Hindawi
Mobile Information Systems
Volume 2023, Article ID 9826575, 1 page
https://doi.org/10.1155/2023/9826575

Retraction

Retracted: Economic Supply Chain Management System of Farm Products Industry Based on the Belt and Road under the Background of Big Data

Mobile Information Systems

Received 8 August 2023; Accepted 8 August 2023; Published 9 August 2023

This article has been retracted by Hindawi following an investigation undertaken by the publisher [1].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] J. Jiao, "Economic Supply Chain Management System of Farm Products Industry Based on the Belt and Road under the Background of Big Data," *Mobile Information Systems*, vol. 2022, Article ID 6518521, 9 pages, 2022.

Hindawi
Mobile Information Systems
Volume 2022, Article ID 6518521, 9 pages
https://doi.org/10.1155/2022/6518521

Research Article

Economic Supply Chain Management System of Farm Products Industry Based on the Belt and Road under the Background of Big Data

Jianqiu Jiao

College of Economic Management, Baoji University of Arts and Sciences, Baoji 721013, Shaanxi, China

Correspondence should be addressed to Jianqiu Jiao; jiaojianqiu@bjwlxy.edu.cn

Received 7 May 2022; Revised 6 July 2022; Accepted 13 July 2022; Published 11 August 2022

Academic Editor: Imran Shafique Ansari

Under the strategic background of "One Belt, One Road," the future farm products industry will also become part of the country's core competitiveness. Promoting the transformation of enterprises in the supply chain is conducive to cultivating the country's core competitiveness and creating good output conditions for China's manufacturing industry. Under the national strategy of "One Belt, One Road," the agricultural product industry is facing new development opportunities. This paper analyzes the background, significance, and existing basic problems of the "One Belt, One Road." Starting from the economic development of the national agricultural product industry, it uses the cluster analysis algorithm to analyze the current overall economic situation of the agricultural product industry and points out the current problems in the industry. The product industry is facing greater pressure for transformation and upgrading. Finally, combined with the strategic background of "One Belt One Road," from the perspectives of society, government, and enterprises, analyzed its supply chain process, extracted relevant problems, and put forward relevant countermeasures and suggestions from the perspective of intrachain, extrachain, and their interactive integration.

1. Introduction

Since the 21st century, the trade ties between China and the countries along the "Belt and Road" have become increasingly close, and the status of both parties in foreign trade has been continuously improved. From the perspective of trade growth rate, China's trade cooperation with central Asia has become increasingly close, while the growth of trade with Russia and Mongolia is relatively slow; from the perspective of economic aggregate (GDP), India and Russia, which have the largest markets in the countries along the route, have a GDP of more than 1.5%. In terms of income level, there were 15 middle- and high-income countries along the Belt and Road in 2015 [1–3]. These countries are mainly concentrated in West Asia and Central and Eastern Europe, and they are all EU member states. The risk factors of transnational agricultural supply chain are more prominent than ordinary supply chain, especially the risks in cultural level, political environment, economic development, etc., which increase the order execution time and rapid response speed of enterprises. The supply chain has limited ability to deal with risks, which will ultimately affect the income and conditions of the supply chain. Therefore, how to quickly and efficiently solve the risk problem between the main enterprises in the agricultural product supply chain, so as to effectively improve the operating income of the agricultural product supply chain, will affect the development of the entire agricultural product industry [4, 5].

Data mining technology can discover potential, unknown, and valuable information from a large amount of messy and seemingly unrelated data, so as to help decision makers adjust their decisions and avoid risks. In the process of data mining, many technical means can be integrated, such as pattern recognition, machine learning, and artificial intelligence, which can realize data analysis, induction, and reasoning. As an important branch of data mining technology, for untrained data sets without obvious classification marks, clustering analysis technology can not only quickly classify and process massive data with many data attributes and no classification marks but also provide auxiliary support for other data mining needs, such as fine-grained coarse clustering, which provides early support for mining. Commonly used cluster analysis algorithms include K-means cluster analysis algorithm, mean shift cluster analysis algorithm, density-based cluster analysis algorithm, maximum expectation cluster analysis algorithm using the Gaussian mixture model [6, 7], agglomerative hierarchical cluster analysis algorithm, and graph group detection algorithms. Different clustering analysis algorithms are suitable for different data environments because of their different advantages and disadvantages. Many experts and scholars continue to improve each clustering analysis algorithm in order to find better algorithms to achieve clustering analysis in different scenarios.

With the continuous increase in the scale of China's imports of agricultural products from the "Belt and Road" countries, the problem of "grain is difficult to transport" has gradually been exposed, and international logistics performance has gradually become the most important factor affecting China's agricultural imports [8, 9]. Therefore, this paper will use the international logistics performance as the main indicator to study the impact mechanism of the international logistics performance of major countries along the "Belt and Road" on the import of Chinese agricultural products from 2007 to 2018 and analyze the impact of factors such as population and GDP on the import of Chinese agricultural products. This paper proposes ways to improve the international logistics performance of various countries under the condition of China's agricultural product import growth and proposes an integrated model of China's agricultural product import supply chain, so as to prepare for the stable and healthy development of China's agricultural product import in advance.

