

Retraction

Retracted: Intelligent Analysis of Logistics Information Based on Dynamic Network Data

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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1].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] P. Yang, "Intelligent Analysis of Logistics Information Based on Dynamic Network Data," *Journal of Control Science and Engineering*, vol. 2022, Article ID 7967040, 9 pages, 2022.

Research Article

Intelligent Analysis of Logistics Information Based on Dynamic Network Data

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In order to realize the intellectualization of logistics information analysis, this paper proposes an intelligent analysis method of logistics information based on dynamic network data cloud mining. This paper selects the data of a shipping logistics platform to realize the intelligent analysis experiment of logistics information based on cloud clustering mining. The purpose of the experiment is to find out the advantages of logistics information intelligent analysis based on cloud mining by comparing the performance differences between cloud clustering mining and traditional clustering mining in logistics information intelligent analysis. This paper builds an experimental environment based on Hadoop and MapReduce parallelization based on K-means algorithm. Taking the obtained logistics data as the analysis object, preprocess it and get the results based on cloud clustering mining. The experimental results show that the parallel mining analysis method is 179.2% slower than the traditional mining analysis method in dataset data1, 60.4% slower in dataset data2, and 2.8% faster in dataset data1. The intelligent analysis method of logistics information based on cloud clustering mining has good scalability and speedup ratio. *Conclusion.* Applying cloud mining to logistics information analysis and realizing the intelligent analysis of logistics information has great advantages, and can well meet the content and efficiency needs of logistics information analysis stakeholders.

1. Introduction

Logistics is an important activity that runs through the overall situation of national economy and social life. It is the core field of national and enterprise informatization. With the wide application of new technologies such as cloud computing, Internet of things, mobile Internet, and social network, especially the rapid development of electronic communication and e-commerce such as data acquisition, identification, status monitoring, real-time positioning, remote control, and e-payment, the amount of data owned by logistics enterprises has increased rapidly and promoted the development process of big data in logistics industry [1]. In the era of big data, data, like money and gold, is a new economic asset of enterprises, and enterprises have an increasingly strong demand for the analysis and processing of these data. At present, the logistics information is becoming increasingly big, complex, and dynamic. The existing analysis methods are difficult to extract the knowledge

required by the enterprise from these massive logistics information (as shown in Figure 1). The reasons mainly come from three aspects [2]: First, the types of logistics information are becoming more and more diverse, the quantity is becoming larger and larger, and the content is becoming more and more complex. Discretization, dynamics, and isomerization have become the norm of logistics data. The traditional information analysis methods are powerless or inefficient; second, the existing logistics information analysis mechanisms mostly take historical data and static data as the processing and analysis objects. Although some logistics information analysis software and tools adopt data mining technologies such as intelligent agent and classification/clustering, they have not formed an effective analysis and processing system, so it is impossible to realize real-time dynamic, distributed and active discovery exploratory analysis, and it is difficult to improve the overall intelligence of data analysis [3, 4]; Third, the quality of logistics information analysis is not high, mostly from the level of

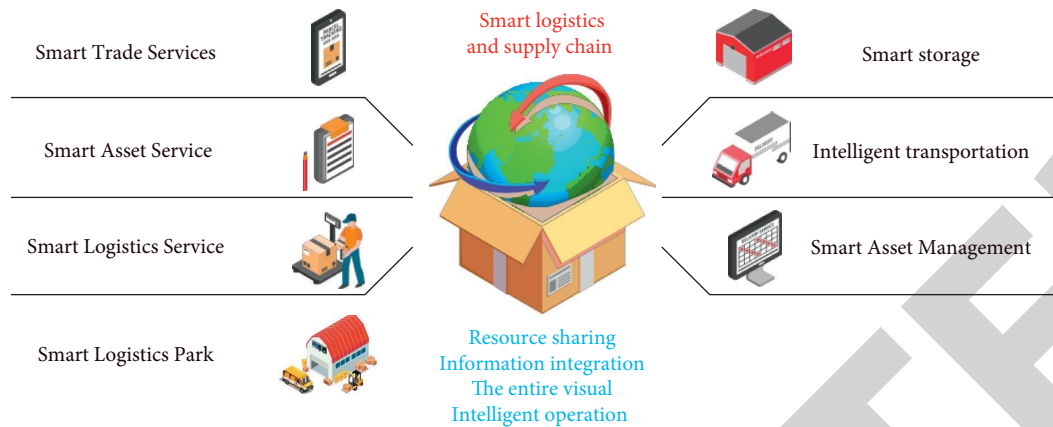


FIGURE 1: Analysis of development environment and upgrading mode of smart Logistics.

information itself, which is difficult to produce more valuable and targeted knowledge information.

