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Retraction

Retracted: Construction Model of E-Commerce Agricultural Product Online Marketing System Based on Blockchain and Improved Genetic Algorithm

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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1].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] S. Chao, "Construction Model of E-Commerce Agricultural Product Online Marketing System Based on Blockchain and Improved Genetic Algorithm," *Security and Communication Networks*, vol. 2022, Article ID 4055698, 11 pages, 2022.

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Research Article

Construction Model of E-Commerce Agricultural Product Online Marketing System Based on Blockchain and Improved Genetic Algorithm

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To build an agricultural product network marketing system in the era of e-commerce, it is necessary for agricultural product business enterprises or farmers to recognize the benefits of using e-commerce to market agricultural products and face up to its influencing factors and to build a support system, application system, and guarantee system with the support of the government to promote agricultural product e-commerce marketing to obtain healthy development. In this study, we study the construction mode of e-commerce agricultural product online marketing system based on the end of blockchain and improved genetic algorithm. This study adopts the design idea of coalition chain and proposes a multichain agricultural product trading information blockchain application technology including agricultural product trading information chain, user information chain, and agricultural product information chain. The agricultural product information chain provides detailed information of agricultural products and ensures the traceability and non-tamperability of the information. It automatically divides the profits of transactions through smart contracts to improve execution efficiency and reduce transaction costs and finally establishes a transparent, efficient, and applicable blockchain architecture for agricultural product transactions.

1. Introduction

Entering a new era of social and economic construction and development, e-commerce development is becoming more and more perfect. At present, the goods on the e-commerce marketing platform involve more and more fields or types of goods [1]. Among them, many agricultural products are also on the e-commerce marketing platform, which needs to improve the level of e-commerce marketing of agricultural products. To improve the level of e-commerce marketing of agricultural products, it is necessary to completely change the original traditional marketing methods and build and develop a perfect e-commerce marketing system for agricultural products in the era of e-commerce [2]. Only in this way we can promote agricultural product e-commerce marketing more and more tend to the development trend of the new era.

The advantage of e-commerce is the speed of information transmission [3]. At present, because of the rapid development of society, the Internet has become a difficult application tool for people to leave and has become the mainstream of the new era of development. After years of development, information technology has matured and entered a period of democratic application. The e-commerce marketing market built up based on the Internet has long become an equally competitive market recognized by people. There is fierce competition for any kind of goods that appear on the e-commerce marketing platform every time [4]. In this case, information becomes an important bargaining chip to enhance competitiveness, who has mastered the first opportunity of information and who has won the initiative of product marketing [5]. Therefore, only by virtue of e-commerce marketing platform, we can get the supply and demand information of product marketing in time and arrange the specific marketing of products in the case of symmetric supply and demand information. Relative to agricultural products, the use of e-commerce form of

marketing can win the initiative of marketing in fast information, expand the marketing volume of agricultural products, and promote farmers to achieve rapid income growth [6].

Nowadays, the "Internet+" environment of the information age has led to the rapid development of the Internet economy. This also provides agricultural business enterprises or farmers with the convenience of marketing agricultural products [7]. As we all know, online marketing can reduce many intermediate links, realize direct production and marketing docking, and effectively reduce the marketing cost of agricultural products [8]. Using e-commerce platform for marketing agricultural products, it is only necessary to publish relatively detailed product descriptions on the pages of the e-commerce platform system, supplemented by clear physical pictures, and consumers will make purchases based on the information of the agricultural products [9].

However, it should be noted that it is necessary to ensure the consistency of the agricultural products and the recommended information, neither to deceive consumers nor to improve the reputation of agricultural product marketing, which is conducive to expanding the marketing scope and winning more repeat customers [10]. The current competition of agricultural products mainly focuses on the sales of agricultural products, so the logistics of agricultural products is particularly important. The most critical issue of agricultural product logistics is distribution [11]. However, the working conditions of agricultural product logistic distribution are complicated, not only with many freight points, many types of goods, and complex road networks but also with uneven distribution of distribution service areas [12]. Meanwhile, as consumers' demand for agricultural products presents the requirements of personalization, diversification, freshness, and harmlessness, higher requirements are put forward for the circulation of agricultural products.

E-commerce platform is actually a network platform. The publicity and promotion power of the network platform for commodities has wide geographical coverage and can let many network media audiences see the promoted information. When agricultural products are pushed onto the e-commerce platform for marketing, coupled with the quality of the agricultural products, they will be welcomed by consumers and will welcome more repeat customers [13]. In the long-term marketing of agricultural products, due to the trustworthiness of the quality of agricultural products, the brand awareness of agricultural products can be formed naturally in the minds of consumers, making them willing to buy agricultural products that they think are of good quality [14]. In this way, it will make such agricultural products, in the future marketing, more and more able to occupy the marketing market of e-commerce, so as to create a brand product of agricultural products.