2. Related Work

Research on transnational agricultural supply chains: Reference [10] analyzes the research results of agricultural product supply chain risk assessment in recent years, puts forward the possible problems in a certain stage of agricultural product supply chain risk assessment, and finally expounds the future research and development trend of the supply chain. Reference [11] identifies the risk factors in the supply chain of fresh agricultural products, classifies and summarizes the causes of these risk factors, and finally uses the Bayesian network inference algorithm to build a risk assessment model. Zhang et al. [12], based on the perspective of quality and safety, construct the evaluation index system of agricultural products and product supply chain quality risk, establish the simultaneous equation model of logistics regression, and finally put forward the research on the risk management of agricultural product supply chain of supply chain quality and safety risk assessment method. Yin et al. [13] study the prominent problems that often occur in the supply chain of agricultural products in China. The option method is used to stimulate the sales enterprises with information advantages in the agricultural product supply chain, so that the market demand can be more truly reflected. Yang et al.[14], based on the characteristics of the Internet of Things environment, evaluate various risk factors in the supply chain of agricultural products, identify various indicators that affect the fluctuation of supply chain risks, and propose strategies to control risks. The research points out the supply chain risks of agricultural products. Management needs to comprehensively consider the characteristics of China's agricultural product supply chain at this stage for analysis [15].

Guo [16], by compiling supply network diagrams, identifies the sources of risks and risk factors faced by enterprises in the supply chain and also includes supply chain risk assessment and management, how to coordinate supply chain network risk strategies, and how to better implement them.

Most agricultural products have strong seasonal characteristics. In general, the seasonality of agricultural products affects consumers' demand preferences to a large extent. At the same time, due to the advancement of agricultural production technology, the seasonal characteristics of agricultural products are gradually weakening. The factors have irreplaceable influence on the quality risk in the research of agricultural product supply chain. Therefore, more and more experts and scholars have begun to study the risk of agricultural product supply chain, for example, according to Zheng and Chao [17], different from other products, agricultural products have diversity, seasonality, and complexity. The researchers conducted professional analysis on the characteristics of agricultural products and finally proposed that the quality and safety of agricultural products are mainly due to the high characteristics of agricultural products caused by the risk. According to Tao [18], through the analysis of the structural model (ISM), the study created a unique model for analyzing the food supply chain and then divided the risks of the agricultural product supply chain into five categories through the study, proposed a number of risk control measures, and finally borrowed experiments and examples. Corresponding verification was carried out.

For the research of transnational supply chain, since the enterprises on each node of the supply chain may be involved in corresponding economic activities in different countries and regions, in general, when researching the risks of transnational supply chain, it is necessary to comprehensively consider the taxes, fees, charges, and fees of different countries. The general definition of cross-border supply chain risk management: using different risk management tools to coordinate the various members of the global supply chain and to control the uncertain risks that may appear in the supply chain, so as to maintain the normal operation of the supply chain. Currently, most academic literature on supply chain risk is related to domestic supply chain risk. Faced with such a supply chain, transaction parties only need to focus on traditional logistics business processes, such as procurement, manufacturing, inventory, and transportation, without considering global risks such as exchange rate fluctuations and political fluctuations [19–22].

3. The Logistics Structure of This Paper

The main process of China's import of agricultural products from the "Belt and Road" countries is shown in Figure 1. The main influencing factors mainly include the role of agricultural product markets, the role of government policies, and the role of logistics activities.

China has a large domestic supply gap of agricultural products, which needs to be adjusted by the international market. The reasons for the gap in the supply and demand of China's agricultural products can be divided into two aspects: demand and supply. On the supply side, factors such as limited land resources, limited water resources, and declining land productivity limit the long-term growth of supply. In terms of demand, the total population is increasing, and with the improvement of people's living standards, the per capita grain consumption, especially the consumption of feed grains, has increased rapidly [23–25]. The contradiction between supply and demand determines that the supply and demand of agricultural products in China will be in a state of tight balance for a long period of time in the future as shown in Figure 2.

Perfect logistics service ability and competitiveness can effectively grasp the initiative of agricultural products logistics. The international transportation market fluctuates from time to time, and it is required to provide certain warehousing and transportation facilities to provide customers with diversified logistics services. International experience shows that the logistics of world agricultural products is closely related to factors such as oil prices, international transportation market capacity, and the harvesting time of agricultural products in exporting countries. Due to the large climate differences in different regions of the "Belt and Road" agricultural product exporting countries, the grain harvesting seasons in different countries are different. Under normal circumstances, the prices of agricultural products during the harvest period are lower, and the logistics volume is large [26–28]. During the period of rising oil prices and tight international transportation market capacity, the flow of world agricultural products decreased, the flow rate decreased, and the cost increased. To this end, we should learn from the experience of international giants; take targeted measures, such as trade diversification, establishment of storage, and transportation facilities in the main producing areas of agricultural products; purchase grain futures to avoid the period of tight transportation capacity and skyrocketing oil prices, and grasp the initiative in grain logistics. High-quality logistics services can facilitate the process of cross-border agricultural trade. Logistics services will directly affect the attitudes of all parties to the trade and the process of trade. With the increasing frequency of global trade, the logistics industry has begun to not only consider price competition but also have higher and higher requirements for logistics services. Enterprises continue to improve customer satisfaction, actively communicate with customers, timely handle customer feedback, etc., to promote global logistics service capabilities and competitiveness overall upward trend as shown in Figure 3.

