and

proposes a new model to bring new development opportunities and development directions for enterprise management work. (3) It proves the effectiveness of the proposed method in the relevant data set, which can be applied to the actual enterprise management.

2. Related Work

2.1. Corporate Business Management. Enterprise business management is a comprehensive organization, planning, leadership, innovation, and control of activities of selling and purchasing economic resources based on profit-making business organizations and natural persons, with various characteristics such as human-oriented, outward-looking, changeable, global, and complex. Enterprise business management is a mode of integrated management, which is the condensation and practice of project in modern enterprise business management, covering the whole process of project management implementation, from the initial contact with the project, bidding, signing contracts, preplanning and selection of options, signing sub-contracts, to cost control during the implementation of the project, the collection and management of progress payments, completion settlement verification and determination, recovery of warranty, and the whole process of financial finalization whole process. Enterprise business management is an applied discipline based on theories of business communication, the basic theory of international trade and commerce and its affairs, marketing, economic management, and many other disciplines. It is required that business management personnel should have various skills such as information processing, special technology, interpersonal skills, a strong theoretical foundation, foreign language proficiency, and the ability to independently acquire knowledge, propose analysis, and solve problems [10–13]. From the microscopic point of view, enterprise business management means applying the methodology of enterprise business management to the project and controlling project funds; from the macroscopic point of view, enterprise business management has a wide range of contents and is the management practice of the overall economic control process of the project, which is the combination of immediate management and capital control. Effective business management is a balance between the business interests of the enterprise and the objective conditions: firstly, it maintains the overall management of the enterprise based on contract management; secondly, it seeks to balance and develop the modern enterprise by properly dealing with the problems that cannot be dealt with by contract through business skills and strategies. Therefore, business management must be based on the overall interests of the enterprise and adhere to the basic principle of organic integration with technical management. If enterprise business management is the practice of enterprise business management at the grassroots level, then the project is the basic carrier of enterprise business management. Enterprise business management needs to be implemented from the seven major aspects of project contract, capital, cost, procurement, claims and anti-claims management, risk management, completion of settlement, coordinated by the business manager, led by the project department, all departments to participate and complete business planning, preparation of contracts, review, implementation, adjustment, cost measurement, control and analysis, the assessment and restoration of the work, and ultimately the preparation of the settlement, review. Finally, all the processes of business management such as preparation of settlement, evaluation, reporting, settlement, and assessment will be implemented well [14–16].

First, during the specific implementation of the work of enterprise business management, it is required to sort out the relationship between all parties, and if there is a dispute during the implementation of the contract, the enterprise business manager and the project manager will build a communication channel together, and the leaders of both sides will implement business negotiations, and business negotiation will be the preferred solution to the dispute; second, enterprise business management is a comprehensive management work, which can not only build external communication channels, but also to strengthen internal communication. A good business management can realize the whole process of business management through close cooperation with the technical departments of the enterprise, so as to promote the efficient implementation of the work of business management. Effective implementation of special planning business personnel should do a good job in the early stage of the project to access a variety of resources, including technical support, material assurance, qualification permits, financial support, etc., in order to obtain the feasibility of the project planning, and the planning program requires the collection of project managers and technical experts, to ensure that the premise of close cooperation between various departments and the implementation of the work to effectively promote the project until the project will be in line with the strategic objectives of business management [17–19].

2.2. Big Data and Artificial Intelligence. Enterprise production plans, goods warehouse storage, raw materials, and other information together constitute the enterprise internal data, which is an important content of enterprise knowledge exchange and has an important influence and development value for the enterprise's later development. By using big data technology to implement integrated management of enterprise development business, enterprises can link warehouse storage system, human resource management system, and enterprise resource planning system together organically to realize integrated management of enterprise information, optimize enterprise business process, improve enterprise business management efficiency, and enhance the competitiveness and development power of enterprises in the market development. Under the influence of big data technology, enterprise external data information is divided into two types, namely, enterprise information and market environment information. First, the enterprise's own information mainly refers to the information involved in many aspects such as product production, product supply, product trading quotation, product orders, etc.; second, the market

environment information mainly refers to the various types of information generated by the market environment faced by the enterprise in the development process, such as product market demand information, customer purchase satisfaction information, national policy information, raw material market price information, etc. Influenced by the traditional enterprise business management concept, the management of information inside and outside the enterprise is relatively independent. Applying big data technology to modern enterprise business management can integrate the information inside and outside the enterprise, realize the centralized management of enterprise information, enhance the cooperation and communication among enterprises, and strengthen the competitiveness of enterprises in the market development. The integration of big data and enterprise business management is shown in Figure 2.