2. Literature Review

With the development of cloud computing technology, more and more engineers and technicians apply cloud computing in data mining. As the fifth generation data mining technology, data mining based on cloud computing provides solutions for more and more massive data mining, and has been widely used in many fields. Liu, P. et al. Built a more advanced machine learning method based on local weighted linear regression, logistic regression, K-means, linear support vector, Bayesian, independent variable analysis, and other methods by relying on the simple map/reduce programming model on multi-core processor [5]. Zhang Developed a cloud based information infrastructure for wide area high-performance networks [6], which is composed of Storage Cloud and computing cloud and can be used to support the implementation of data mining. In the cloud computing environment, JCLA, B. et al. designed the corresponding distributed sequence mining algorithm based on Web usage mining technology to realize the mining of enterprise customer big data, so as to analyze and utilize customer information in all aspects [7]. Suraj and others proposed a service-oriented general data mining architecture based on cloud computing software as a service (SaaS) level, which is composed of five layers, including data layer, enterprise user layer, service layer, business process classification layer, and presentation layer. As long as users know the address of data file storage, the remaining mining services are completed by the model.

It is undeniable that using the existing static information analysis methods, it is difficult to analyze and process the dynamic information resources in real time in the face of massive, complex, and dynamic logistics information in the big data environment; to analyze and mine a large number of hidden and useful knowledge and wealth, we must be inseparable from intelligent information analysis and processing methods. Therefore, based on the research results of experts and scholars at home and abroad, this paper will comprehensively apply the advanced theories and

technologies in multi-disciplinary fields [8, 9], and focus on exploring the intelligent logistics information analysis method system based on cloud mining, in order to attract jade for relevant research.

3. Research Methods

3.1. Cloud Mining Technology

3.1.1. Concept of Cloud Mining. After more than 20 years of development, data mining technology has experienced five development stages: the first generation is the independent application of data; the second generation is the integration of database and data warehouse; the third generation is the integration of prediction model system and a large number of applications; the fourth generation is the generation and application of distributed data mining technology; and the fifth generation is the development of parallel data mining and services based on cloud computing. Traditional data mining technology has been difficult to adapt to the growth of massive data. It is powerless to mine real-time data or data flow, and it is difficult to meet the personalized and diversified data mining needs. Based on the massive storage capacity and powerful computing and data processing capacity, cloud computing has become an effective way to solve massive data mining. The emergence of the fifth generation data mining technology provides the premise and foundation for the in-depth development and utilization of big data.

The so-called cloud mining refers to parallel data mining supported by cloud computing technology, that is, parallel dynamic data mining based on cloud computing platform, so as to realize the storage, analysis, processing, and mining of massive data with high performance and high reliability [10]. The success of cloud mining is inseparable from the following key technologies: data storage mode, data pre-processing mode based on cloud platform, and massive data mining parallel algorithm suitable for cloud platform.

3.1.2. Implementation Principle of Cloud Mining. Cloud mining can give full play to the advantages of clusters and realize the independent allocation and scheduling of computing resources. On the one hand, other nodes in the cluster

are used to undertake the corresponding storage and computing tasks; on the other hand, the massive storage capacity and parallel computing capacity of cloud computing are used to deal with the core data mining work, so that the algorithm is universal, adjustable, searchable, and visible. At the same time, it provides a friendly and convenient user interface and open interface, so that users can complete the encryption protection of private data on the client and meet the diversified and personalized needs of users.

The implementation principle of cloud mining [11, 12] is as follows:

- (1) Users use computers, tablets, mobile phones, and other terminals to log in to the cloud mining system, put forward their own mining needs, set corresponding algorithm parameters in combination with their own specific conditions, and input basic data at the same time;
- (2) After receiving the user's mining demand, the cloud mining system immediately responds to the demand, analyzes the idle state of the work node, and hands over the mining task to the idle work node to complete;
- (3) Based on the requirements and algorithm parameters previously submitted by the user, the cloud mining system deduces and calculates the missing value data from the data input by the user and the data called from the distributed storage system, and completes data type conversion, noise filtering, duplicate record elimination, and other preprocessing work;
- (4) The working node of the cloud mining system automatically selects the corresponding data mining algorithm, carries out parallel data mining on the preprocessed data, and obtains useful information and knowledge for users after pattern evaluation and interpretation;
- (5) The cloud mining system merges the mining results of each work node, selects appropriate visualization tools, and transmits the mining results to users.