The basic core can be used as logistics industry, bases, agricultural product bases, etc. The basic core of logistics includes domestic dry ports, domestic sea ports, hub dry ports, overseas sea ports, overseas dry ports, and logistics parks, with functions such as cargo transportation and distribution, customs declaration and customs clearance, and customs supervision. Meanwhile, inland ports need to have comprehensive service capabilities (including logistics, customs clearance, finance, and other service capabilities) and improve the efficiency of cross-border logistics and reduce logistics costs. The basic core of the information platform includes domestic databases and overseas databases and has the function of collecting data such as logistics operation process data, cargo transportation information, cargo supply and demand information, and cargo customs clearance information to maintain the balance of cargo supply and demand, reduce the empty rate of trains, and monitor cargo transportation. Condition: with the cross-border logistics hubs or ports of the "Belt and Road" as the core, cultivate the integrated attraction of the field source to attract resources, generate a radiation driving effect, and take advantage of the location advantages to form agglomeration industries and regional linkages and integration.

3.1. A Win-Win Platform for Regional Cooperation. There are two modes of transportation for China to import agricultural products from countries along the "Belt and Road." One is to transport them through the railway channel network along the "Belt and Road" to China's inland ports (the railway lines that have been constructed and opened to traffic are mainly the China-Europe trains0), and the other is by sea-rail combined transportation, which is shipped to China's coastal ports through the Atlantic Ocean, the Mediterranean sea, and the Indian Ocean. As the four major grain merchants have great control over the global seaborne transportation of agricultural products, it is difficult for China to regain its dominance.

China's agricultural product procurement supply chain model is dominated by Chinese agricultural product processors (leading enterprises), supplemented by agricultural product distributors, agricultural product wholesalers, and agricultural product retailers to build a Chinese agricultural product integration body. The corresponding supply of agricultural products and the corresponding logistics resources are allocated to realize the supply chain of agricultural products, including planting, purchase, storage, and transportation of agricultural products; deep processing of agricultural products; and storage, transportation, and sales of products.

Forming regional alliances to promote the construction of logistics infrastructure and speed up the transportation time of goods.

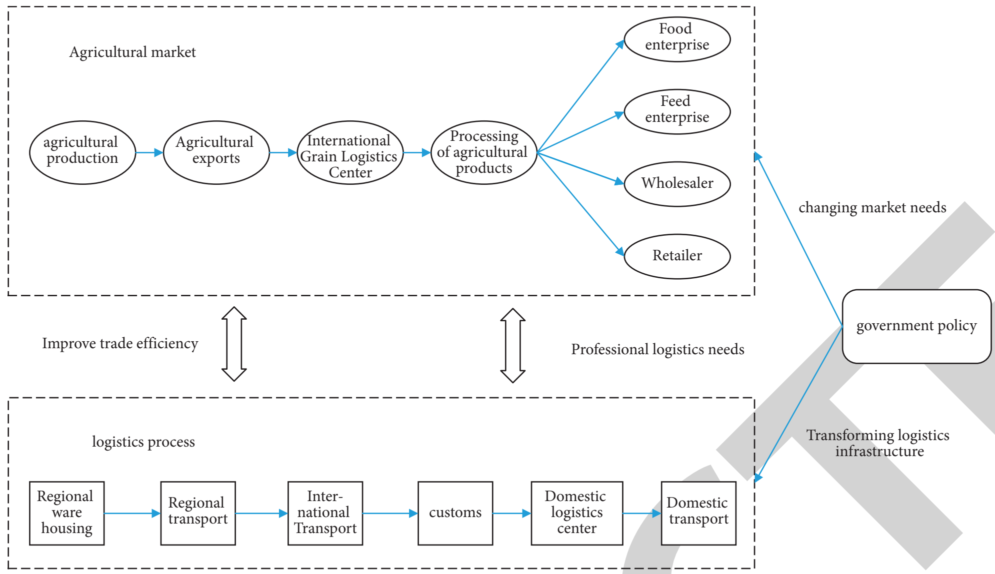

Figure 1: Flowchart of China's imported agricultural products and related influencing factors.