The development strategy of enterprise business management under the background of big data focuses on talent training to promote the development of enterprise business management, to ensure that big data technology can be flexibly used in enterprise business management. First of all, all departments of the enterprise should raise the importance of talent training and improve the professional skills of enterprise business managers through regular professional e-commerce training for enterprise business managers; secondly, enterprises should use big data technology to build their own business platform in the network system, enhance the communication and exchange of all departments in the business platform, and enhance the practical application ability of enterprise employees to e-commerce technology. Enterprises should constantly improve the supporting facilities, provide material basis for talent training, and build a strong e-commerce talent team, as well as improve the capital structure to meet the trend of development of the times and keep pace with the market development [20, 21]. First of all, enterprises should build a network interactive platform by using the network platform, increase the communication and exchange between enterprises and consumers, timely understand the actual needs of consumers, accurately lock the target group, reduce the blindness of enterprise design, production, and marketing, and reduce the risk of market operation; secondly, enterprises should start from the existing marketing model and network consumer groups, build a marketing model and network consumer groups between the operation mechanism, according to the consumer groups in different fields, develop the corresponding operation structure, and improve the relevance, scientific, and usability of enterprise business management work.

At this stage, China's artificial intelligence technology in the field of enterprise business management is mainly concentrated in the field of ERP, which is because most of the enterprise business management products have the characteristics of stable commodity prices and uniform quality specifications, so the function of artificial intelligence at this time is mainly reflected in the direct operation of the operation. In contrast, enterprise business management is more concerned about the quality of services, so that artificial intelligence technology has a broader space for development, which will become the main trend of future development. The combination of artificial intelligence technology and enterprise business management has a broad development prospect, so the future work should actively explore the new path of artificial intelligence technology development, the advantages of artificial intelligence technology, so as to comprehensively improve the overall development of enterprise business management [22, 23].

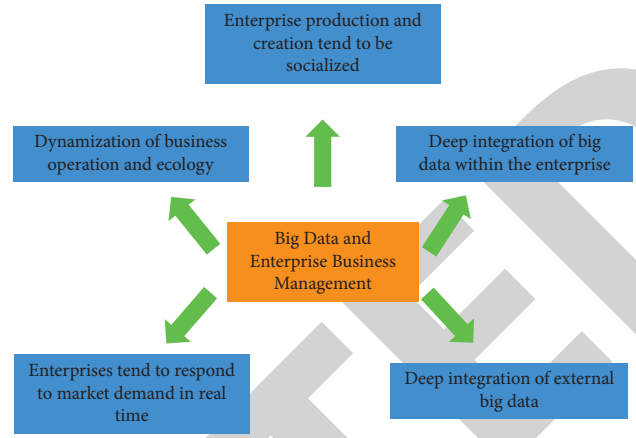

Figure 2: Big data and enterprise business management integration.

3. Methods

3.1. Model Architecture. Enterprise management information system is the use of modern management ideas and means, with the help of modern information network and other technologies, to collect, organize, and store all kinds of information generated in the daily operation and management of enterprises, to provide a reference basis for the preparation and selection of various business management work and related decision-making programs. The establishment of enterprise management information system needs to start from the business processes involved in the enterprise, although the business processes of each enterprise are different, but for the production enterprises, the business processes involved include product development, material procurement, production processing, and other links. Enterprise management includes material management, production management, and other aspects of management, so it is important to establish a management information system through the analysis of the overall business process of the enterprise. With the continuous development of social economy, the competitiveness among enterprises is becoming more and more fierce. Enterprises pay more attention to the intimacy of customers, and it is important to strengthen the communication and interaction with customers and maintain good customer relationships. At the same time, in the face of the growing e-commerce, enterprises need to update their operation mode and conduct comprehensive analysis of relevant management data and information, to lay the foundation for better enterprise decision-making management. Therefore, to meet the enterprise management requirements, when establishing the

management information system platform, it is necessary to pay attention to various management tasks such as customer management. The schematic diagram of the model structure is shown in Figure 3.