3.2. Architecture Design of Logistics Information Intelligent Analysis Application Platform Based on Cloud Mining

3.2.1. Logical Architecture. The logistics information intelligent analysis application platform based on cloud mining can be logically divided into six levels: user interaction layer, platform application layer, platform management layer, logistics information analysis layer, virtualization resource layer, and infrastructure layer [13], as shown in Figure 2.

The "intelligent analysis" of the platform mainly includes the construction of virtualized resource layer by using virtualization technology and the algorithm analysis of virtualized resource layer data by using cloud mining technology in logistics information analysis layer. The former is similar to the data warehouse in business intelligence, and the latter is similar to the data mining in business

intelligence, thus forming three main logistics information intelligent analysis methods: logistics information intelligent analysis method based on cloud classification mining, logistics information intelligent analysis method based on cloud clustering mining, and logistics information intelligent analysis method based on cloud association mining.

(1) *User interaction layer.* This layer is the channel for users to interact with the platform and realize the data interaction between users and the logistics information intelligent analysis platform. As long as users have authorization, they can log in to the platform through the corresponding interface. They can not only put forward the logistics information analysis request to the platform but also obtain the logistics information analysis visualization results provided by the platform. Through the user interaction layer, the on-demand service between the platform and users is realized.

(2) *Platform application layer.* This layer provides users with applications that meet their needs according to the needs put forward by logistics information stakeholders, such as meeting the business needs of logistics enterprises in route planning, partner selection, transportation cost optimization, operation decision-making, cargo flow analysis, and so on.

(3) *Platform management.* This layer provides management and services for the logistics information intelligent analysis platform, including not only the management of users, such as user customization services, authentication, license management, but also the management of resources, such as resource monitoring, load balancing, content management, cluster management, fault detection, processing, etc. It also includes the security management of the platform, such as infrastructure security management, system security management, network security management, application security management, platform security management, user security management, and data security management.

(4) *Logistics information analysis layer.* This layer is the core of the whole platform. MapReduce is used as the distributed parallel computing model [14]. Combined with the information needs of logistics information stakeholders, it realizes the call of underlying resources. Through the storage management, data cleaning, algorithm call, data mining, result evaluation, result output, and other operations of the obtained logistics information, it achieves the results of intelligent analysis of logistics information and is called by the platform application layer in the form of service.

(5) *Virtualized resource layer.* This layer is the foundation of the whole platform. It uses virtualization technology to realize application virtualization and hardware virtualization, and integrates decentralized physical resources, so as to build corresponding resource pools, including servers, networks, databases, application software, and other resources. Similar resources in the resource pool form clusters to directly operate and optimize the scheduling of resources. The virtualization resource layer can provide the upper layer