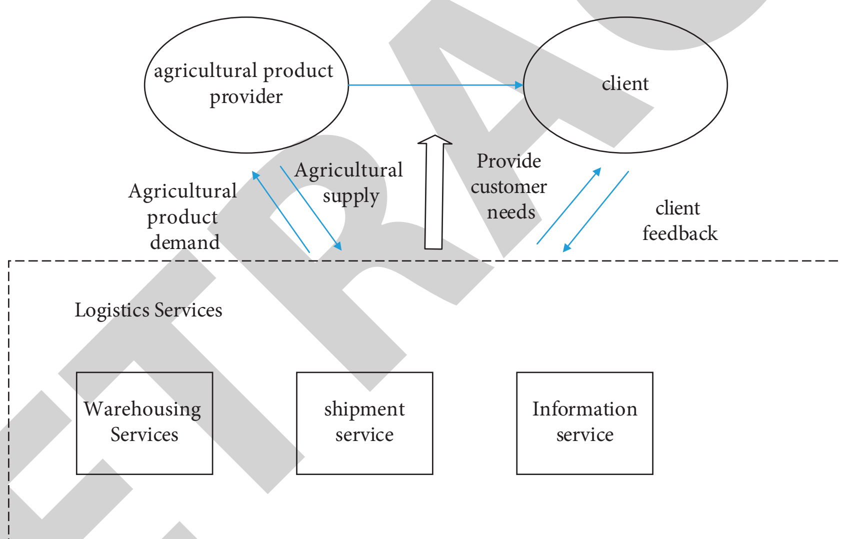

Figure 2: The role of logistics services in agricultural trade.

Different from the agricultural product industry chain model of international giants, China lacks international agricultural product enterprises, and it is difficult for a single enterprise to compete with international giants. China's domestic agricultural product enterprises need to form alliances to give full play to their integration advantages. Participating in the construction of overseas logistics infrastructure can ensure the stable supply and demand of agricultural products; by unifying the logistics standards of international transportation trunk lines, it can reduce the number of reloading of goods in the process of transportation; the construction of multimodal transport can ensure smooth transportation of goods and simplify goods, improve the logistics operation process, reduce the reloading time of the goods, and speed up the transportation of the goods [29, 30].

4. Cluster Analysis Algorithms

Clustering technology is unsupervised learning. It obtains the classification of images by analyzing the set of similar elements (i.e., cluster structure) contained in the data set. There should be large difference as possible between different types of subsets and within the same type of subsets. The clustering principle is shown in Figure 4.

The mathematical definition of clustering is assuming that there are N data structures in the D-dimensional space, select reasonable reading values to divide the N data structures into K clusters; the requirement for the selection of reading values is to minimize the differences between different types of subsets. It may be large, and the data within the same type subset is consistent.

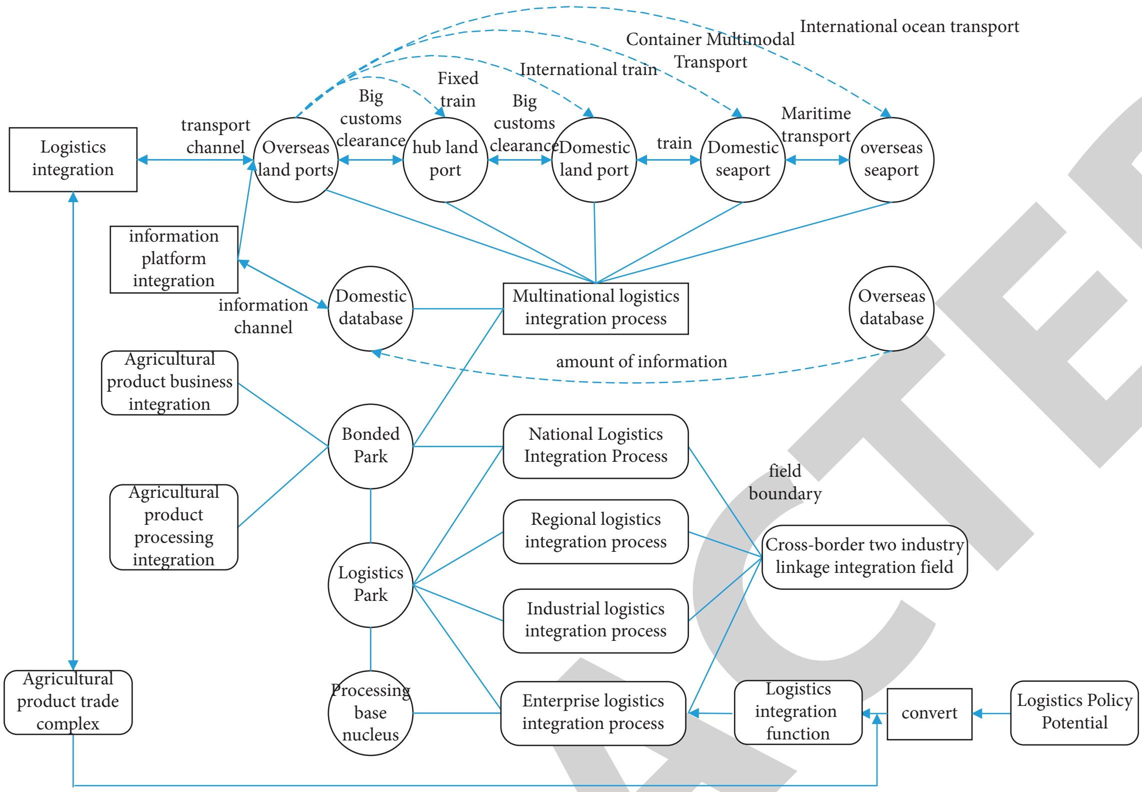

Figure 3: The composition of the integrated field for the coordinated development of logistics and agricultural product trade.