2. Related Work

Agricultural logistics and distribution can be traced back to as early as 1901, when G.F. Growell, in a U.S. government report ("On the Distribution of Agricultural Products"), first discussed in detail the various factors affecting the cost of agricultural logistics and distribution, unveiling the prologue of people's understanding of agricultural logistics, and the development of agricultural logistics and distribution and thus began the development of agricultural logistics and distribution. The development of agricultural product logistic distribution in China is at the initial stage, in both theory and practice. The development is relatively backward [15]. At present, most of the research on the theory of agricultural logistics and distribution in China is focused on the macro-level. At present, most of the research on the theory of agricultural logistic distribution in China is focused on the macro-level, mainly around the concept, the current situation of distribution, the necessity, feasibility and policy system, etc. The main research contents are as follows: some of them are from the necessity and feasibility of developing agricultural logistic distribution industry. For example, [16], on the basis of analyzing the advantages of agricultural product distribution, believes that agricultural product logistic distribution is conducive to developing China's rich agricultural resources, improving the efficiency of China's agricultural production and operation, adapting to diversified market demand, and forming stable production and marketing relationships and should vigorously develop agricultural product logistic distribution [17]. Starting from the objective demand of developing the logistics and distribution industry of fresh agricultural products, that is, it can realize the practical significance of the logistics of fresh agricultural products. Some research from the main body of logistics and distribution, such as [18] and others, proposed that the logistics and distribution of agricultural products should be separated from the suppliers and sellers of agricultural products and handed over to the third-party agricultural logistic enterprises to complete. Some studied the structure of agricultural logistics and distribution organizations, such as [19], which analyzed the necessity of establishing agricultural logistics and distribution organizations and considered that the establishment of agricultural logistics and distribution organizations is an objective and realistic need for agricultural chain management; [20] took agricultural supermarkets as the object. We analyzed the reasons for the high "threshold" of agricultural products to supermarkets and gave corresponding countermeasures and suggestions and made a detailed analysis of the key elements of agricultural products to supermarkets.

From this, we can see that there is no in-depth research on how to improve the efficiency of agricultural logistic distribution and how to operate agricultural logistic distribution and other issues related to the operation level of agricultural logistic distribution in China.

3. Blockchain Design of Agricultural Product Trading Information Based on Multiple Chains

In the agricultural product transaction, information involves user's personal information, intermediary information, processing enterprise information, information of participants such as trans-sellers, logistic enterprises, and financial

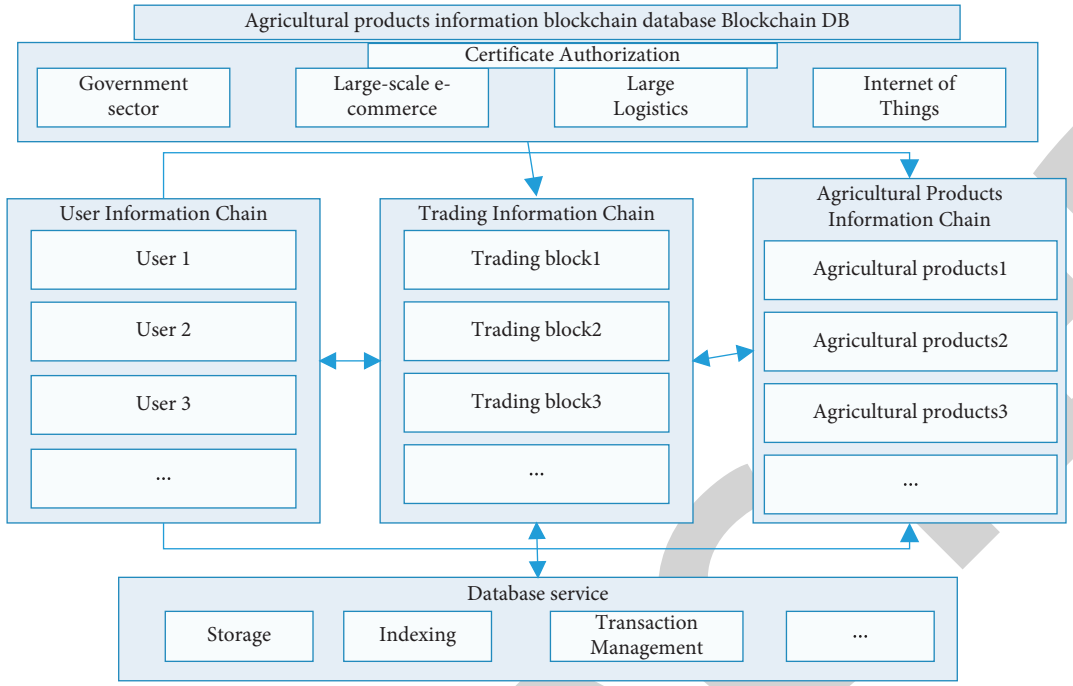

Figure 1: Framework of agricultural information multichain blockchain.

enterprises, as well as product and process information related to agricultural product information, transaction information, and logistic information, and the information type is complex. In the traditional electronic money blockchain system, the blockchain is only used to store the historical bill information of electronic money, and the storage type is single, so the storage structure is relatively simple and the retrieval efficiency is low; for example, in the Bitcoin system, if a user has made 100 transactions, he needs to search 100 times in the historical bill to get the current account information; the business model is limited to peer-to-peer (P2P). All these problems have created serious obstacles to the application of blockchain technology in agricultural products.