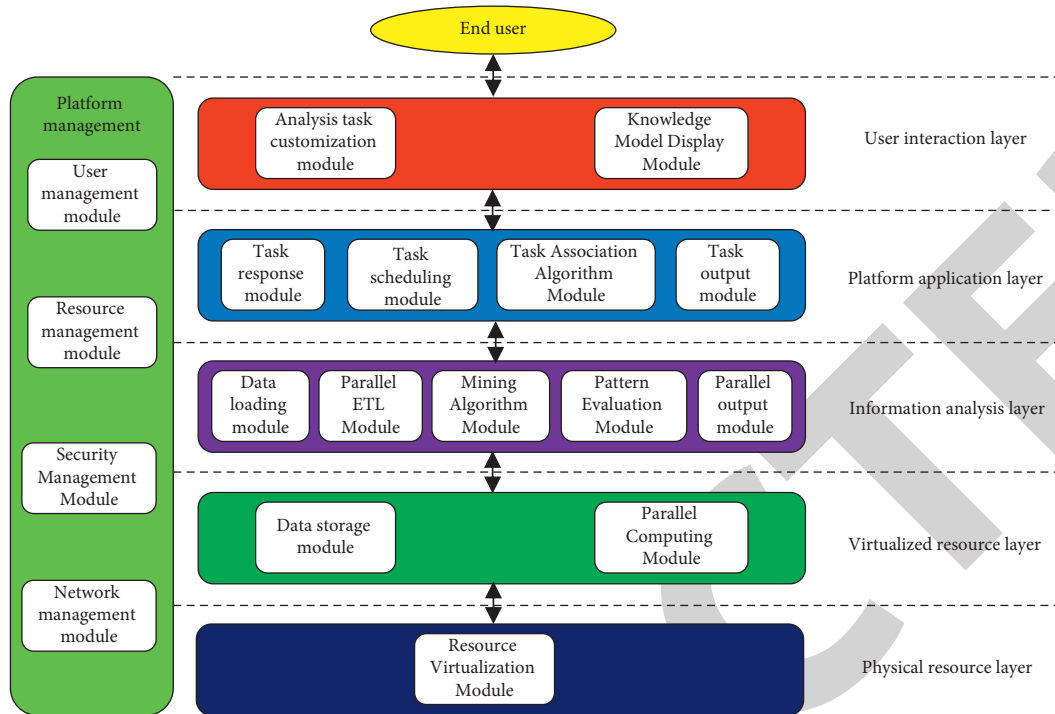


FIGURE 2: Logical architecture of logistics information intelligent analysis application platform based on cloud mining.

with virtualization functions such as virtual system, virtual environment, and virtual platform, which can be provided as services, and monitor and manage the real-time state of resources.

(6) *Physical resource layer*. This layer is the cornerstone of the whole platform. It provides the necessary facilities and equipment for the bottom layer of the platform, including computer room, power supply, cloud server, cloud transmission equipment, cloud storage equipment, network equipment, and other hardware physical resources. It forms a super functional computer cluster through resource virtualization technology to provide physical support for the above layers and meet the requirements of computing and storage for the normal operation of each layer.

3.2.2. Logic Function Module

(1) *Analysis task customization module*. This module refers to the scenario after users log in to the platform; they determine the logistics information intelligent analysis task according to their own needs, which is also the starting point of logistics information intelligent analysis. There are various forms of user customized tasks. No matter when, where, or what access terminal is used, as long as the platform can be linked, you can use the interactive interface to put forward your own needs, and the platform can complete the subsequent logistics information analysis and result provision.

(2) *Knowledge mode display module*. This module is based on the user's customized task; after calling the corresponding data mining algorithm to mine the data, with the help of the

interactive interface, the processed knowledge mode is displayed to the user in a graphical way, so as to realize the functions of viewing, analyzing, and saving the analysis results of logistics information. Users can view the required knowledge mode at any time and use the displayed knowledge mode in their own operation decision-making, so as to realize the application of logistics information analysis results.

(3) *Task response module*. The module is directly connected with the analysis customization mode, receives the logistics information analysis task submitted by the user, and responds to the logistics information analysis task submitted by the user. Only the responding logistics information analysis task can be transmitted to the task scheduling module, and it is possible to trigger subsequent corresponding analysis tasks. This module is equivalent to the gatekeeper of logistics information intelligent analysis application platform.

(4) *Task scheduling module*. After receiving the instruction from the task response module, the module calls and manages the sub businesses required to complete the logistics information analysis task according to the task request submitted by the user, schedules multiple modules of the logistics information analysis layer to complete the logistics information analysis task, and transmits the analysis results to the task output module.

(5) *Task association algorithm module*. This module mainly manages and saves the algorithms associated with the user's logistics information analysis task, including not only the algorithms previously used by the user but also the

algorithms developed by the user with development ability or improved on the basis of the original algorithms, as well as the algorithms planned to be sold and owned by the user [15]. If the user can find and use the corresponding algorithm in the association algorithm module, he will directly call the relevant modules of the logistics information analysis layer to realize the analysis and application of logistics information.

(6) *Task output module.* The module plays a connecting role between the user interaction layer and the logistics information analysis layer. It returns the logistics information analysis results to the user interaction layer and returns the visual task execution results for the user as the source of the knowledge mode display module.

(7) *Data loading module.* According to the user's logistics information analysis task, this module either imports the relevant logistics data conforming to the data format from the external node cluster, or obtains the data to be analyzed from the data storage system for this logistics information analysis. At the same time, after parallelization according to the MapReduce framework, the external data are submitted to the virtualization resource layer and stored in the open file system (such as HDFS) of the system.

(8) *Parallel ETL module.* This module is mainly used to preprocess the source data, extract, transform, clean, and integrate the data stored in the distributed storage system, reduce the heterogeneity of the data, ensure the integrity and consistency of the data, improve the quality of the data, and ensure that the data are suitable for the MapReduce computing model in the cloud computing environment [16], so as to serve the next data mining. Through this module, noise data and duplicate data can be removed, incomplete data can be processed, key data can be identified and extracted, and the data format can be unified and saved in HDFS to prepare for data mining.