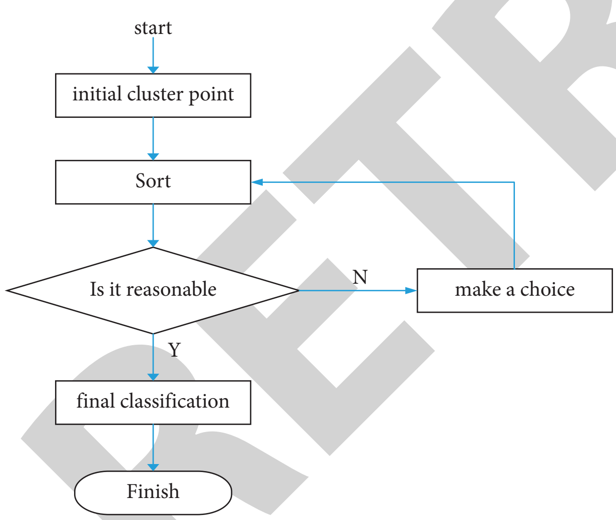

Figure 4: Clustering principle.

The dataset X contains N samples, $X_1, X_2, X_3, \ldots, X_n$, which can be divided into K clusters $x_1, \ldots, x_k$. The data set and the clusters conform to the logic shown in the following formula:

$$\begin{cases} x_1 \cup x_2 \cup \cdots \cup x_K = X, \\ x_i \cap x_i = \varnothing \, (1 \le i \ne j \le K). \end{cases} \quad (1)$$

The idea of clustering can be summarized as (1) input parameter K as the cell basis for dividing the cluster, (2) dividing the cell type by solving the intraclass data in the cell, (3) dividing the attributes between cells and within cells obtained by solving the entropy $I(x_j) \ge \log_2 k - I^*$ and $I(x_j) \le I^*$, where x_j is the attribute basis for cell division and I^* is the input parameter, and (4) by connecting the boundary points and isolated points of clusters, clusters of different types are obtained.

The interclass and intraclass evaluation of cluster analysis is the key to the success or failure of the algorithm. To classify data reasonably, it is necessary to evaluate the relationship between samples, and the evaluation is mainly based on the similarity coefficient and distance between samples. The similarity coefficient between samples is close to 1, indicating that they belong to the same class and can be divided into the same cluster; the similarity coefficient is close to 0, indicating that they belong to different types and can be divided into different clusters. The similarity coefficient can be represented by the correlation coefficient, such as equation (2), and the cosine of the included angle, such as in equation (3):

$$C(x, y) = \frac{\sum_i (x_i - \overline{x})(y_i - \overline{y})}{\sqrt{\left[\sum_i (x_i - \overline{x})^2\right]\left[\sum_i (y_i - \overline{y})^2\right]}}, \quad (2)$$

$$H(x, y) = \frac{\sum_i x_i y_i}{\sqrt{\left(\sum_i x_i^2\right)\left(\sum_i y_i^2\right)}}. \quad (3)$$

The distance between samples can be used to describe the degree of intimacy between samples. Assuming that the sample can be represented by N feature vectors, that is, the sample is only a point in the N-dimensional space, then the samples with close distance can be judged as a category, and the distance between them is different. For a variable x with mean μ and covariance matrix Σ, the Mahalanobis distance

Table 1: The basic situation of China's imports of agricultural products from 23 countries in the "New Silk Road" economic belt in 2018.

Nation	Agricultural land area (10^5 (km)^2)	Total agricultural exports (USD 100 million),	Exports of agricultural products to China (USD 100 million)	Proportion of agricultural product exports to China (%)	Proportion of China's agricultural product imports (%)
Kazakhstan	219.0	31.07	2.45	7.98	1.74
Uzbekistan	28.02	11.12	0.47	4.37	0.37
Tajikistan	4.35	0.48	0.01	0.64	0.01
Turkmenistan	35.12	0.67	0.12	19.31	0.08
Kyrgyzstan	10.98	1.98	0.06	3.34	0.04
India	198.70	352.75	10.54	2.98	7.58
Iraq	9.30	1.22	0.08	1.31	0.02
Saudi	173.68	36.68	0.02	0.07	0.07
Pakistan	38.04	54.25	4.72	8.75	3.44
Azerbaijan	5.05	7.07	0.01	0.04	0.01
Georgia	2.41	9.54	0.22	2.21	0.18
Turkey	39.10	176.83	1.45	0.85	1.05
Russia	227.34	248.88	31.94	12.84	23.02
Armenia	1.72	6.71	0.02	0.11	0.04
U.K.	17.48	317.36	6.58	2.05	4.78
Italy	13.01	497.27	6.15	1.22	4.43
Germany	17.04	878.34	21.62	2.44	15.57
France	28.87	728.97	37.84	5.18	27.24
Ukraine	43.24	186.11	13.71	7.34	9.88
Libya	15.39	0.45	0.01	0.04	0.07
Algeria	41.32	2.78	0.01	0.07	0.01
Egypt	3.79	49.07	0.95	1.94	0.68
Syria	14.05	4.68	0.01	0.05	0.01