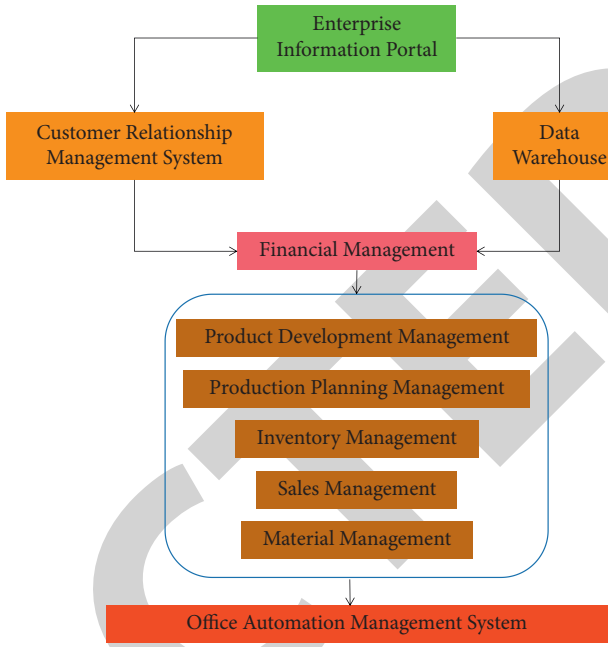

Figure 3: Schematic diagram of the model architecture.

3.2. Cloud Computing and Virtual Technology. Cloud computing is an application provided on the network platform, that is, the hard and software that provide services Cloud computing has the following characteristics: (1) hard and software are resources, which provide services to users using the form of web services; (2) such resources are capable of dynamic expansion; (3) such resources exist in the form of sharing, but finally they are presented as a single whole. In cloud computing systems, virtualization is a very critical technology, which is a virtual version created for a certain thing or scenario. In this technology, the objects that are virtualized are various types of IT resources. The IT resources based on cloud computing system and the traditional management system are different, under the platform includes three levels of infrastructure equipment, platform, and application layer. Among them, the infrastructure equipment layer takes the hardware resources of the cloud as the core and virtualizes various hardware resources using virtual technology. Before building the infrastructure equipment layer, it is necessary to build a data center, in which there are many servers and other related hardware resources to be networked. In order to manage resources more effectively, it is necessary to complete the setting of the virtual scheme in combination with enterprise management information requirements, realize the virtualization of all kinds of hardware resources in the data center, build the corresponding virtual platform, and then realize the management of all kinds of data through virtual integrated management equipment. After the construction of the basic equipment layer, it is possible to carry out basic equipment layer services, including a number of management services such as user management. These services allow users to access the infrastructure layer resource interface, which facilitates more efficient use of infrastructure resources. Using the infrastructure layer can improve the utilization of IT resources, reduce the cost of various types of equipment, and facilitate more effective management of IT resources. The purpose of the platform layer is to provide users with various environments for development and application testing and operation. This includes programming languages, API code libraries, and so on. In this platform layer, it can be used to provide software developers with development and application environments in the form of online and offline development environments, where the online development environment needs to be carried out on the server side and developers do not have to design and develop software, while the offline development environment can support developers to do testing locally. When the testing is completed, the developer needs to deploy the application and transfer it to the cloud platform, which configures the application and activates it so that the application can run smoothly. When the application is officially running, the platform must monitor the application comprehensively. The application layer is a collection of various applications running in the platform, such as financial control system, inventory control system, and other management systems.

The establishment of management information system must be combined with the actual needs of enterprise information management and all kinds of application load to be scientifically analyzed and make the right judgment, to see which applications are suitable for cloud computing services, which applications are suitable for cloud migration, etc. By integrating the classification of various types of application loads and combining the characteristics of application loads, the types of loads applicable to public and private clouds for each application of the enterprise are determined. For enterprises, their internal management information contains various applications such as finance and products, which can be set up on private clouds, while the management information system software adapted to them needs to be set up on private clouds using cloud migration means. Big data and enterprise business management is shown in Figure 4. The proposed cloud computing model mainly includes application layer, platform layer services, and infrastructure layer services. Among them, the infrastructure layer services consist of virtualization integration managers, virtual machines, etc. To establish a complete cloud computing platform adapted to the needs of the enterprise, it is necessary to integrate and reconfigure its internal resources with the specific situation of the enterprise, and combined with the application load requirements, design the corresponding virtual solutions, including server and network virtualization, and then establish business templates, scientific deployment of each business, and ensure the security configuration of each business. In addition, it is necessary to combine the requirements of the system application software for the environment, use the platform layer to provide users with an operating environment that adapts to their

needs, and migrate the corresponding application software and set it up on the application layer to provide users with a management solution that includes each operating system and business layer.