3.1. Overall Design of Multichain Blockchain Architecture. The agricultural product information database adopts a multichain blockchain design scheme, which is more convenient for storing complex data, as shown in Figure 1.

A certificate authority (hereinafter referred to as CA) is the digital certificate issuing authority in the whole blockchain federation, and CA is responsible for checking the information of user nodes that apply to join and providing access control service, and providing digital certificates, including public and private keys, to the accessed user nodes (including service providers and users). CA is the main provider and maintainer of consensus information in the agricultural blockchain federation and is also the super-node in the blockchain network, i.e., the provider of data services. In terms of data types, user data, transaction data, and agricultural information data are completely different data types. If a single blockchain design scheme is used, it will cause a large amount of data redundancy and cannot meet the operations of fast retrieval and view mapping. First, in a single-chain structure, all blocks are traversed to find transaction records based on the user.address public-key address of the user, which includes all information about the user, transactions, and products. Then, in the multichain structure, a view is created in the user information blockchain and the transaction information blockchain, and only one search of the user information blockchain is needed to find all the historical transaction records of the user. Not only the number of information records retrieved is small, but also the number of detections is only one. In addition, the multichain blockchain design scheme has better applicability in terms of privacy protection and information consensus of agricultural product transactions.

Therefore, this study designs a multichain blockchain architecture with transaction information chain as the main chain and user information chain and agricultural information chain as the branch chains and establishes a mapping between the main chain and the branch chains by keywords such as user.address, which will be described in detail as follows.

3.2. User Information Blockchain

3.2.1. User Information Block Design Architecture. The user information blockchain mainly stores information related to all users of agricultural information blockchain such as consumers, producers, processors, and distributors, such as real name ID (enterprise mission information), basic account information, and reputation information. The design structure is shown in Figure 2. User-related information is arranged in a symmetric binary tree.

The Merkle tree is formed after the user information is arranged according to the symmetric binary tree, and the

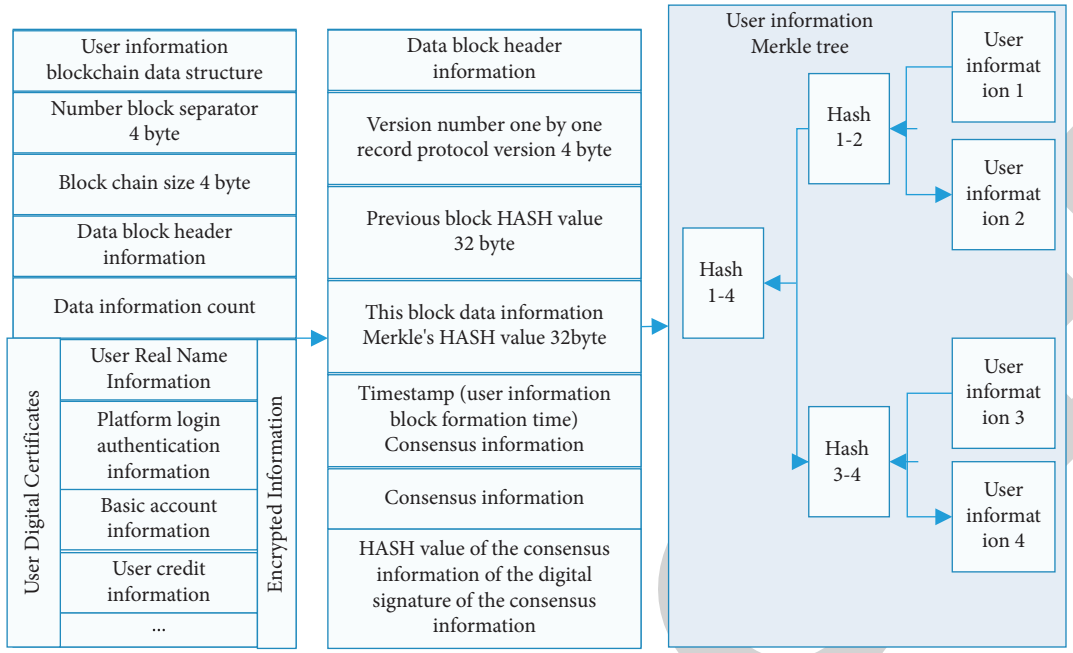

Figure 2: Framework of user information blockchain.

hash value of the Merkle tree is generated, so that the information cannot be tampered with and the completeness of the traceability of the agricultural information is ensured, and the information of each user forms a block. The consensus information is verified by CA to verify the correctness of user information, and the identification information of CA is written in the consensus information of blockchain after the verification is passed, and then, the digital signature of CA identification information encrypted by private key is left, and finally, the hash value of consensus information is generated. Since there are relevant government departments and large e-commerce platforms in CA, the consensus scope of user information will not only be limited to the agricultural information blockchain alliance but may also be associated with personal credit files to establish a wider coverage and more complete consensus base of personal information.