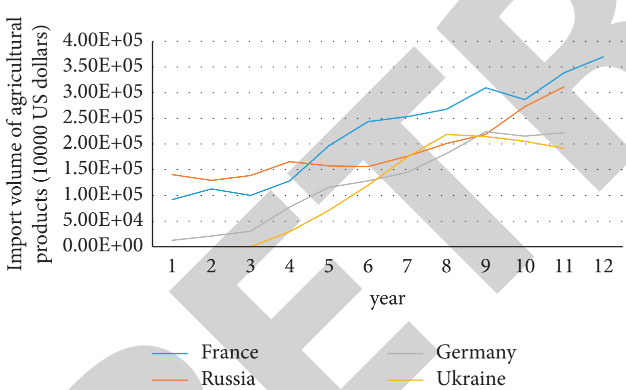

Figure 5: The value of China's imports of agricultural products from France, Russia, Germany, and Ukraine.

is equation (4), the Rankine distance is equation (5), and the Mingshi distance is equation (6). When a in equation (6) takes 1, 2, and infinity, respectively, the absolute distance, Euclidean distance, and Chebyshev distance are obtained.

$$D(x) = \sqrt{(x-\mu)^T \Sigma^{-1} (x-\mu)}, \quad (4)$$

$$D(x,y) = \sum_i \frac{|x_i - y_i|}{|x_i + y_i|}, \quad (5)$$

$$D_a(x,y) = \left(\sum |x_i - y_i|^a\right)^{1/a}. \quad (6)$$

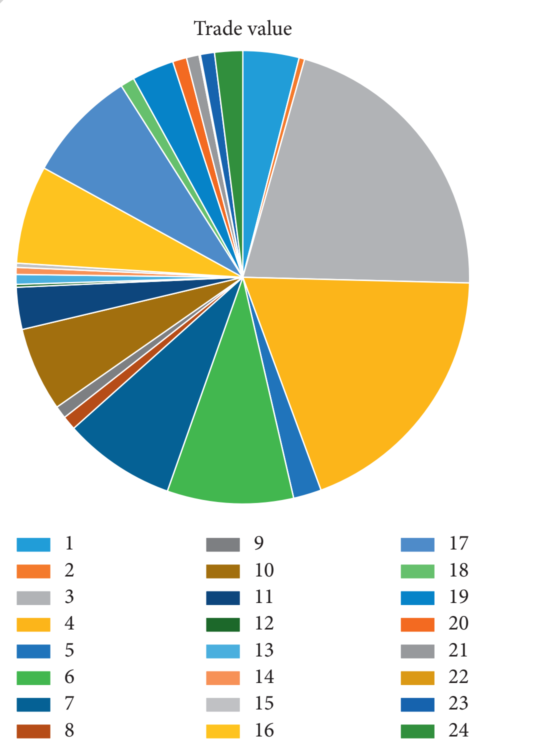

Figure 6: Industry distribution of China's agricultural imports from the "New Silk Road" economic belt countries in 2018.

Table 2: The comparative advantage and disadvantage index of agricultural products in some countries of China's "New Silk Road" economic belt (2018).

HS code	The agricultural products of some countries in the "New Silk Road" economic belt show comparative advantages					China's agricultural products show comparative disadvantage
	Ukraine	Syria	India	Russia	Kazakhstan	
12	7.75	3.71	0.97	0.38	1.03	3.61
14	14.84	8.68	3.05	0.44	0.14	1.07
15	19.57	38.01	0.78	1.25	0.47	0.85
03	0.07	0.14	3.24	1.57	0.15	0.87
19	1.38	2.68	0.41	0.32	0.28	0.81

5. Experimental Results

China's agricultural imports from 23 countries along the route, France, the Russian Federation, Germany, Ukraine, and India, all exceeded 1 billion US dollars, of which France has the largest amount of 3.78 billion US dollars, accounting for 3.78 billion US dollars of agricultural imports from various countries of 27.2%. However, the proportion of imports of agricultural products shows uneven levels, of which Turkmenistan and the Russian Federation account for more than 10% of imports. China is an important agricultural export market for both countries. At the same time, China's agricultural imports to most of the countries along the route account for between 1% and 10% [12]. With the deepening of cooperation between countries in the future, China's agricultural imports to these countries have huge growth space. In addition to the growth potential of agricultural trade between China and other countries, most of the countries along the route also have great export potential of agricultural products. From Table 1, it can be seen that the agricultural land in 17 countries including Uzbekistan and Turkmenistan exceeds 100,000 square kilometers (among them, the agricultural land in Kazakhstan, India, Saudi Arabia, and the Russian Federation exceeds 1 million square kilometers), and "One Belt One Road" countries have huge agricultural production capacity, which is conducive to agricultural trade with China.