3.3. Artificial Intelligence Algorithm. To realize the error correction of enterprise business management data, it is necessary to detect the amount of error in enterprise business management accounting data. Therefore, this paper proposes a neural network-based error correction of enterprise business management accounting data. Assume that the enterprise business management accounting data set is set as

$$W = [w_1, w_2, \ldots, w_n] \in R^+, \tag{1}$$

where W represents the composition factor in the data set and n denotes the number of accounting data in the data set. The error U within the accounting and financial accounting data detection set is expressed as

$$U = [u_1, u_2, \ldots, u_m], \tag{2}$$

where u represents the accounting data detection factor. Before the accounting and financial accounting data error detection, decompose W and obtain

$$W = HH^T, \tag{3}$$

and convert the data set into another form as follows:

$$W_c = H^{-1}W = H^{-1}U + H^{-1}E, \tag{4}$$

where H represents the lower triangular matrix and E represents the expectation value. Calculate the variance matrix of W. Define the expected value as

$$E_{W_c} = \frac{1}{n} W_c W_c^T. \tag{5}$$

The singular value decomposition of W_c into the first m-v singular values and the last v singular values is expressed as

$$W_c = \frac{\sqrt{n} Z \ D v_c^T}{U_c}, \tag{6}$$

where Z denotes the orthogonal input basis vector composed of W columns, D denotes the orthogonal output basis vector, and v denotes the number of rows of the constraint matrix. The number of minimum eigenvalues approximating to 1 is the value of v obtained by the above calculation. The error result of the data set can be obtained as

$$U = HX_c. \tag{7}$$

After obtaining the data errors, the convolutional neural network is used to determine the relationships between data, between errors, and between data and errors, and the relationships between data are used as a basis to correct the data errors.

Based on the errors in the financial accounting data detected above, the data classification model is constructed using convolutional neural network, and the financial accounting data is used as the input quantity of the model to determine the relationship between variables of financial accounting data by analyzing the feature vectors of the data. In the model, the pooling layer and the convolutional layer are mainly responsible for processing the financial accounting data, and the connection between the convolutional layer and the pooling layer is redesigned in consideration of the specificity of the data relationship. Assume that the financial accounting data input into the model is A, where a denotes the i-th sequence of the data, and use Ai to denote the series sequence matrix a_i, and perform the convolution operation with the data to obtain another vector p denoted as

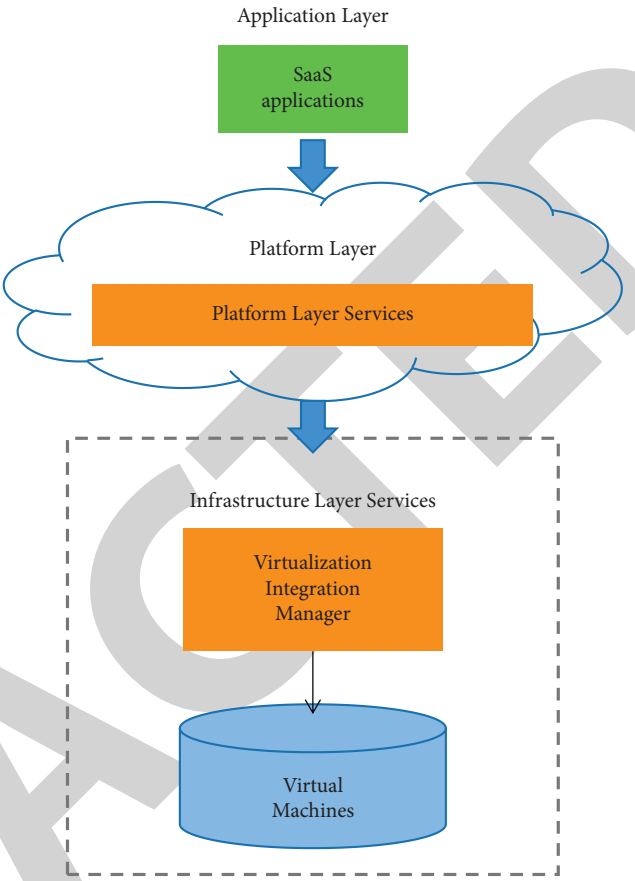

Figure 4: Big data and enterprise business management.