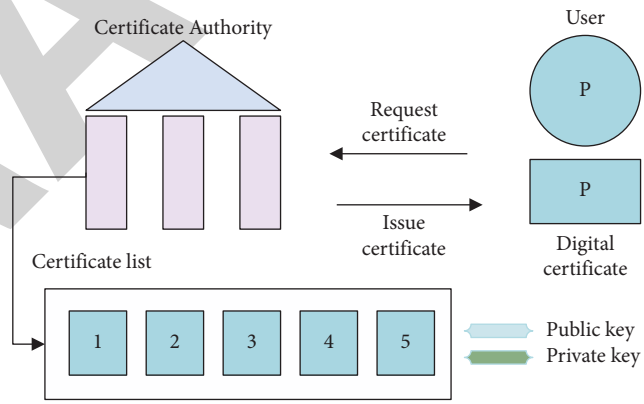

Figure 3: User digital certificate design and processing.

3.2.2. Digital Certificate. For the need of user privacy protection, this study adopts a digital certificate (DC) to encrypt and identify user's information, as shown in Figure 3. The basic information of users is stored in the blockchain after symmetric encryption, and the private information of users is only visible to CAs in the federated chain and users themselves, and only a small amount of necessary real name information is included in the subject attribute of the digital certificate of X.509 specification in the process of transaction. By introducing digital certificate technology in the blockchain of user information, three advantages can be brought.

(1) It meets the requirements of the real name network system. The main purpose of agricultural product information blockchain technology is to improve agricultural informatization and promote agricultural modernization, so it must meet the requirements of the national network real name system. The legalized authentication of user information is also the basis and guarantee of the consensus mechanism of the alliance chain. In Blockchain 1.0, blockchain mainly serves as a ledger to record the transaction information of electronic money, and all transactions use the wallet address composed of public keys, all of which are anonymous. The information of both sides of the transaction cannot be associated with the social attributes of the users, which leads to electronic money becoming a refuge for criminal activities such as money laundering and drug trafficking.

(2) It meets the requirements of user information confidentiality. The introduction of digital certificate technology into the agricultural information blockchain can further separate the confidential information of users under the technical framework of the alliance

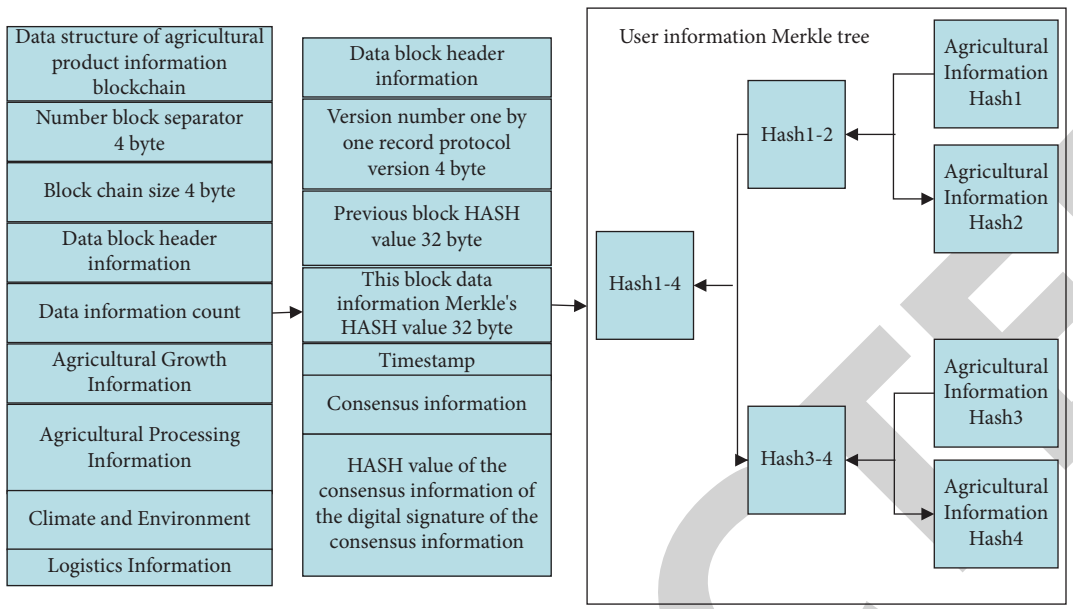

Figure 4: Framework of agricultural product information blockchain.

chain, and with the realization of the real name system, the confidential information of users is only visible to the users themselves and the super-nodes inside the alliance chain. In the transaction process, only the necessary information of both parties is provided through digital certificates, and most of the private information is encrypted and isolated.

(3) The user's reputation information is recorded during the transaction. By introducing credit record assessment in the subject attribute of the digital signature, the parties to the transaction in the smart contract can make a pre-assessment of the reputation of the transaction object. Agricultural product trading is different from single e-money and fiat currency trading, which involves a wide variety of commodities, a wide area, a long time, and a complicated process, and even if blockchain and smart contracts are introduced, it is impossible to avoid transaction disputes. By introducing the credit rating system in the digital certificate, the credit rating of each party in the transaction can be provided, and the digital certificate of the untrustworthy user can be revoked when necessary and included in the revocation certificate node certificate revocation list (CRL) to avoid and reduce the emergence of malicious behavior in the transaction.

