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Retraction

Retracted: Analysis on Organizational Structure System Model of China's Sports Management System Based on KNN 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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1].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] J. Ren and C. Du, "Analysis on Organizational Structure System Model of China's Sports Management System Based on KNN Algorithm," *Mobile Information Systems*, vol. 2022, Article ID 7048312, 10 pages, 2022.

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Research Article

Analysis on Organizational Structure System Model of China's Sports Management System Based on KNN Algorithm

Jie Ren[1] and Congxin Du[2]

[1]*Taiyuan Institute of Technology Department of Physical Education, Taiyuan, Shanxi 030008, China*
[2]*Wuhan Sports University Department of Physical Education, Wuhan, Hubei 430079, China*

Correspondence should be addressed to Congxin Du; ducongxin@whsu.edu.cn

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The national sports management function requires the government to sincerely help sports associations, cultivate intermediary organizations and sports markets, and urge them to gradually realize autonomy, so as to promote the socialization of national sports. The organizational structure reform of China's sports management system needs not only a clear goal but also a new way to achieve it, so that the reform route is clear and the reform process is supported. Therefore, sports public service has entered the vision of China's leisure education reform. In this paper, KNN (K-Nearest Neighbor) algorithm is used to establish the power measurement model of organizational structure individuals, quantitatively analyze the power distribution of organizational structure, and describe the nonlinear relationship between the power distribution of organizational structure individuals and organizational hierarchy. On this basis, aiming at the shortcomings of KNN algorithm when the sample distribution is unbalanced, a penalty mechanism is added and improved. The results show that under the condition of unbalanced samples, the classification effect is obviously improved, which is about 6% compared with KNN classifier and about 3% to 4% compared with SVM (support vector machine) classifier. *Conclusion*. The improved algorithm achieves high classification accuracy on the basis of good robustness.

1. Introduction

Establishing the concept of public service-oriented government is the inevitable demand under the background of social transformation, and it is also the direction of government reform. Marketization is the core of social transformation. Marketization, industrialization, modernization, and the reform of the socialist system have influenced, infiltrated, and restricted each other, thus constituting an unprecedented, profound, and complex social change. China's sports management system has long been firmly branded with the imprint of system management in the planned economy era [1]. As an important part of China's sports system reform, China's sports management system deserves more attention. How to establish a new system in which the state and society both are in charge of sports is a major issue under the background that the national economic system is divided from single public ownership to multiple ownerships.

Under the planned economic system, China's highly centralized sports system, which relies solely on the state and mainly on administrative means to run sports, has not changed substantially, and the contradiction between the traditional all-powerful government's administrative model and China's sports practice has intensified day by day. With the transformation of state-owned enterprises, social welfare undertakings run by units including staff sports have been stripped out of the system. This change has impacted the inherent model of China's unique unit-based staff sports and made the original staff sports management change in the system, organizational structure, operating mechanism, and group interests [2]. Chalip can reflect the development of employee sports from the research process of employee sports [3]. Jeremy pointed out that employee sports are an

important part of mass sports. From the perspective of participants, it is mainly the employees of factories, mines, enterprises, institutions, and other units. It is a sports activity that takes fitness and entertainment as its main purpose and is carried out according to the principle of spare time, voluntariness, flexibility, and diversity [4]. Zhang comprehensively investigated the influence of the social environment on sports development in the 21st century from the perspective of sociology, economics, and other disciplines [5]. Fanjul-Suarez and others attribute the motivation of sports management system reform to the role of two trends. The first trend is the development of market economy and the corresponding unstoppable change in the economic system. The second trend is the development of world sports and its own restless reform tendency [6].

People's diverse understanding of sports is not only reflected in participation but also creation. The most prominent feature of the combination of sports and leisure lies in constant innovation. People constantly use novel and unique ways to explain the relationship between man and nature, man and society, man and himself, and confirm the power as the main body. In modern society, the power in sports is usually owned by the government or social sports organizations, or shared by them [7, 8]. According to the relevant theories and methods of public service, we can reinterpret and explain the important challenges faced by China's sports management system. On this basis, drawing lessons from foreign experience and combining with China's historical experience, taking industrial economics, new institutional economics, management science, and regulatory economics as the theoretical basis, KNN (K-Nearest Neighbor) algorithm is used to establish the goal, content, and implementation measures of China's sports management system reform, which provides historical reference, realistic reference, and theoretical basis for China's sports management system reform.

2. Related Work

2.1. Research on the Sports Management System. China's sports management system refers to the sum total of relatively stable systems and systems formed by the organization setup, authority division, and operation mechanism of competitive sports management. A suitable sports management system and operation mechanism in China is the cornerstone of the development of sports in a country. At present, although there are a lot of domestic research on China's sports management system and operation mechanism, there are relatively few research results with high application value, especially the successful experience of China's foreign sports management system and operation mechanism lacks systematic and in-depth combing and refining.