(9) *Mining algorithm module.* This module is the most important module in the whole platform. Its function is to realize the parallelization of mining algorithms, including parallel classification algorithm, parallel association rule algorithm, and parallel clustering algorithm. It forms a library that can provide various parallel data mining algorithms based on cloud computing, and then submits it to the virtualization resource layer to realize the mining task of massive logistics data. As the engine of data mining, this module can parallelize the traditional mining algorithms on HA-doop platform, that is, map/reduce these algorithms to realize the automatic update, supplement, and deletion of mining algorithm library, so that they can be deployed to the distributed environment of cloud computing platform for parallel execution.

(10) *Mode evaluation module.* This module is to evaluate the performance of the mined patterns, such as reliability, credibility, and so on. At the same time, the module also carries the function of result comparison, so that users can

mine multiple methods or multiple times for the same task, compare different mining results, and provide users with more reliable and reasonable results. The pattern evaluation module can be called by the mining algorithm module.

(11) *Parallel output module.* The module obtains the mining results from the virtualization resource layer, stores various patterns generated by mining, and feeds back the data mining results to the platform application layer in the form of tables or graphs.

(12) *Data storage module.* The module stores massive logistics data. Through the distributed file system HDFS, a large data file is divided into multiple small file blocks, and the massive logistics data are distributed and stored on multiple computer clusters. This gives full play to the scalability advantage of MapReduce, which not only provides temporary storage space for parallel computing but also provides persistent storage space for data mining results, and becomes the storage space of knowledge base, so that data mining has a lot of data guarantee and knowledge guarantee. The module can manage the stored information, such as data backup, data model management, and so on. In order to realize the storage and management of massive logistics data and provide data support for parallel computing, it is also necessary to establish attribute index information and spatial index information of all kinds of data.

(13) *Parallel computing module.* This module relies on the MapReduce distributed computing framework provided by Hadoop and uses the parallel working mode to execute the algorithm in parallel. It can decompose a task into multiple sub tasks, so as to obtain the processing capacity of massive data on the cloud platform. Each task will be divided into two types of task sets: map and reduce. It will execute the actual mining tasks distributed. When a large number of users put forward mining requests at the same time, it will realize the efficient scheduling of distributed mining tasks, run the corresponding mining algorithms, complete the parallel operation of data mining computing power, and then summarize the processing results, respond quickly, and provide services.

(14) *Resource virtualization module.* The module uses virtualization technology to access the underlying distributed network equipment, memory, server, and security equipment in the network, and uses abstract digital expression methods to uniformly describe and encapsulate them. Virtualize all kinds of heterogeneous storage, computing, and network resources into virtual resources and abstract them into deployable resources to form a server cluster and operating environment, form a globally unified large-scale virtual resource pool, and realize the comprehensive interconnection of all kinds of network node resources. The module adopts cluster technology for unified scheduling management, provides a unified access interface, realizes the integration and management of physical resources, realizes the transparent access of computing resources, storage resources, and network resources, and meets the normal

operation requirements of virtualization resource layer and logistics information analysis layer.

(15) *User management module*. This module mainly manages the enterprise and user information of each node using the logistics information intelligent analysis platform, and provides a unified interface path for identifying user identity, registering management services, providing user interaction interface, creating the execution environment of user program, user permission setting, user interaction management, message management, and user billing.

(16) *Resource management module*. This module is mainly used to balance the resources of the logistics information intelligent analysis application platform, optimize the allocation of resources, and improve the efficiency of resource utilization.

(17) *Safety management module*. This module is mainly responsible for the overall security of logistics information intelligent analysis application platform. Through centralized management and use of VPN, firewall, anti-virus, IDS, data encryption, access authorization, identity authentication, security audit, and other security methods, it realizes network security, infrastructure security, system security, platform security, data security, application security, and user security, and constructs a complete security protection system.

(18) *Network management module*. This module manages the network system of the logistics information intelligent analysis and application platform, ensures the normal operation of the network through fault detection, fault recovery, monitoring, and statistics, and provides users with smooth network interface and network application.

3.2.3. *Physical Architecture*. The logistics information intelligent analysis and application platform based on cloud mining will set up nodes at the level of large logistics enterprises and their subordinate branches, suppliers, and distributors, and use virtualization technology to form resource clusters, while the physical resource pool is formed by node resource clusters. The physical resource pool is gathered in the cloud computing data center, which can realize data storage, algorithm design, data analysis, and information services. Distributed cluster servers constitute the cloud computing data center. The logistics information intelligent analysis application platform based on cloud mining should make full use of a large number of cheap resources in the network, and carry out parallel processing of data preprocessing, data mining algorithms, and other tasks in the cluster environment of Hadoop platform. The results of data preprocessing are distributed stored by the distributed file system HDFS and stored in the node disk; the data mining task adopts MapReduce programming model, which is processed in parallel by node computers distributed everywhere to realize the parallel programming mode of mining algorithm. Its physical architecture [17] is shown in Figure 3.