Figure 5 shows the changing trend of China's agricultural imports from four countries from 2007 to 2018. China's agricultural imports from the four countries all showed an increasing trend. France is the country with the largest amount of agricultural products imported by China from the "Belt and Road" region. The export of French agricultural products to China has continued to grow. From 2007 to 2018, China's annual import of agricultural products from France was 2.34 billion US dollars, accounting for China's agricultural products from the "Belt and Road initiative." From 2007 to 2018, China's agricultural imports from the Russian Federation increased by 1.765 billion US dollars, with an average annual growth rate of 7.57%. China and Russia have always maintained a good agricultural product trade partnership. China's agricultural imports to the Russian Federation will be in a steady growth trend; from 2007 to 2018, China's agricultural imports from Germany increased by 2.032 billion US dollars, with an average annual growth rate of 2.032 billion USD. The growth rate is 29.18%, the fastest average annual growth rate. With the continuous advancement of Sino-German trade relations, China's agricultural imports to Germany will also grow rapidly; China's agricultural imports from Ukraine increased by 1.365 billion US dollars, with an average annual growth rate. The central Asian countries, such as Russia and Ukraine, are emerging exporters of agricultural products, and China's agricultural imports from these countries will be in a rapid growth trend.

As shown in Figure 6, China imported a total of 560 types of agricultural products from countries along the "Belt and Road" in 2018, of which the first three were wine made from small packages of fresh grapes (HS220421), spirits made from steamed wine (HS220820), and edibles for infants and young children. The total import value of the three agricultural products accounted for 22.65% of the total import value of all products. The import value of agricultural products is in a scattered situation, and the varieties of imported agricultural products are diverse. Among the 24 industries that import agricultural products, the import value of agricultural products is mainly concentrated in HS22 (beverages, wine, and vinegar), HS03 (fish, crustaceans, mollusks, and other aquatic invertebrates), and HS15 (animal, vegetable, and oil). The total import value of agricultural products in the three industries accounts for 52.79% of the total import value, and China mainly imports from the "Belt and Road" countries from these three industries all year round. Agricultural products show a trend of concentrated distribution. Table 2 shows the comparative advantage (disadvantage) index of agricultural products between China and some countries along the "Belt and Road" in these five industries in 2018. Among them, the country with the largest revealed comparative advantage in HS12 and HS14 is Ukraine, the country with the largest revealed comparative advantage in HS15 and HS19 is Syria, and the country with the largest revealed comparative advantage in HS03 is India.

6. Conclusion

As a major importer of agricultural products, China has a large population size and market demand, and the corresponding domestic supply gap also needs to be filled by imports. Under the background of the national "One Belt, One Road" strategy, countries in the economic belt can provide China with a large amount of agricultural products, but the "One Belt, One Road" countries have less agricultural products trade with China. This paper intends to analyze the impact mechanism of international logistics performance on China's agricultural imports and achieve a win-win situation for both sides of the trade through the improvement of international logistics performance so that both importers and exporters can benefit from trade. At the same time, it will study the possible impact of the "Belt and Road" construction on China's agricultural imports, take targeted countermeasures, and build a coordinated development model of agricultural import trade and logistics supply chain, which can bring practical guidance to enterprises' import business.

Data Availability

No data were used to support this study.

Conflicts of Interest

The author declares that there are no conflicts of interest.

References

[1] L. Minjing and C. Yangyang, "Analysis and suggestions on China-US grain trade structure [J]," *Agricultural Economy*, vol. 06, 2020.

[2] L. Jinye and G. Mingna, "Research on the scale, structure and development potential of agricultural products trade between China and countries along the "Belt and Road" [J]," *Geography of Arid Areas.*, vol. 05, 2018.

[3] X. Tao, "Research on the influencing factors of agricultural export trade between China and countries along the "Belt and Road" [J]," *World Agriculture*, vol. 03, 2017.

[4] H. Min, Z. Ningning, and H. Zequn, "Analysis on the competitiveness and complementarity of agricultural products trade between China and "One belt and One Road" countries [J]," *Agricultural Economic Issues*, vol. 11, 2016.

[5] W. Lijing and X. Shuhua, "International trade of agricultural products under the background of the "One Belt, One Road" strategy [J]," *Anhui Agricultural Science.*, vol. 02, 2016.

[6] W. Jianing and H. Shuiling, "The "One belt, One Road" initiative and the diversification of my country's agricultural product imports [J]," *Chinese Market.*, vol. 10, 2022.

[7] Z. Lingling and Z. Bingping, "Research on China's export trade of mechanical and electrical products to countries along the "belt and Road" and its potential [J]," *Price Theory and Practice*, vol. 10, 2021.

[8] G. Li, Li Jiang, W. Zhang, N. Jiang, and Y. Ren, "Influencing factors and development potential of my country's agricultural product export trade: empirical evidence based on gravity model [J]," *Times Economic and Trade*, vol. 03, 2022.