Zeng pointed out that adhering to the national system of competitive sports requires a new understanding of some important issues, and studied the problems existing in the operation of the national system and suggestions for improvement [9]. Gimeno and París put forward to reconstruct a competitive sports development model that not only conforms to the current social reality of our country but also converges with the development direction of our social reform [10]. Hoogendoorn et al. pointed out that the American government's involvement in competitive sports is very limited. In the United States, sports organizations such as the U.S. Olympic Committee and the National Collegiate Sports Association are mainly responsible for managing competitive sports affairs [11]. Olusaga et al. pointed out that there are some problems in the American-Chinese sports management system, such as gender inequality, racial inequality, excessive pursuit of competition results, and commercial interests, which affect the all-round development of American competitive sports and violate the sportsmanship to some extent [12]. Park and Maher put forward that the collision of dominant cultures and the gradual establishment of a market economic system in the process of the integration of Chinese and American sports cultures will contribute to the reconstruction of the Chinese nation's cohesive value system [13].

Bari analyzed and discussed the basic organizational structure of the national fitness system, the requirements of social changes in the management of community sports organizations, the current problems in the management of community sports organizations, the integration of countermeasures of community sports organizations, and the management network of community sports organizations [14]. Yang et al. described the development track of modern sports in the evolution of China's social structure, discussed the influence of modern society on sports development, and the position and role of sports in modern social life, and put forward the future direction of sports development in China, so as to form a benign interactive relationship between sports and social development [15].

2.2. Research Status of KNN Algorithm. KNN is a widely used classification algorithm. It finds out the K neighbors (documents) closest to the documents to be classified from the training set, and determines the categories of the documents to be classified according to the categories of these K neighbors. The main idea is to classify the query samples by the distance between the local mean vectors of K neighbors in each class and the samples to be tested. The classification performance is excellent in data sets with outliers and imbalances.

Pan et al. put forward a selective nearest-neighbor classification algorithm based on naive Bayes. The experimental results show that the classification accuracy is higher than that of traditional naive Bayes classification and DT (Decision tree) C4.5 classification algorithm [16]. Lee et al. put forward the method of generating weights based on gradient descent to integrate the distances between attributes. Compared with other distance measures, this method has better adaptability to small-scale and unevenly distributed data sets [17]. Berrett et al. put forward a new index structure model, effectively implemented KNN query algorithm, solved K nearest-neighbor query problem in the spatial network database, and realized real incremental output [18].

Cai et al. proposed a KNN classification algorithm based on double-weighted voting rules. The algorithm established double-weighted voting functions according to the distance and rank of KNN, and used this rule to vote, which effectively overcome the sensitivity problem of neighborhood size K selection in KNN rules and improved the classification performance of the algorithm [19]. Carine et al. put forward a KNN algorithm based on sparse learning. By reconstructing the test samples, the optimal K value of each sample to be tested is obtained, which overcomes the shortcoming of the previous KNN algorithm that the K value of each test sample is fixed [20].

3. Research Method

3.1. Analysis of the Reorganization of the Organizational Structure of the Sports Management System. In modern society, due to the expansion of the scale of various activities, the increasingly complex relationship with the environment, and the need for more complex collaborative work and labor to accomplish the goals, the role of the organization is increasingly huge and irreplaceable. The structure is an important part of an organization and an important means of its operation. The organization involves the specific division of labor and functions of various components and personnel within the organization. It determines the integrity of the organization system, the crisscross power and responsibility relationship among various institutions and personnel, and the specific methods of work division, coordination, and communication.

The traditional management mode is coming to an end, and the new era brings new ways of competition; the new era calls for new organizational forms and new management methods. Complexity science is introduced to accomplish the task of complex management. Especially, we are deeply rethinking the organizational form and management mode, and how to consider the organizational management of sports system structure from a new angle under the guidance of new theories. From the analysis of technical factors only, the organizational management model of the system is as follows:

$$E_T = M \times K \times \min J, \tag{1}$$

where E_T is the system function; M is the total number of units in the system (complex multilevel system); K is the multiplier of system function misfortunes; and $\min J$ is the minimum value of simplicity or technical level of all unit elements when system function misfortunes.

People give less weight to their efforts at work due to a small amount of incentive investment, and they do not care much about how this small amount of incentive investment is distributed between individuals and associations, and how much benefits they can get from this small amount of incentive. And the incentive substitution rate must be equal to the economic substitution rate. Otherwise, it means that the incentive utility obtained when the system is invested in a certain incentive mode can be obtained by another incentive mode at a lower cost. For example,

$$\frac{\omega^i}{\omega^j} = \frac{2}{l} \neq \frac{l}{1} = \frac{\partial u(x^*, m^*)/\partial m^i}{\partial u(x^*, m^*)/\partial m^j}. \tag{2}$$

We can get the same incentive effect by using one less incentive input m^i and one more incentive input m^j, but the cost is reduced because we use the price of 2 units for the i incentive investment and the price of l units for the j incentive investment.