$$p_j = K \otimes A_{(j-k+1):\, j}, \tag{8}$$

where $1 \le j \le |A| - k + 1$ and K denotes the weight matrix of the convolution layer. Using filters to capture the different features of the input data, the convolution operation of the financial accounting data is expressed as

$$p_{ij} = K_i \otimes A_{(j-k+1):\, j}, \tag{9}$$

where $1 \le i \le n$. The matrix $P = \{p_1, p_2, \ldots, p_n\}$ can be obtained by convolving the layers in the model. The matrix P is divided into 3 parts, p_i, and the vector being segmented is obtained by pooling layer processing.

$$\Delta y_b = \Delta_s y_b + \Delta_o y_b. \tag{10}$$

The category label corresponding to data A is obtained by dot product calculation, and the category vector of that

category label is obtained and combined into the category matrix T_A. Based on each data category, the inter-data relationship can be determined. If the data error and the relationship between the data are known, the correction of the data error is realized. Enterprise financial data error correction is implemented. According to the above analysis, the error of financial accounting data is known to be the sum of random error and accounting error, expressed as

$$\eta_{ij} = \max\left(p_{i,j}\right). \tag{11}$$

4. Experiments and Results

4.1. Experimental Environment. This experiment uses my hardware and software environment as shown in Table 1.

4.2. Data Set. The sample data are obtained from a regional business database of Chinese enterprises, and the sample time series is from 1993 to 2012. The data indicators contain 82 indicators, including 48 financial indicators, 33 industry or macro indicators, and 1 default indicator. The data sample is 3045 customers, 2995 good customers, and 50 bad customers. No relevant metric screening was performed in this study. First, the neural network has the characteristics of local connectivity and weight sharing, which can effectively avoid the influence of high correlation of indicators; second, it is to ensure the size requirement for input data; third, the reason is because indicator screening is not the focus of this study. The data sample allocation table is shown in Table 2.

4.3. Data Preprocessing and Segmentation. Step1: standardization of original data. The raw data of Chinese small enterprises extracted from the database are standardized to obtain the standardized data set. Standardization processing is not the focus of this study, so it is not described in detail. Step2: unbalanced sample processing. This study uses a MATLAB program to implement the unbalanced sample processing process. The defaulted samples are synthesized into new defaulted samples by SMOTE algorithm, so that the total number of defaulted samples and the total number of nondefaulted samples reach 1 : 1. Step3: in this paper, the entire sample N is randomly divided into two parts, training sample $N1$ and test sample $N2$. Among them, the test set ratio is divided into 7 : 3.

4.4. Effect of Convolutional Kernel Depth on Model Discriminative Accuracy. In this study, the highest ACC accuracy was used to invert the convolutional layer core parameters. The convolutional layer of the improved convolutional neural network model contains two, conv1 and conv2. Multiple sets of empirical evidence on the convolutional kernel depth are set separately to explore and compare the convolutional kernel depth. The empirical constant of the convolutional kernel depth of most convolutional neural networks is 128, and this study takes different depth constants in the range of about 128 to get different training set accuracies and selects the one with the highest accuracy in its training set. The effect of the depth of convolution kernel 2 on the discriminative accuracy of the training set is shown in Figure 5.

4.5. The Effect of Convolutional Kernel Size on Model Discriminative Accuracy. The most important model structure of the convolutional neural network is the convolutional layer, and the convolutional layer has an important parameter, the size of the convolutional kernel, in addition to the depth. The size of the convolutional kernel is related to how many features are captured in each convolutional operation, and it is especially important to select the most suitable convolutional kernel because the features are too vague to be distinguished if they are too large, and the features cannot be distinguished if they are too small. For this study's 9×9 input matrix, four of them are selected to meet the processing requirements, and the optimal convolution and size are inferred with the highest accuracy of the training set, and the same for convolution kernel 2. The sizes of convolution 1 and convolution 2 are explored separately and the comparison results are obtained as follows. The effect of convolution kernel 1 size and convolution kernel 2 size on the discriminative accuracy of the training set is shown in Figures 6 and 7.