3.3. Agricultural Product Information Blockchain. The agricultural product information blockchain mainly stores information related to agricultural products, such as the growth environment information of planted crops and farmed crops; the processing and manufacturing information of reprocessed agricultural products; and the product logistic information. The design structure is shown in Figure 4. Similarly, Merkle is used in the agricultural product information chain to guarantee the data immutability, in which the basic data of agricultural products are automatically collected through the sensor nodes of IOT and become the basic data of agricultural product information in the blockchain. In the agricultural product blockchain alliance, the quality inspection department, IOT enterprises, e-commerce platform, production and processing enterprises, logistic enterprises, and other related organizations and individuals verify the correctness of the agricultural product information, and after the verification is passed, the identification information and digital signature are written in the consensus information of the blockchain, and then, the hash value of the agricultural products consensus information is generated.

Unlike the user information blockchain, in the agricultural product information blockchain, all the production and processing information of agricultural products are stored in the blockchain in clear text, and any node of the alliance chain can access the relevant information of agricultural products. Both intermediaries and end consumers can access the commodities in the hands of agricultural products producers and processors in a P2P way, and the information of agricultural products is transparent and reliable.

4. Multichain Agricultural Product Trading Process

In this study, the functionality and practicality of the blockchain application technology for agricultural product trading process will be initially extended and improved by adopting the multichain blockchain technology in conjunction with the P2P agricultural product trading method. The multichain blockchain trading platform for agricultural products has three main functional applications: credential registration and management, financial transactions, and

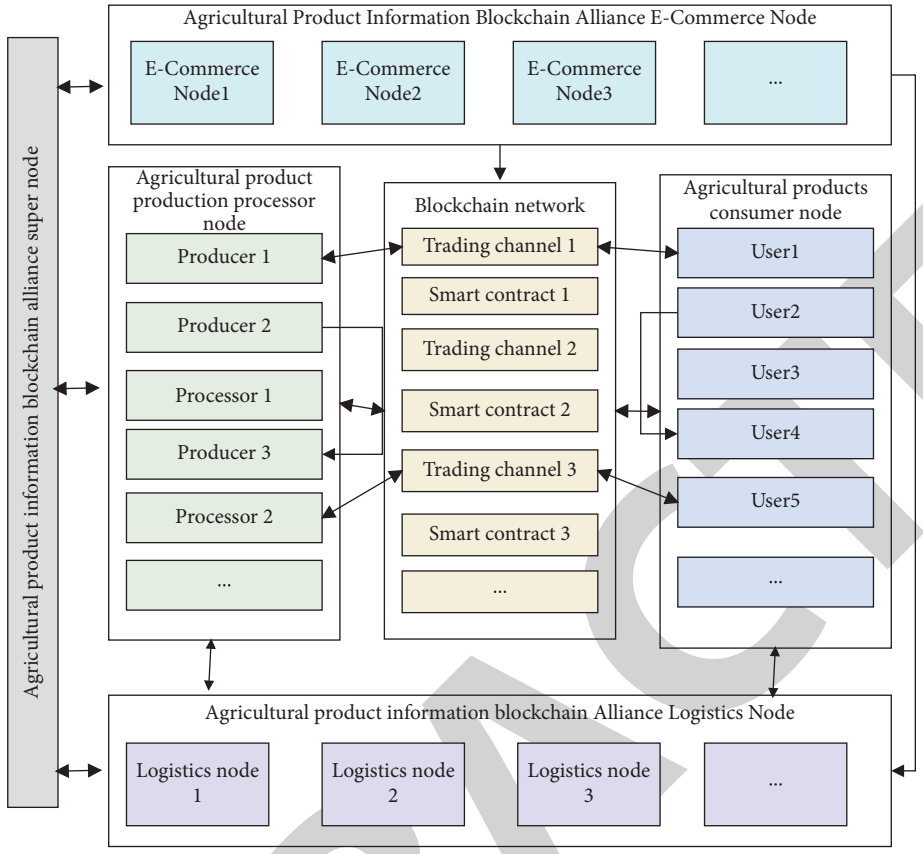

Figure 5: Transaction process of agricultural products with multichain blockchain.

supply chain management. The main applications of credential registration and management include providing information such as user DCs, equity credentials, and proof of qualification (authority). The main applications of financial transactions include the use and transaction of transaction funds, payment, and clearing and settlement of financial assets. The main applications of supply chain management include logistic management, product traceability and anti-counterfeiting, and procurement and inventory management. In the blockchain network, different channels are automatically assigned to different transaction systems, and the transaction information and user information in the channel are only visible to the nodes participating in the transaction. Each channel runs an independent smart contract script, and the consensus of the transaction is established by all user nodes participating in the transaction.

Each channel runs an independent smart contract script, and all user nodes participating in the transaction establish the consensus information of the transaction, with higher consensus efficiency, while providing privacy protection of transaction-related information, as shown in Figure 5.