The vertical multilevel differentiation of the national sports management system is differentiated according to the different tasks undertaken by different management organizations and grades. Its differentiation is characterized by adapting to the diversification of the market economic system and establishing a transitional organization that gradually simplifies administration and decentralizes power, and strengthening macrocontrol to promote sports socialization. The pyramid structure of China's sports management organization is designed by using the people-oriented principle of modern management, as shown in Figure 1.

Certainly, this management system can play a positive role in the early stage of economic system differentiation. However, from the analysis of the situation of actively adapting to the development of the market economy, it is easy to overlap functions and needs a long running-in period because of its multiple management levels. Therefore, the main reason for the above-mentioned problems in China's sports system, in reality, is that the reform is still incomplete, and the management system and operation mechanism that are compatible with the socialist market economic system have not been established. Therefore, it is necessary to deepen the reform of the national sports management system.

The organization is the core of the management system and the material basis for achieving management objectives. To realize the goal of the sports management system, it is necessary to set up a reasonable sports industry management organization. The current management system of China's sports industry is unreasonable in institutional setup. The sports industry management office under the Economic Department is not closely connected with local sports industry management organizations. In the general government management system, the central and local sports industry management institutions are also confused, and there is no uniform standard and institutional setting. In addition, in the aspect of the social general management system, the number and management ability of sports nongovernmental organizations and sports intermediary organizations are very limited, so it is difficult to effectively play their management functions.

We can understand the way of performing administrative functions as various means, methods, and technologies applied by public institutions such as government departments in the process of providing public services and meeting people's needs. There are different ways to perform government functions. This paper mainly divides them from the perspective of whether the government intervenes or not, as shown in Figure 2.

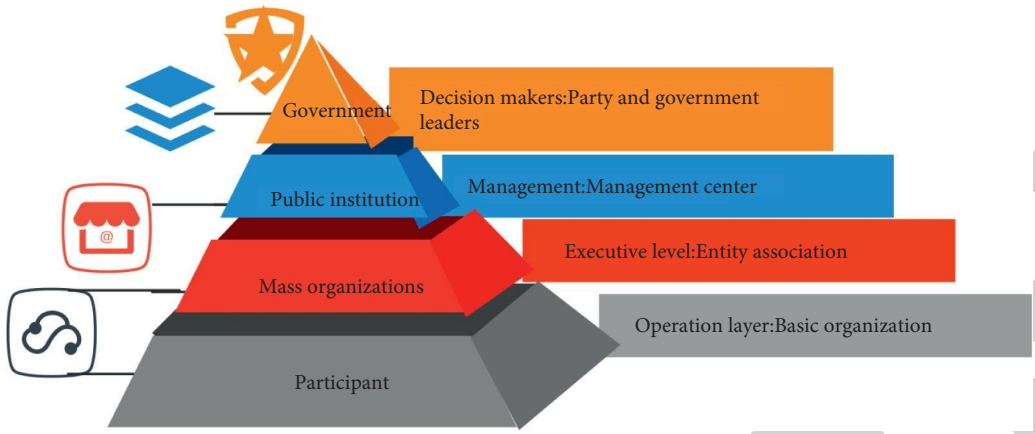

Figure 1: Schematic diagram of the sports management organization structure.