[9] J. Xu and Z. Wang, "Analysis of the competitiveness and complementarity of aquatic product trade between China and countries along the "Belt and Road" [J]," *Hubei Agricultural Sciences*, vol. 06, 2022.

[10] Y. Ju, X. Cheng, and Z. Huang, "Research on agricultural trade in China and South Asia and its influencing factors: based on the classical gravity model [J]," *Anhui Agricultural Science Bulletin*, vol. 04, 2022.

[11] Xi Tian and Y. Li, "Will the rise of ASEAN's export competitiveness threaten China?——taking the US market as an example [J]," *China Development*, vol. 01, 2022.

[12] S. Zhang, Z. Xing, and G. Huang, "The pattern of trade competitiveness and complementarity between China and the countries (regions) around the South China Sea [J]," *Human Geography*, vol. 01, 2022.

[13] Y. Yin, L. Minjing, and W. Xiang, "Research on the development path of agricultural trade between China and ASEAN under the background of RCEP," *Rural Economy and Technology*, vol. 02, 2022.

[14] Y. Junhong, "A study on trade complementarity and competitiveness between Fujian and countries along the "21st Century Maritime Silk Road"," *Journal of Tonghua Normal University*, vol. 01, 2022.

[15] Z. Guofu and Z. Xin, "Analysis of complementarity and competitiveness of Sino-Vietnamese agricultural products trade," *Agricultural Outlook*, vol. 12, 2021.

[16] X. Guo, "Research on the new development of international trade theory in the era of big data [J]," *Shanghai Business*, vol. 12, 2021.

[17] X. Zheng and C. Chao, "Reconstruction trend of global agricultural value chain in post-epidemic era and China's countermeasures," *Foreign Economic and Trade Practice*, vol. 12, 2021.

[18] T. Tao, "Analysis of after-sales service in international trade," *Modern Marketing*, vol. 12, 2020.

[19] C. Quancai and Z. Qiliang, "Comparative analysis of my country's foreign trade development——based on the perspective of foreign trade dependence [J]," *Statistics and Consulting.*, vol. 04, 2020.

[20] H. Lv and J. Wang, "Research on the digital transformation of my country's foreign trade in the "post-epidemic era taking Zhejiang as an example," *Northern Economy*, vol. 12, 2020.

[21] Q. Liu, C. Liu, and Y. Wang, "etc. Integrating external dictionary knowledge in conference scenarios the field of personalized machine translation method [J]," *Journal of Chinese Informatics*, vol. 33, no. 10, pp. 31–37, 2019.

[22] P. An, Z. Wang, and C. Zhang, "Ensemble unsupervised autoencoders and Gaussian mixture model for cyberattack detection," *Information Processing & Management*, vol. 59, no. 2, Article ID 102844, 2022.

[23] R. Ali, M. H. Siddiqi, and S. Lee, "Rough set-based approaches for discretization: a compact review," *Artificial Intelligence Review*, vol. 44, no. 2, pp. 235–263, 2015.

[24] R. Ali, S. Lee, and T. C. Chung, "Accurate multi-criteria decision making methodology for recommending machine learning algorithm," *Expert Systems with Applications*, vol. 71, pp. 257–278, 2017.

[25] G. Cai, Y. Fang, J. Wen, S. Mumtaz, Y. Frascolla, and V. Frascolla, "Multi-carrier M-ary DCSK system with code index modulation: an efficient solution for chaotic communications," *IEEE Journal of Selected Topics in Signal Processing*, vol. 13, no. 6, pp. 1375–1386, 2019.

[26] K. Chandra, A. S. Marcano, S. Mumtaz, R. V. Christiansen, and H. L. Christiansen, "Unveiling capacity gains in ultradense networks: using mm-wave NOMA," *IEEE Vehicular Technology Magazine*, vol. 13, no. 2, pp. 75–83, June 2018.

[27] S. Palanisamy, B. Thangaraju, O. I. Khalaf, Y. Alotaibi, S. Alghamdi, and F. Alassery, "A novel approach of design and analysis of a hexagonal fractal antenna array (HFAA) for next-generation wireless communication," *Energies*, vol. 14, no. 19, p. 6204, 2021.

[28] S. Nagi Alsubari, S. Deshmukh, A. Alqarni et al., "Data analytics for the identification of fake reviews using supervised learning," *Computers Materials & Continua*, vol. 70, no. 2, pp. 3189–3204, 2022.

[29] A. Radwan, M. F. Domingues, and J. Rodriguez, "Mobile caching-enabled small-cells for delay-tolerant e-Health apps," in *Proceedings of the 2017 IEEE International Conference on Communications Workshops (ICC Workshops)*, pp. 103–108, IEEE, NY China, 12 June 2017.

[30] F. B. Saghezchi, A. Radwan, J. Rodriguez, and T. Dagiuklas, "Coalition formation game toward green mobile terminals in heterogeneous wireless networks," *IEEE Wireless Communications*, vol. 20, no. 5, pp. 85–91, 2013.