4.6. Comparison of Results. In this paper, the entire sample N is randomly divided into two parts: training sample $N1$ and test sample $N2$. Among them, the test set ratio is divided into 7 : 3. The default discrimination results of the neural network default discrimination model have been obtained, as shown in rows 6 and 7 of Table 3. Comparing the neural network models in Table 3 with other classical models, we can see that the G-mean, ACC, Type error, KS, BM, MK, and AUC accuracy of the neural network models constructed in this paper are significantly higher than the four typical default discrimination models of SVM, NB, LG, and LDA, while the difference between F-value and Type II error and other models is smaller. The training process performance proposed curve is shown in Figure 8.

Comparing rows 6 and 7 in Table 3, the CNN with double Euclidean shortest as the principal arrangement (b) is more accurate than the CNN with random arrangement (a). Also comparing the two rows 5/7, the double Euclidean distance shortest principle proposed in this study is better than the E-value minimum criterion. In summary, the discrimination accuracy of the CNN model in this paper is significantly higher than the four typical default discrimination models of SVM, NB, LG, and LDA; the convolutional neural network model based on the double Euclidean distance arrangement proposed in this paper effectively improves the default discrimination ability. The discrimination accuracy of convolutional neural network model is higher than that of logistic regression model, plain Bayesian, support vector machine, and LDA model. Convolutional neural network is a nonlinear model, so it can give a more relevant description of the factors affecting business management risk compared with the linear approach of models

Table 1: Software and hardware environment.

Name	Parameters
Processor	Intel(R) Xeon(R) CPU E5-2620 v4 2.10 G Hz
Hard disk	1T
Memory	16G
Operating system	Software
Development language	ubuntu
Integrated development tools	Java, Python
Database	Idea
Deep learning framework	MySQL

Table 2: Sample classification table.

Sample classification	(1) Training sample N1	(2) Test sample N2	(3) Test set ratio
(1) Number of nondefault samples	$N0 = 2995$	$n0 = 639$	
(2) Number of default samples	$n1 = 2995$	$n2 = 275$	7/3
(3) Total number of samples	$N1 = 5990$	$N2 = 914$	

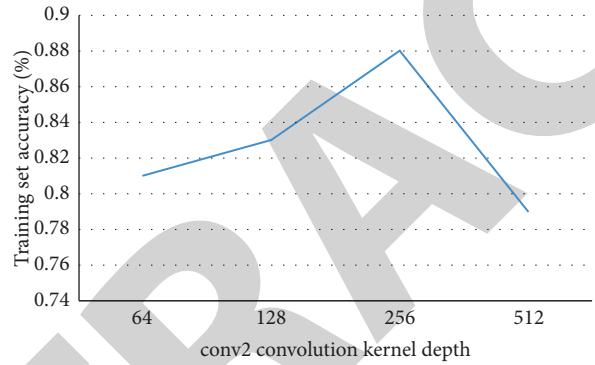

Figure 5: Effect of convolutional kernel 2 depth on discriminative accuracy of training set.

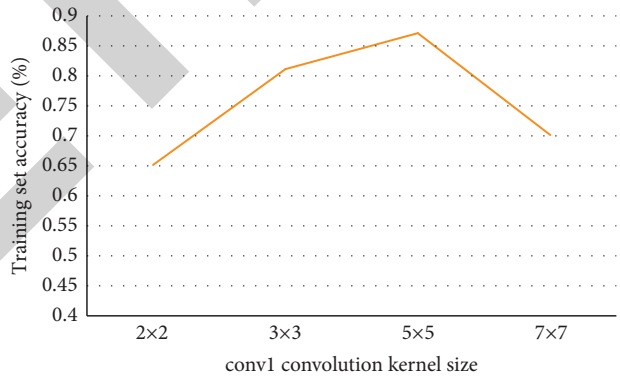

Figure 6: The effect of convolution kernel 1 size on the discriminative accuracy of the training set.

such as logistic regression. At the same time, convolutional neural network itself has strong autonomous learning ability, and compared with traditional machine learning models, convolutional neural network is very good at dealing with the classification problem of matrix tensor type data; therefore, compared with other four traditional models, convolutional neural network model can be more accurate to discriminate enterprise business management risk, and the ability to distinguish good and bad customers is stronger.