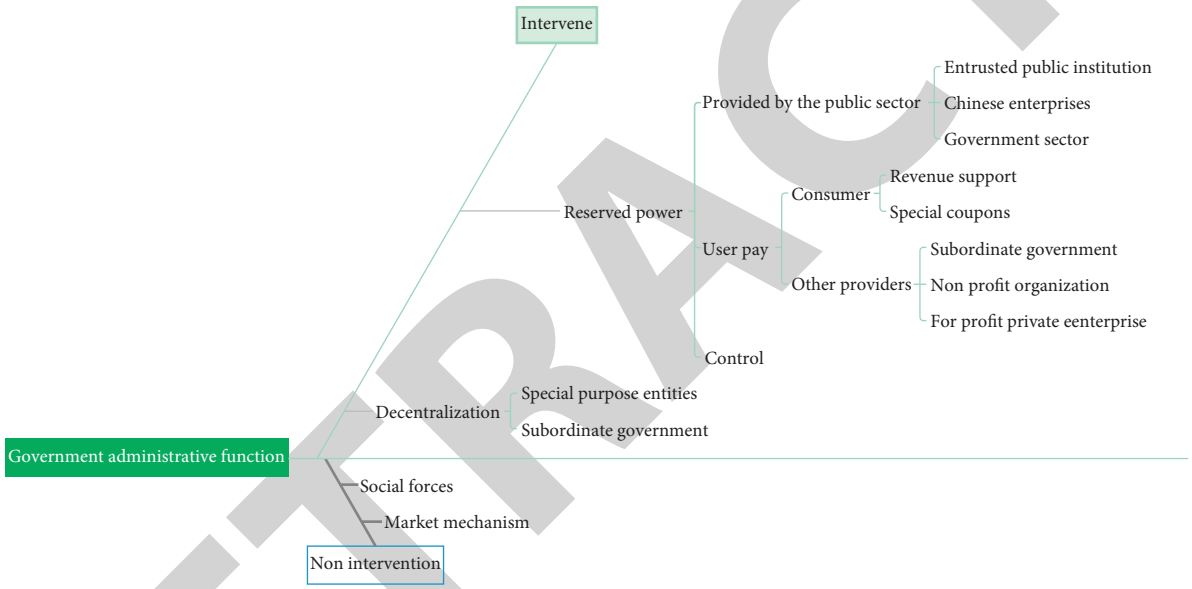

Figure 2: Ways of performing government administrative functions.

On the basis of understanding the respective functions of different ways of performing sports administrative functions, it is necessary to determine some specific standards when defining and choosing them. This is because sports administrative departments need a conceptual framework and a critical thinking process to consider the criteria and possible risks that can achieve the best-balanced choice. If a public action fails to achieve its intended purpose, even if the cost paid is small, this public action is meaningless. According to the efficiency standard, the best way to perform sports administrative functions is to achieve the best balance between income and cost. However, the cost of implementing sports administrative functions includes not only the direct cost of the government, that is, the cost of completing the public action by the government, but also the price that its action object needs to pay for receiving sports public services.

Most sports events in China are directly managed by the sports center. The management system of sports is an organizational means to adapt to its management functions, institutional setup, division of authority, and adequate protection of people, money, and things. It is made up of business offices, sports teams, relevant departments of various provinces and cities, and sports management departments from bureaus to departments, which are responsible for the specific implementation of some policies and the development of regional competitive sports. China's provincial and municipal sports bureaus are the local government departments in charge of the city's sports work, performing their respective main functions. From the perspective of culture, China's competitive sports system just reflects this trait of Chinese culture and the value orientation shown by this trait.

3.2. Construction of the Organizational Structure System Model of the Sports Management System. The typical feature of China's sports management system is that the government exercises the management power, the state undertakes most of the economic obligations, and the management means are

mainly administrative means. The advantage of this management system is that it is convenient to effectively integrate and optimize sports resources, so as to achieve the goal of achieving excellent results in major international sports events such as the Olympic Games. From the perspective of the internal setup of sports institutions, all sports administrative departments at or above the provincial level in our country have institutions specifically responsible for competitive sports. There is a typical administrative subordination relationship among the management bodies of competitive sports in China, and the status of each management body is unequal. All forces should be mobilized through the administrative system and administrative orders to jointly promote the development of competitive sports in China.

In the process of the reform of China's sports administrative management system, strengthening the performance evaluation of sports public service is conducive to changing the evaluation mode of public service from abstract organizational performance to concrete public service effect, and from internal orientation to external perspective, so as to put efficiency under the framework of publicity. At the same time, combined with the reform of sports institutions in China, the relevant departments should also consider the internal organizational setup of institutions and external public output, such as considering the degree of conflict of the same level or cross-power within institutions and whether the type of departmental power meets the needs of providing high-quality and efficient services. Moreover, the results of performance evaluation of sports public service are also helpful to realize the optimization of sports administrative power mechanism in China, reshape the role of the government, and thus promote the rational positioning of government sports administrative functions.

The quality of network structure is a measure of the accuracy of information circulating in the network organization, and the quality entropy describes the uncertainty of information quality. The larger the network organization, the greater the number of nodes, and the greater the possibility of error. The order degree of network structure based on the aging quality model, which comprehensively considers the aging and quality of information transmission, is expressed as

$$R = \alpha R_1 + \beta R_2, \tag{3}$$

where R_1, R_2 indicate the timeliness and quality of information transmission, respectively, and α, β represent the weight coefficients of information timeliness and quality in the network organizational structure.

But when we study the organizational structure, we pay more attention to the relative proportional relationship between individual $P(i, j, k)$ power and other individual powers, and the relative power of the individual $P(i, j, k)$ is expressed as

$$Q(i, j, k) = \frac{A(i, j, k)}{\sum_{i=1} A(i, j, k)}. \tag{4}$$

If the standard relative power of any organizational structure is defined as 50, the relative power of the individual $P(i, j, k)$ is standardized, and the obtained power is called standard relative power, which is expressed as $E(i, j, k) = 50Q(i, j, k)$.