5. Description of the Basic Principles and Structure of the Genetic Algorithm

Based on the idea of genetic algorithm, a large number of purely numerical function optimization experiments have been conducted on computer. Based on a series of research work, the basic framework of genetic algorithm was summarized by Goldberg in the 1980s. The basic idea of genetic algorithm to solve the optimization problem is as follows: describing the problem to be solved as a global optimization problem for some objective function, interpreting the objective function to be optimized as the adaptation of biological population to the environment, and the optimization variables corresponding to the individuals of the biological population, and from the current population, suitable replication, hybridization, mutation, and selection operations are used to produce a new generation of population, and this process is repeated until the required population or a specified evolutionary time frame is obtained. If the tth generation population is denoted as $p(t)$, the main genetic operations are as follows.

(1) Selection: according to the fitness of each individual, some good individuals are selected from the tth generation population $p(t)$ to the next-generation population $p(t+1)$ according to certain rules or methods.

(2) Crossover: individuals in population $p(t)$ are randomly paired, and for each pair of individuals, some chromosomes are exchanged between them with a certain probability (called crossover rate).

(3) Mutation: for each individual in population $p(t)$, the gene value on one or some motifs is changed to other

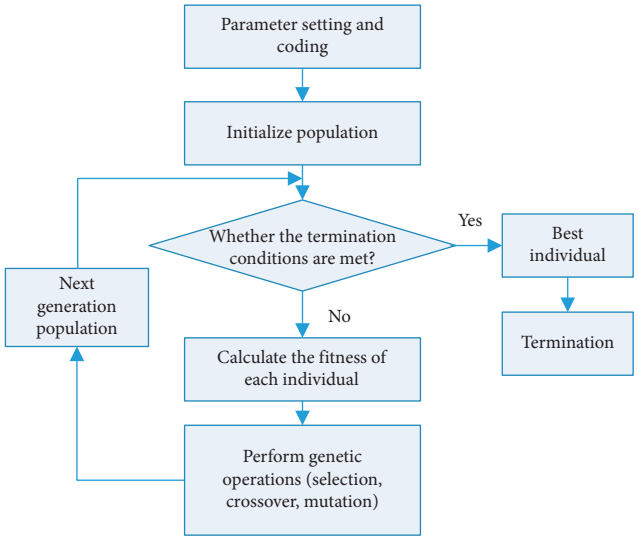

Figure 6: Basic flow chart of genetic algorithm.

alleles with a certain probability (called mutation rate).

The basic flow chart is shown in Figure 6.

5.1. Improvement of Genetic Algorithm-Uniparental Genetic Algorithm. The uniparental genetic algorithm (partheno-genetic algorithm, PGA) is proposed in this context. It uses ordinal coding, does not use the crossover operator of traditional genetic algorithms, and all genetic-related operations are performed on a single chromosome—reproducing offspring by a single individual only. Specialized genetic operators such as gene shifts, gene permutations, and gene inversions are used. Both the functionality of traditional crossover operators and the complex special crossover operators PMX, OX, and CX, which must be used for chromosomes encoded by the serial numbers of traditional genetic algorithms, are successfully solved. Since the uniparental genetic algorithm does not use crossover operators, the operation of the algorithm is not affected even if all individuals in the population are identical. This is a good way to get rid of the requirement of population diversity in traditional genetic algorithms and to solve the problem of "early maturation and convergence" in traditional genetic algorithms.

The gene shift operator of the uniparental genetic algorithm shifts the genes in some substrings of a chromosome backward in a certain order according to a certain probability p_s, while shifting the last gene in the string to the foremost position.

The gene shift operator can be divided into single-point shift and multipoint shift. A single-point shift takes only one substring for gene shifting, while a multipoint shift selects a random number $j\,(1 \le j \le u)$ for a pre-given positive integer u and then selects j substrings in the chromosome for gene shifting.

The gene shift operator in the uniparental genetic algorithm can also move the genes in the substrings forward.

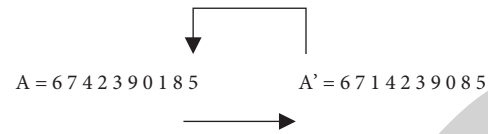

Figure 7: Single-point gene displacement.

Figure 8: Multipoint gene displacement.

Figure 9: Single-point gene inversion.

Figure 10: Multipoint gene inversion.

The process of gene shift operator is shown in Figures 7 and 8.

5.2. Gene Inversion Operator. The gene inversion operator in the uniparental genetic algorithm inverts the positions of genes in certain substrings of a chromosome with a certain probability p_i, and the substrings and their lengths are randomized. Gene inversions can be classified as single or multiple inversions. Single-point inversions are performed by inverting only one substring of a chromosome, while multipoint inversions are performed by inverting j substrings of a chromosome with a random number $j\,(1 \le j \le u)$ for a pre-given positive integer u [21–23].

Multipoint genetic operators are generally used when the chromosome locus length l is large, whereas single-point genetic operators are generally used for smaller cases. At the beginning of the genetic iteration, when the initial population does not have extensive diversity, it is appropriate to use multipoint genetic operators, while at the end of the genetic iteration, single-point genetic operators are generally used.

The algorithm process of gene inversion is shown in Figures 9 and 10.

5.3. Operation Steps of Uniparental Genetic Algorithm. To improve the search efficiency of the uniparental genetic algorithm, the following typical steps of the uniparental genetic algorithm are proposed.

Step 1. Encoding. The uniparental genetic algorithm adopts a serial number coding.