The intelligent analysis of logistics information based on cloud association mining needs to realize MapReduce parallelization of clustering mining algorithm, and its implementation framework [18] is shown in Figure 4.

4. Result Analysis

4.1. *Experimental Process*. After completing the hardware platform construction and Hadoop platform configuration of the experimental environment, the obtained logistics data are used to test the proposed logistics information intelligent analysis method based on cloud clustering mining. The result is to determine the key customers. In order to better test the performance of this method, the traditional serial K-means clustering mining is also used for comparison [19]. Another ThinkpadX201 laptop is selected to install the free download open source data mining software Weka. At the same time, a node in the built cluster is selected to process the same data set by the two machines to compare the difference in processing time. Then, select 1 node, 2 nodes, 3 nodes, 4 nodes, 5 nodes, 6 nodes, 7 nodes, and 8 nodes to analyze three groups of test data sets, and evaluate the performance of the method.

Let $X = \{x_1, x_2, \dots, x_n\}$ be all samples to be clustered, each sample x_k ($k = 1, 2, \dots, n$) in X is represented by a finite number of values, each value represents a feature of x_k , and the vector $p(x_k) = (x_{k1}, x_{k2}, \dots, x_{km})$ corresponding to all features of object x_k is the feature vector, where x_{kl} ($l = 1, 2, \dots, m$) is the value of the l -th feature of x_k . Thus, the characteristic index matrix of the sample can be obtained as follows:

$$\begin{pmatrix} X_{11} & X_{12} & \dots & X_{1m} \\ X_{21} & X_{22} & \dots & X_{2m} \\ \dots & \dots & \dots & \dots \\ X_{n1} & X_{n2} & \dots & X_{nm} \end{pmatrix}. \quad (1)$$

The clustering problem can be changed into a planning problem, and the objective function is as follows:

$$\min J_m(U, V) = \sum_{i=1}^n \sum_{j=1}^c u_{ij}^m, \quad (2)$$

where $\sum_{j=1}^c u_{ij} = 1$, $1 \leq i \leq n$, $0 \leq u_{ij}$, $0 < \sum_{j=1}^c u_{ij} < n$, $1 \leq i \leq n$.

Cluster analysis is to divide the sample x_1, x_2, \dots, x_n into a series of subsets X_1, X_2, \dots, X_c according to the kinship between the samples, and meet the conditions of the following formula:

$$X_1 \cup X_2 \cup \dots \cup X_c = X, X_i \cap X_j \neq \emptyset, \quad 1 \leq i \neq j \leq c. \quad (3)$$

The membership relationship between sample x_k and subset X_i is expressed by the membership function of the following formula:

$$U_{x_i}(x_k) = U_{ik} = \begin{cases} 1, & x_k \in X_i, \\ 0, & x_k \notin X_i. \end{cases} \quad (4)$$

Using the traditional serial K-means clustering and the parallel K-means clustering of the built cluster nodes to mine

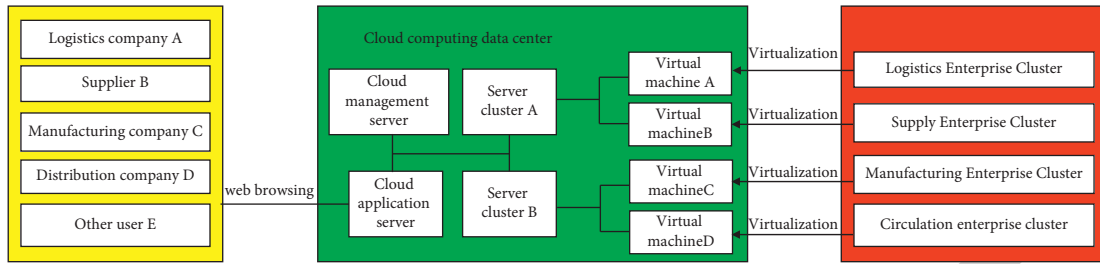


FIGURE 3: Physical architecture of logistics information intelligent analysis application platform based on cloud mining.