On this basis, the organizational system $S = d_1, \cdots d_N$ is an N-dimensional vector composed of decision variables, and its overall fitness can be expressed by the formula:

$$\Omega = \frac{1}{N} \sum_{i=1}^{N} w_i (d_i; D_i). \tag{5}$$

The formula D_i represents the set of K decisions that affect the decision d_i, and the contribution of a decision variable to organizational performance depends not only on its state but also on the state of other K decision variables associated with it.

The basic idea of KNN algorithm is easy to understand. To determine the category attribute of a test text, we must first compare this text with a group of texts with clear category attributes, find out the K texts with the greatest similarity, and then determine the category of this document through certain selection rules among these K adjacent texts.

Let there be two points $x = (x_1, \cdots, x_n)$, $y = (y_1, \cdots, y_n)$ in the n-dimensional space, then the cosine similarity formula between them is defined as follows:

$$\cos(x, y) = \frac{x \cdot y}{\|x\| \cdot \|y\|}. \tag{6}$$

The closer the cosine value is to 1, the smaller the difference between individuals, and the closer it is to 0, the greater the difference between individuals.

The distribution imbalance that this paper tries to show refers to a relative imbalance between data. Here, a new parameter, coefficient of variation, is introduced, which can reflect the imbalance between data of different averages. Divide the standard deviation by the average value to get the desired mathematical variable, that is, the expression

$$\frac{\sqrt{\left[\sum_{j=1}^{m} \left(p_{ij} - \overline{p}_i\right)^2 / 2\right]}}{\left[\sum_{j=1}^{m} p_{ij}\right] / n}. \tag{7}$$

In the classification of sample sets, the n values of the two groups of data sets compared are the same, and the n values can meet each other. Through the relevant results of the follow-up experiments, it can be found that if the above-mentioned parameter variables are directly introduced into the traditional weight formula, the weight calculation will rely too much on this parameter, which will affect the classification results.

The uniformity of text distribution in each category in the sample set has a certain influence on text classification. The uniformity of sample sets is related to the calculation of feature selection weight and classification. The classification effect of general classification systems on uniformly distributed sample sets is obviously better than that on unevenly distributed sample sets. Therefore, the selection of the sample set is also very important for the text classification

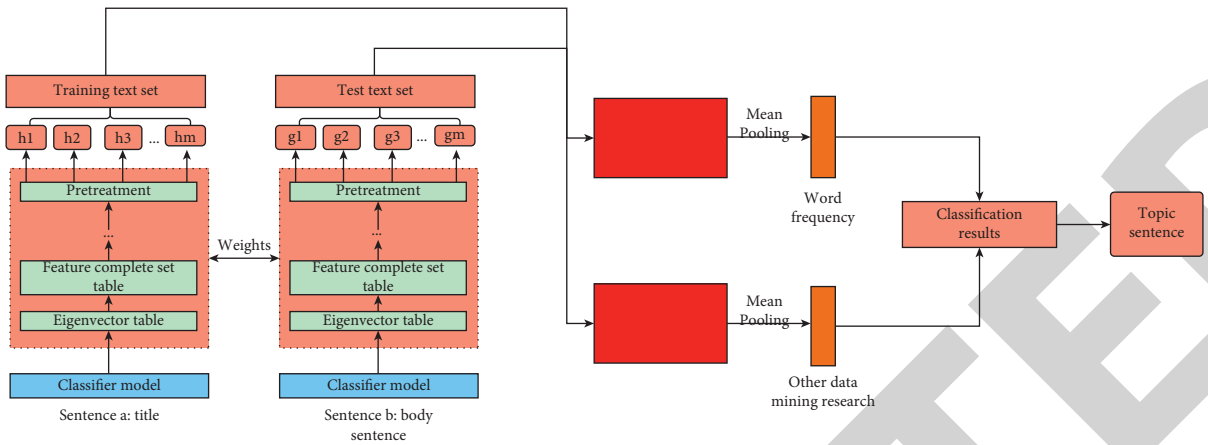

Figure 3: Logical model of the classification system.

system. The logical model of text classification adopted in this design system is shown in Figure 3.

The main feature is that the coupling between modules can be loosened, and the intermediate results of each module can be conveniently obtained. It can freely add new modules and algorithms or improve existing modules without any influence on other modules. In this way, it is convenient to compare and study various algorithms of each module.

The standard KNN algorithm has many performance problems. For example, when there are a large number of samples, the calculation will become quite slow, so the performance cannot meet our requirements. For some special applications, if there is a different embodiment in quality, it is far from meeting our requirements.