Step 2. Determine the fitness function $f(x)$.

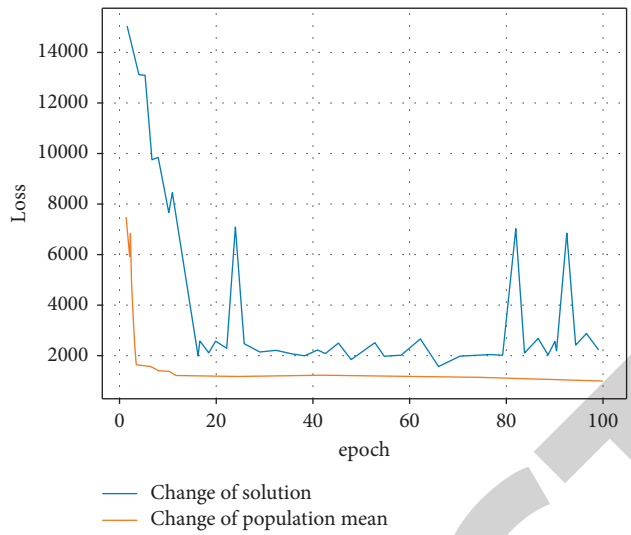

Figure 11: Optimization process diagram considering customer satisfaction.

Table 1: Vehicle scheduling scheme 1.

Vehicle number	Loading capacity (ton)	Vehicle path and arrival time	Journey time (hours)
1	4.5	0-8-5-10-11-0 7:30-8:10-10:50-12:30-14:30-17:30	10
2	3.5	0-3-11-0 6:30-8:30-10:40-14:00	7.5
3	4.0	0-5-4-2-0 7:40-8:10-9:55-13:15	5.4
4	4.2	0-4-7-6-0 7:25-8:05-10:25-12:10-14:15	7.1

Table 2: Vehicle scheduling scheme 1.

Vehicle number	Total miles traveled (km)	Vehicle cost (yuan)	Driving expenses (yuan)	Delay, waiting cost (yuan)	Total cost (yuan)	Average satisfaction (%)
1	380.3	1140.8	130	0	1270.8	96.8
2	272.8	815.3	74	0	889.3	100
3	134.1	400.5	66	0	466.5	89.9
4	190.5	571.2	72	0	643.2	97

Step 3. Determine the initial population (population size N). The uniparental genetic algorithm does not require a wide diversity of the initial population, even if all individuals in the initial population are the same.

Step 4. Calculate the fitness of each individual in the initial population.

Step 5. Reproduce. Each individual in the previous generation of the population is genetically manipulated to produce N new individuals.

Step 6. Calculate the fitness of N new individuals.

Step 7. From the N individuals in the previous generation population and the N new individuals generated by the contemporary genetic manipulation, select the more adaptive N individuals to form the next-generation population.

Step 8. Stop if the termination condition is met, otherwise go to Step 5.

The typical operation steps of the uniparental genetic algorithm proposed in this section fully consider the characteristics of the uniparental genetic algorithm, which is a more efficient and faster way of computation [24–26].

6. Analysis of Results

6.1. Considering Customer Satisfaction. The final optimized solution is 3243.74, which is closer to the global optimal. It is closer to the global optimal solution. Figure 11 shows the optimization process considering customer satisfaction, where the solid blue line shows the total cost of

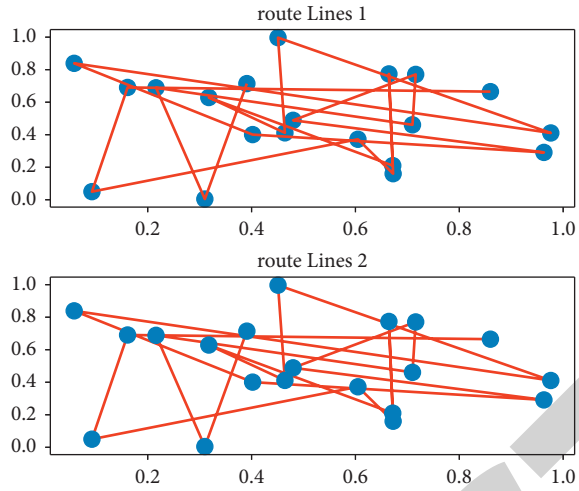

Figure 12: Scenario 1 vehicle route map.

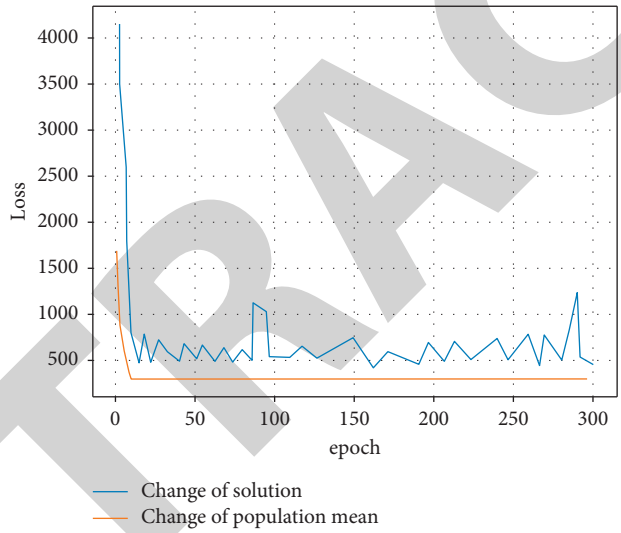

Figure 13: Optimization process without considering customer satisfaction.