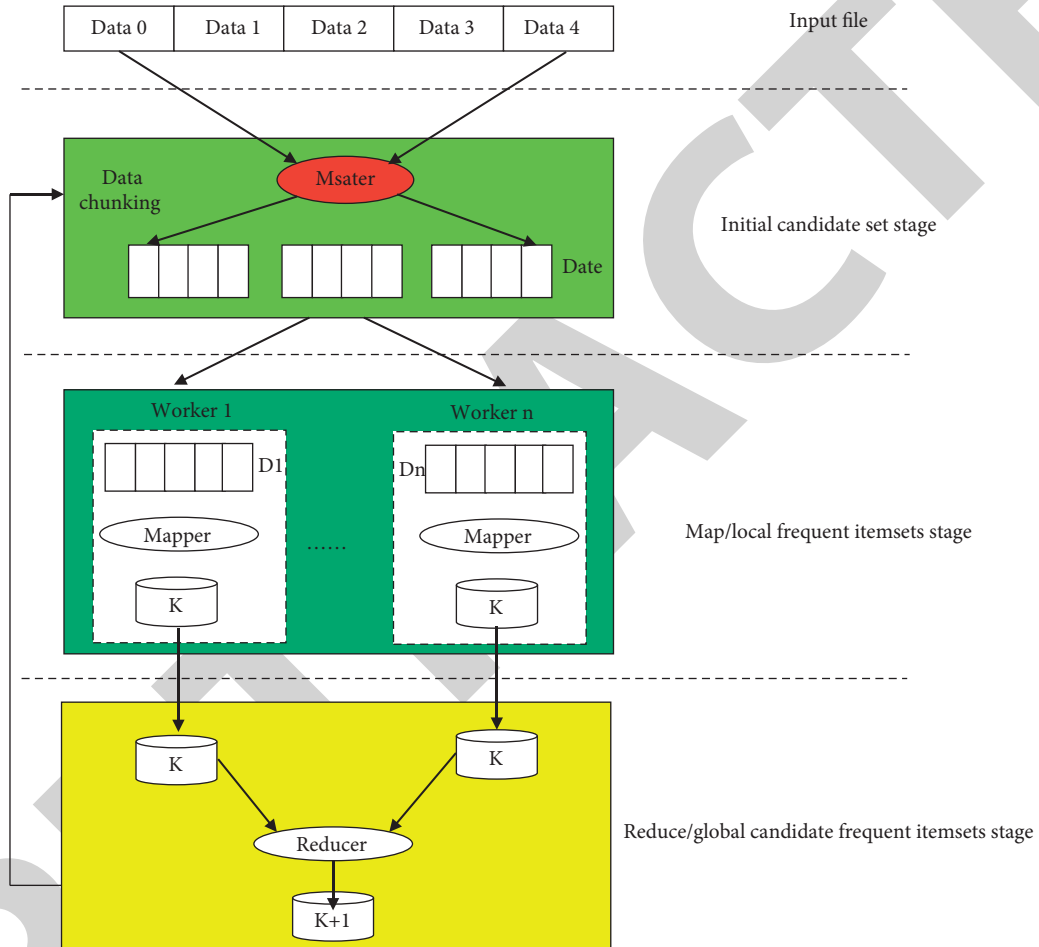


FIGURE 4: Implementation framework of logistics information intelligent analysis based on cloud association mining.

and analyze the collected three test data sets, we can get the corresponding clustering analysis results (determine the key customers), but their processing time is different. When the amount of data is small, the traditional mining and analysis method has the advantage of speed and costs less time [20]; when the amount of data changes, the mining and analysis method based on cloud clustering will surpass, and the speed advantage will be reflected. Time1 represents the time spent by traditional mining and analysis methods, and time2 represents the time spent by parallel mining and analysis methods, as shown in Table 1. It can be seen that the parallel mining analysis method is 179.2% slower than the traditional mining analysis method in dataset Data1, 60.4% slower in dataset Data2, and 2.8% faster in dataset data1.

TABLE 1: Experimental comparison results.