In order to solve the problem that the classification effect decreases when the data distribution of the training sample set is unbalanced, this paper adopts the method of improving the algorithm and adds a simple punishment mechanism to KNN algorithm to form the improved KNN algorithm. By using the related parameters of the ratio of the number of positive and negative categories and weighting the traditional vector distance calculation formula, we can compensate the category with a small number of samples and punish the category with a large number of samples. The improved vector distance formula used in the algorithm is shown in the following formulas:

$$\begin{aligned} d(x, x_i^+) &= C + \left\| \varphi(x) - \varphi(x_i^+) \right\| \\ &= \frac{m}{m+n} \sqrt{k(x,x) - 2k(x, x_i^+) + k(x_i^+, x_i^+)}, \end{aligned} \tag{8}$$

$$\begin{aligned} d(x, x_i^-) &= C - \left\| \varphi(x) - \varphi(x_i^-) \right\| \\ &= \frac{m}{m+n} \sqrt{k(x,x) - 2k(x, x_i^-) + k(x_i^-, x_i^-)}. \end{aligned} \tag{9}$$

In this paper, most of the improved algorithms are basically unchanged, only the part where the algorithm calculates the distance between each support vector in the support vector set and the test text is modified, and the penalty compensation mechanism is used. The specific steps are shown in Figure 4.

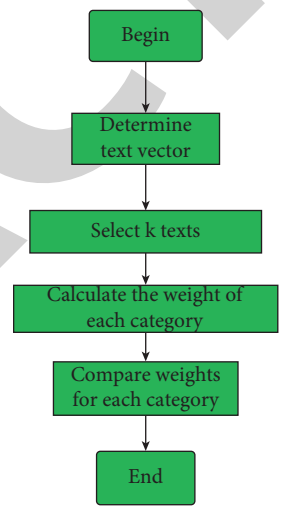

Figure 4: Flow chart of improved KNN algorithm.

When large-scale text classification is carried out, it often takes a high time complexity to adopt a complete traversal method. Therefore, some scholars put forward some methods to speed up the search, such as constructing an index table and reducing the search scope.

Combining with SVM (support vector machine), Bayes, and other classification algorithms, a hybrid classification algorithm is obtained, which complements their respective shortcomings, thus making up for the defect that KNN cannot get the model. Then, classified according to the traditional KNN algorithm steps, and when calculating the similarity of classes, the exclusive K value is selected so as to get the category of new text.

4. Result Analysis

It is unimaginable that the matrix operation in the standard KNN algorithm takes a lot of time. In order to increase the closeness of the connection between things, we must increase the dimension, and the cost of increasing the dimension obviously increases the overhead of the program. The correctly classified samples remain unchanged.

Table 1: Improved time results.

Matrix dimension	Operation time (s)
64	0.00086
128	0.0013
256	0.0062
512	0.0214
1024	0.1629

Experimental results show that the classification effect of KNN classifier adjusted by this algorithm is significantly improved. Let us now multiply 100 vectors by pairs. In order to get the distance between every two numbers, there are 4,850 combinations of two numbers randomly selected from 100 groups of vectors. Through the operation, we find the results as shown in Table 1.

It can be seen that with the increase in dimensions, the time spent by GPU is also increasing, but compared with the time spent by CPU, this time is very small and can be completely ignored.

The traditional method of processing information in a text database is information retrieval technology, and a typical information retrieval mechanism is to locate related documents according to keywords input by users. There is often only a small amount of text information in the retrieval results that users need. In order to query accurately, it is necessary to increase the number of keywords, but this requires users to know the contents of documents. Therefore, in order to process a large amount of text data more effectively, text mining technology has been developed in depth.

According to the class labels of K neighboring samples, the local mean values of all kinds of neighboring samples are calculated. Finally, the distance between the sample to be measured and various local mean vectors and the class contribution rate are used to divide the sample to be measured. Statistics of specific classification results are shown in Figures 5 and 6.

It can be seen that the accuracy rate based on the improved KNN algorithm is slightly higher than that of the traditional KNN algorithm, but there are also some categories that decline. Generally speaking, it is slightly better than the traditional KNN classification algorithm. It may be related to the size of the sample set because the number of samples is not large enough. This method is sensitive to context and is a selective conceptual abstraction.

Used in text classification, only the information that is useful for text classification is extracted. It extracts phrases, texts around phrases, and potential semantic information, and determines text categories. This is reasonable and necessary for documents whose categories do not match the predefined categories. If this happens frequently, it means that the predefined categories need to be modified, and then the above training and classification process should be repeated.

By using the local mean of K neighbors in their respective class sets, the distribution of each neighbor in its respective class is captured to the greatest extent. By calculating the weighted distance between the sample to be tested and the local mean of each class, the class attributes of the sample to be tested are accurately captured and the sensitivity of K value is effectively overcome.