Table 3: Vehicle scheduling scenario 2.

Vehicle number	Loading capacity (ton)	Vehicle path and arrival time	Journey time (hours)
1	4.8	0-11-12-7-4-0 6:30-8:20-10:32-12:20-14:10-16:00	9.6
2	4.2	0-4-7-6-0 7:30-8:00-10:20-12:15-14:15	7.1
3	3.7	0-3-11-2-0 6:30-8:40-10:40-13:20-15:10	8.5
4	2.5	0-8-5-0 7:30-8:00-9:30-11:35	4.0

accompanying the optimal individual in each generation, and the dashed blue line shows the average cost of each generation. From the figure, it can be seen that the optimal target value decreases rapidly from about 16000 at the beginning to about 4000 and oscillates in the vicinity and finally converges to 3243.74, which indicates that the algorithm has a good optimization-seeking ability. Also from the drop of the solid line in the figure, it can be known that

Table 4: Vehicle scheduling scenario 2.

Vehicle number	Total miles traveled (km)	Vehicle cost (yuan)	Driving expenses (yuan)	Delay, waiting cost (yuan)	Total cost (yuan)	Average satisfaction (%)
1	342.3	1044.1	130	0	1274.1	80.1
2	187.6	551.7	66	0	611.7	96.8
3	270	815	86	0	901	90.2
4	115.5	336.1	42	0	378.1	100

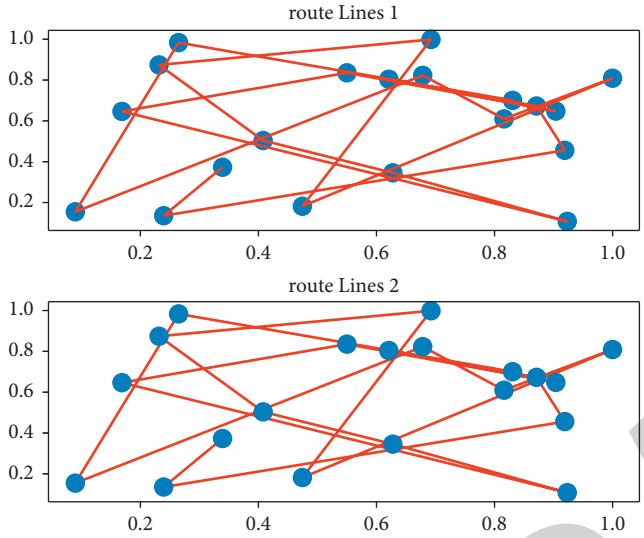

Figure 14: Scenario 2 vehicle route map.

the algorithm has a fast optimality finding speed and can iterate quickly to the vicinity of the optimal solution.

The detailed vehicle scheduling is shown in Tables 1 and 2, and the vehicle routes are shown in Figure 12.

6.2. Without Customer Satisfaction. The final optimized solution without customer satisfaction is 3056.9, which is closer to the global optimal solution. Figure 13 shows the optimization process without considering customer satisfaction, in which the solid blue line indicates the total cost of optimal individual delivery in each generation, and the dashed blue line indicates the average cost of each generation. From Figure 13, it can be seen that the optimal target value decreases rapidly from about 4300 at the beginning to about 3000 and oscillates in the vicinity and finally converging to 3056.9.

Detailed vehicle scheduling is shown in Tables 3 and 4, and the vehicle routes are shown in Figure 14.

The total cost of delivery when customer satisfaction is considered is $3243.47. The average satisfaction rate of all customers is 95.7%, while the total cost of delivery without considering customer satisfaction is 3056.9 and the average satisfaction rate of all customers is 89.8%. Although the distribution cost when customer satisfaction is considered is $186.5 more than that when customer satisfaction is not considered, the former fully considers customer satisfaction and improves the quality of distribution service, which, in the long run, improves the enterprise's reputation and reduces the intangible loss caused by poor service quality.

7. Conclusion

Using e-commerce to market agricultural products is a development trend. To continuously improve and perfect the agricultural product e-commerce marketing model, agricultural product business enterprises or farmers are encouraged to enhance the necessary technical skills, especially to enhance the insurance chasing skills of agricultural products, to avoid off-season shortages, so as to ensure that the network marketing to achieve sustainability, so as to establish the credibility of agricultural product e-commerce marketing, attract and retain consumers, a push agricultural product e-commerce marketing to obtain long-term development when the majority of consumers, in the word-of-mouth transmission of the quality of agricultural products, and gradually become the brand of agricultural products. In this way, it will make such agricultural products, in the future marketing, more and more able to occupy the marketing market of e-commerce, so as to create branded agricultural products.

Data Availability

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

Conflicts of Interest

The authors declared that they have no conflicts of interest regarding this work.

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