Serial number	Test data set	Time1 (s)	Time2 (s)
1	Data1	24	67
2	Data2	53	85
3	Data3	105	102

Although with the increase of the amount of data in the dataset, the time spent by both traditional mining and analysis methods and parallel mining and analysis methods is increasing, the time growth rate of parallel mining and analysis methods is much slower than that of traditional mining and analysis methods, which also shows that when facing massive data, the traditional mining and analysis

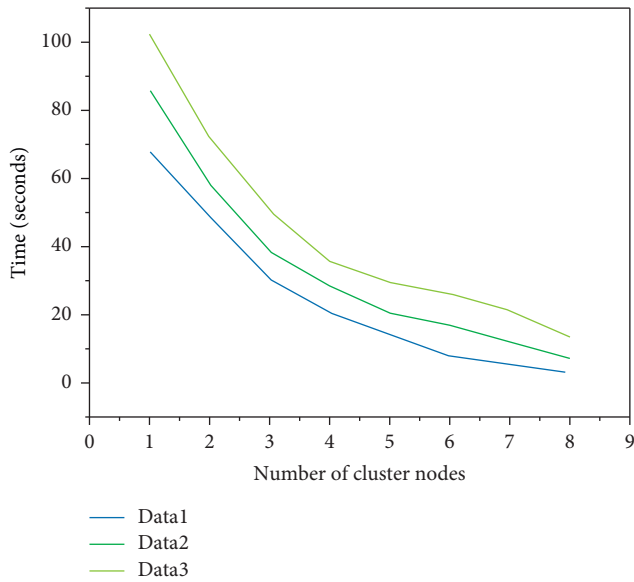


FIGURE 5: Performance test results of expansion rate.

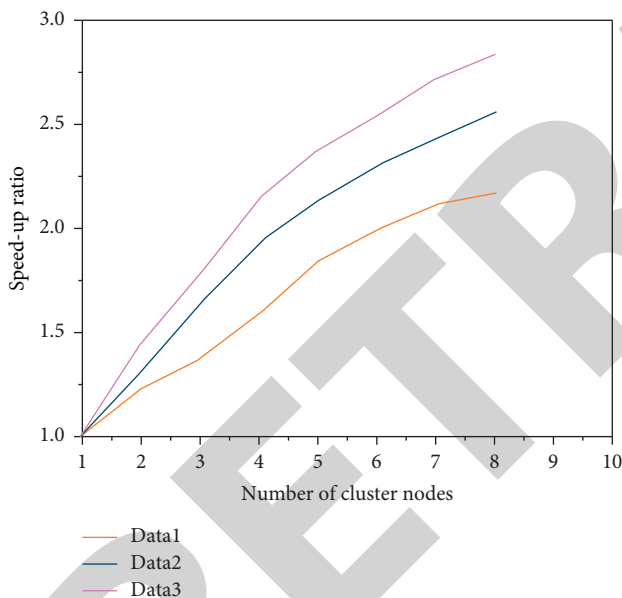


FIGURE 6: Acceleration ratio performance test results.

methods may stop the mining and analysis process due to more and more serious resource consumption.

The data sets tested are Data1, Data2, and Data3, respectively. Nine clustering results are required to be generated. Cluster nodes select 1, 2, 3, 4, 5, 6, 7, and 8 to participate in the calculation. The corresponding operation efficiency is shown in Figure 5.

As can be seen from Figure 5, with the increase of the number of cluster nodes participating in the calculation, the running time of the three groups of test data sets is decreasing. This shows that for the same data set, adding cluster nodes can improve the data mining and analysis efficiency of the system, which reflects good scalability. At the same time, when the data set is larger and larger, the

execution efficiency of mining analysis is higher and higher. However, because the communication between nodes takes a little time, when the number of nodes increases, the execution time of mining analysis will not decrease exponentially, because the communication cost between nodes is gradually increased [21]. The test data sets are Data1, Data2, and Data3, respectively. Cluster nodes select 1, 2, 3, 4, 5, 6, 7, and 8 to participate in the calculation and calculate the acceleration ratio of each data set. The corresponding results are shown in Figure 6.

As can be seen from Figure 6, no matter whether the test data set is large or small, the acceleration ratio increases nearly linearly with the increase of cluster nodes, indicating that the increase of cluster nodes can effectively shorten the time required for mining analysis process. When the data set is larger, the acceleration ratio performance of parallel mining analysis is better.

5. Conclusion

The intelligent analysis method of logistics information based on cloud clustering mining has good scalability and speedup ratio. The experiment shows that the intelligent analysis method of logistics information based on cloud mining has great advantages, and can well meet the content and efficiency needs of logistics information analysis stakeholders. The research of this paper makes up for the deficiency of the current academic research, provides a certain theoretical and technical support for the application of cloud mining in the field of logistics information intelligent analysis, and also lays a foundation for the application of cloud mining in other fields, which has a certain theoretical significance and practical value.

Data Availability

The data used to support the findings of this study are available from the corresponding author upon request.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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