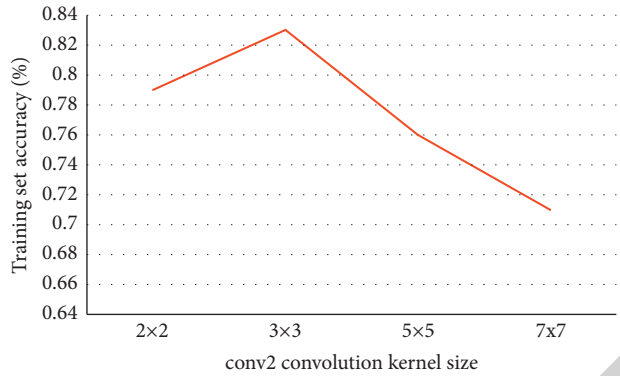

Figure 7: The effect of convolution kernel 2 size on the discriminative accuracy of the training set.

Table 3: Sensitivity modulation table of the new normal target to the digital economy industry.

Models	Accuracy	F_measure	G_Means	AUC	KS	BM	MK	II_error	I_error
LG	0.754864	0.769231	0.752292	0.809702	0.527341	0.509659	0.517612	0.183333	0.307008
SVM	0.775987	0.796773	0.769217	0.817812	0.556337	0.551860	0.575824	0.229222	0.325918
NB	0.713730	0.752285	0.696553	0.757133	0.441807	0.427287	0.472951	0.231111	0.441602
LDA	0.780989	0.791975	0.779202	0.820929	0.570822	0.561921	0.568192	0.166667	0.271413
CNN (x)	0.812004	0.760002	0.781114	0.841123	0.624441	0.595883	0.601145	0.230002	0.203336
CNN (a)	0.800548	0.759565	0.798004	0.854651	0.600484	0.594844	0.599484	0.244845	0.154005
CNN (b)	0.856096	0.781818	0.832865	0.903904	0.683427	0.670455	0.678763	0.227545	0.102000

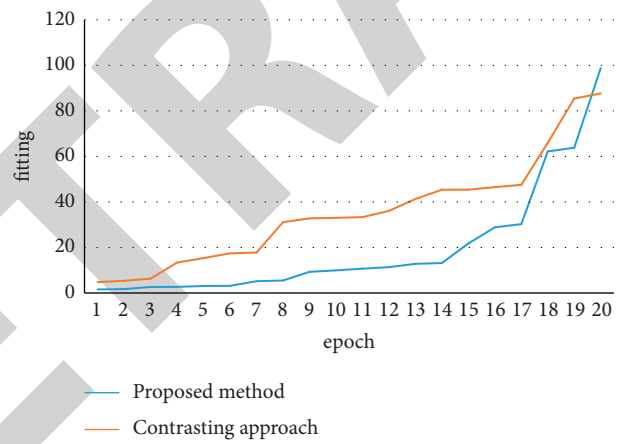

Figure 8: Training process performance proposed curve diagram.

5. Conclusion

In summary, with the promotion of computer technology, Internet technology, Internet of Things technology, cloud computing technology, and big data technology have emerged successively, which bring great impetus to modern enterprise business management work and can effectively transform the management concept of modern enterprises in China, refine the operation process of business organization, optimize the enterprise marketing decision scheme, integrate the production mode of consumer behavior, and enhance the directness and intuitiveness of enterprise business. It can effectively change the management concept of China's modern enterprises, refine the business operation process of industry organizations, optimize the marketing decision plan of enterprises, integrate the production mode of consumer behavior, enhance the directness and intuitiveness of enterprise business management, and promote the development and reform of China's market economy. Through the application of enterprise business management system based on cloud computing architecture, it can not only make up for the shortcomings of traditional enterprise business management system, but also help ensure the timeliness and security of the management system, improve the efficiency of troubleshooting, and enhance the overall performance of the system. Therefore, it is worth promoting and applying the

system in enterprise business management. As a staff, we should improve the system design, do a good job of system debugging, and strengthen system testing and maintenance, so as to comprehensively improve the comprehensive performance of the enterprise business management system and ensure that the system can function more effectively. In the future, we plan to conduct research on the significance of big data and artificial intelligence technologies for enterprise business management on recurrent neural networks and knowledge graphs.

Data Availability

The data sets used during the current study are available from the author on reasonable request.

Conflicts of Interest

The author declares that he has no conflicts of interest.

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