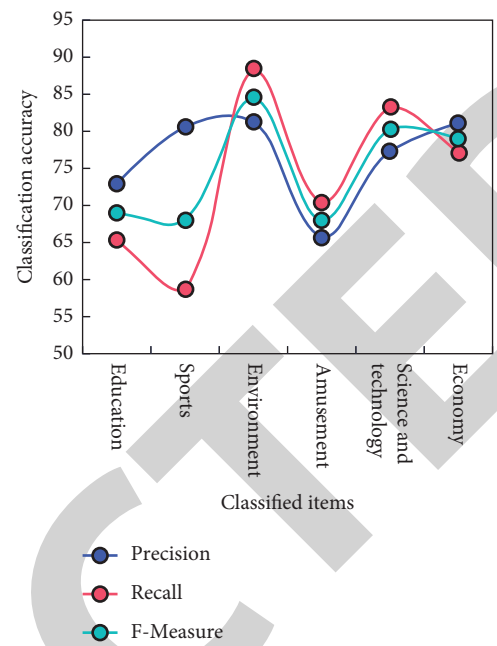

Figure 5: Traditional KNN classification results.

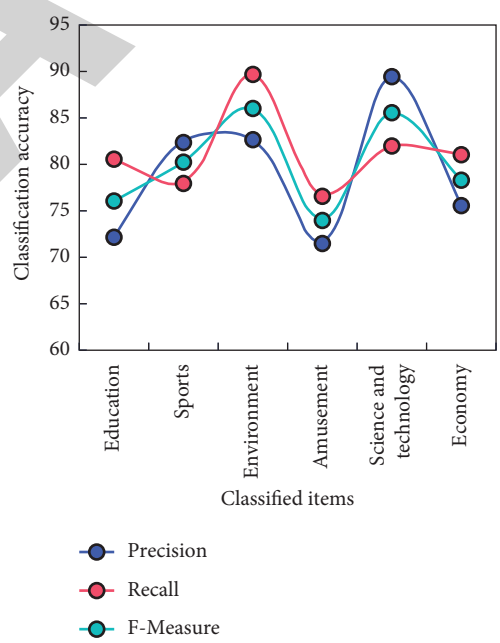

Figure 6: Improved KNN classification results.

The improved algorithm is verified by tenfold cross-validation. Results take the average of 10 correct rate results. Figure 7 shows the test results on the data set using KNN and the improved algorithm.

The test results show that compared with the original KNN algorithm, the improved KNN algorithm based on mutual information and local mean has the biggest difference in accuracy on data sets, with a difference of 13.12%. Weighting the attributes based on the correlation of mutual information and dividing the adjacent samples by the

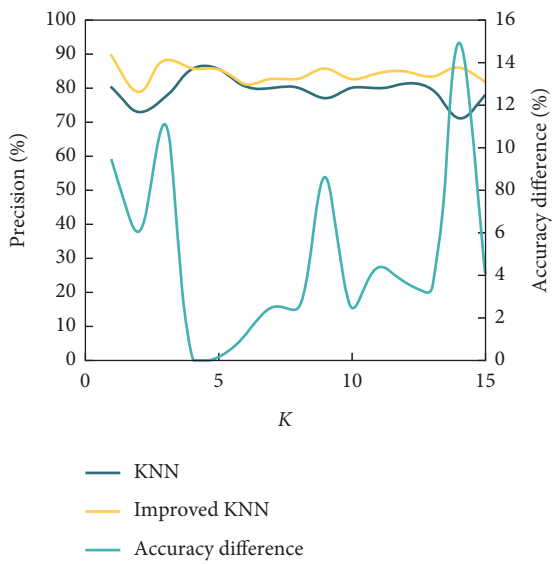

Figure 7: Comparison of the accuracy of the algorithm under different K values.

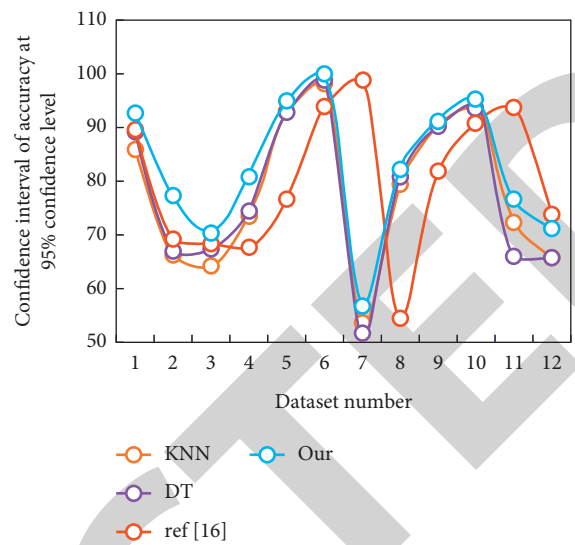

Figure 8: Confidence interval of accuracy at 95% confidence level.

comprehensive distribution principle can effectively improve the accuracy of KNN. When $K = 14$, the accuracy difference between the two algorithms is the largest, reaching 14.99%. The average accuracy of all K values is 4.31% higher than that of the original KNN.

The corresponding semantic analysis program is responsible for the formation of semantic analysis results. What semantic information needs to be recorded in the thesaurus and their expressions are determined according to the needs of semantic analysis programs. Because the final result of the semantic word segmentation method includes the internal representation of the analysis result, it provides a high starting point for subsequent processing. All the features in a text constitute the whole semantics of the text, and the correlation and co-occurrence of features are significant for the similarity of texts. However, the calculation of similarity in the traditional vector space model does not take into account the correlation and co-occurrence of feature words, which makes the classification result unsatisfactory.

Three algorithms are compared on 12 standard data sets. In the experiment, the parameter K is optimized by cross-validation. Figure 8 shows the average accuracy of the three algorithms under the optimal K value and the confidence interval of the accuracy under 95% confidence level.

It can be seen that the accuracy of this algorithm is superior to other algorithms on almost all data sets, and the corresponding standard deviation is almost the smallest. Compared with ref [16] algorithm, the accuracy of the algorithm is improved by nearly 3~4 percentage points on 1~3 data sets. On data set 6, the accuracy rate is as high as 100%. In some datasets, the accuracy of DT algorithm is slightly different from that of this chapter, but there is a significant difference between standard deviations, which means that the proposed method is more stable to some extent. However, compared with other comparison algorithms, this algorithm has high accuracy and good robustness.

In order to analyse the differences of the results in two different environments between feature selection algorithm and improved classification algorithm, balanced sample set and unbalanced sample set are used; the results of the macro recall rate, accuracy rate, F1 value, micro recall rate, and accuracy rate are shown in Table 2 and Figure 9.

It can be seen that under the condition of unbalanced samples, the classification effect is improved obviously, about 6% compared with the KNN classifier and about 3% to 4% compared with the SVM classifier. In addition, by observing the classification results of different classes, it can be seen that when the sample set is balanced, the classification results of various classes are relatively uniform, and the recall rate and accuracy rate do not fluctuate much; when the sample set is unbalanced, the classification results of various classes fluctuate greatly, among which the class with a small number of samples has higher accuracy rate and the class with a large number of samples has higher recall rate.

At present, China has not yet formed standards for conformity assessment activities such as stadium inspection and sports facilities inspection; the evaluation procedure of sports service conformity has not yet formed a new situation of organic combination and mutual supplement; and constructing the organization and management system of China's sports industry service conformity assessment, which is composed of the administrative layer, the expert technical management layer, the working organization layer, and the working object layer of the State Sports General Administration, will help maintain the international environment of China's sports industry market operation and enhance the international level of sports industry development. Therefore, the sports industry has actually become a typical weak industry in developing countries. It is almost impossible to make the sports industry develop rapidly and participate in international competition without the strong support of national industrial policies.

Table 2: Classification effect of unbalanced samples.

Index	KNN	SVM	Methods of this paper
Macro recall	0.7332	0.7968	0.8225
Macro accuracy	0.7862	0.8633	0.8963
Macro $F1$	0.7621	0.8021	0.8517
Micro recall	0.7211	0.7714	0.8546
Micro accuracy	0.7538	0.7906	0.8633
Micro $F1$	0.7332	0.7938	0.8415

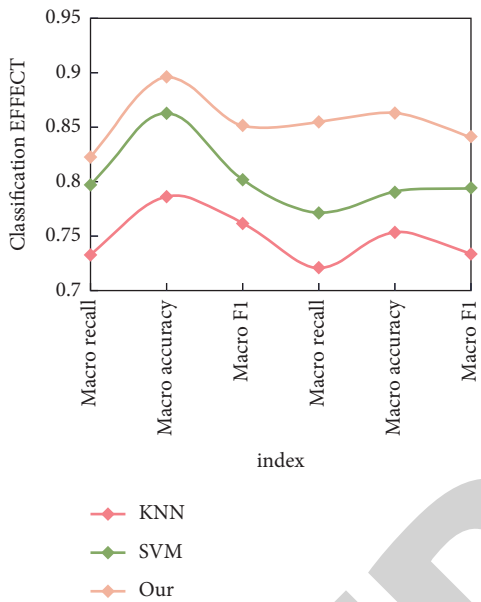

Figure 9: Classification effect curve.

5. Conclusion

In the reform of the national sports management system, it is necessary to reform the vertical division of labor organization structure with single nature and overlapping functions in the past, and establish a horizontal division of labor organization structure with Chinese characteristics, international common rules, diversified nature, and equal status that meets the needs of market economy system. Applying the KNN algorithm to the organizational structure system model of China's sports management system is of great significance to the scale of network organization complexity measurement. Design rule is a centralized abstraction of the complex relationship structure that restricts the adaptive process of the organization, which makes modular organizational structure have considerable advantages in the dynamic ability of dealing with complex problems. This paper analyzes the shortcomings of KNN algorithm in the case of unbalanced sample data sets and improves the algorithm for this shortcoming. The experimental results show that the accuracy of the algorithm is improved, and it is not easily affected by unbalanced data and outliers.

Data Availability

Data are available on request from the corresponding author.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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